

Reference Manual



F44 COMPLETE VEHICLE



Technical Training

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Technical training.
Product information.
F44 Complete Vehicle.



BMW Service

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Technical Training

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General information

Symbols used

The following symbol is used in this document to facilitate better comprehension or to draw attention to very important information:



Contains important safety information and information that needs to be observed strictly in order to guarantee the smooth operation of the system.

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BMW Group vehicles meet the requirements of the highest safety and quality standards. Changes in requirements for environmental protection, customer benefits and design render necessary continuous development of systems and components. Consequently, there may be discrepancies between the contents of this document and the vehicles available in the training course.

The information contained in the training course materials is solely intended for participants in this training course conducted by BMW Group Technical Training Centers, or BMW Group Contract Training Facilities.

This training manual or any attached publication is not intended to be a complete and all inclusive source for repair and maintenance data. It is only part of a training information system designed to assure that uniform procedures and information are presented to all participants.

For changes/additions to the technical data, repair procedures, please refer to the current information issued by BMW of North America, LLC, Technical Service Department.

This information is available by accessing TIS at www.bmwcenternet.com.

Additional sources of information

Further information on the individual topics can be found in the following:

- Owner's Manual
- Integrated Service Technical Application
- Aftersales Information Research (AIR)

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F44 Complete Vehicle.

1. Introduction.

Spring 2020 will see the launch of the new BMW 2 Series Gran Coupe with development code F44. The F44 combines the dynamism of a sports coupe with the elegance of a 4-door sedan. Contrary to the model designation, the BMW 2 Series Gran Coupe is not based on the BMW 2 Series Coupe, the F22, but on the BMW 1 Series with the development code F40. The F40 is not available in the US market.

Since the F40 forms the basis for the F44, this product information module only describes the particular features specific to the BMW 2 Series Gran Coupe. Details of all the shared features can be found in the product information modules listed below.



BMW F44

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1.1. Further information

Detailed descriptions of the components that the F44 shares with the F40 and of the powertrain options can be found in the following product information modules.

Title	File name
General Vehicle Electronics 2018	ST1856
Driver Assistance Systems 2018	ST1858
Displays and Controls 2018	ST1855
B46/B48TU Engine	ST1837
F39 Complete Vehicle	ST1702

F44 Complete Vehicle.

1. Introduction.

1.2. Models

On market launch, the F44 will be available in the following models:

Model	Engine	Cubic capacity [cm ³]	Power in kW (HP)	Torque in Nm
BMW 228i xDrive	B46A2001	1998	170 (228)	350
BMW M235i xDrive	B48A20T1	1998	225 (301)	450

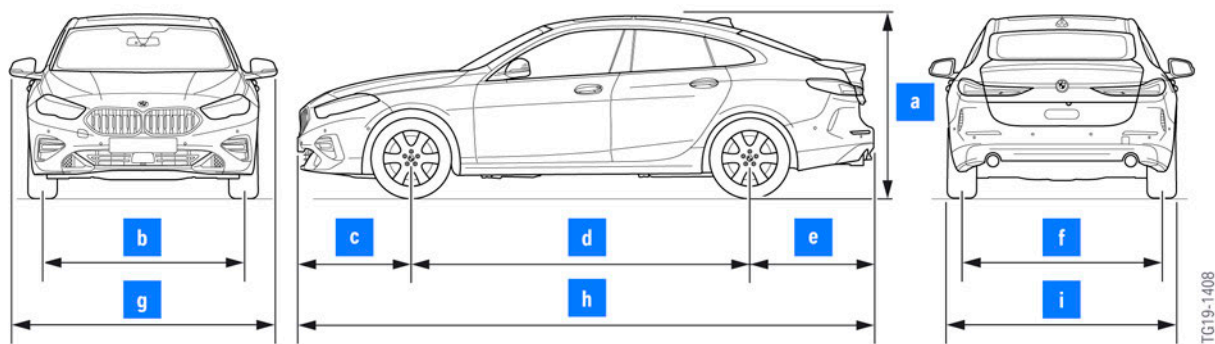
Other models will also be offered at a later date.

1.3. Weights and payload

Models	Unit	Vehicle curb weight (US)	Payload
BMW 228i xDrive	lbs	3534	928
BMW M235i xDrive	lbs	3605	963

1.4. Dimensions

The external dimensions of the F44 are listed below. For comparison, the table also shows the differences relative to the external dimensions of the F40.



F44 outer dimensions

TG19-1408

F44 Complete Vehicle.

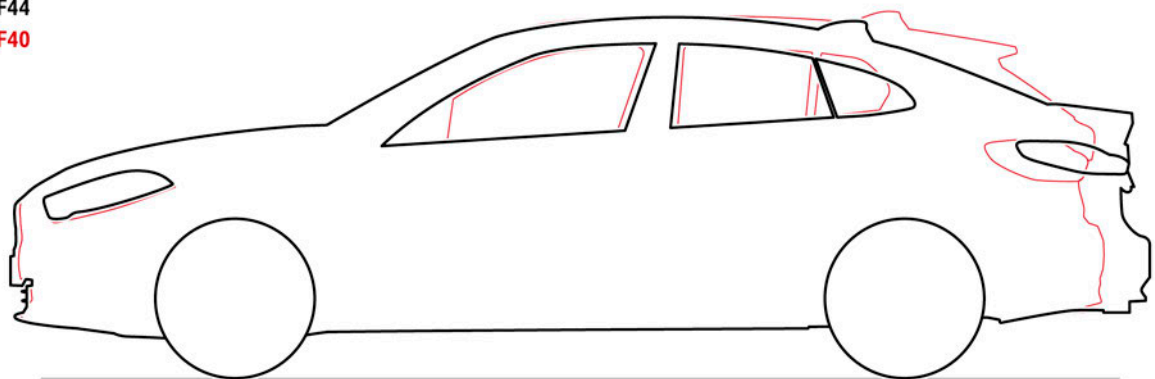
1. Introduction.

Index	Explanation	Unit	F44	F40	Difference
a	Vehicle height, empty	[mm]	1420	1434	-14
b	Front track width, basic wheels	[mm]	1565	1565	+/-0
c	Front overhang	[mm]	881	857	+24
d	Wheelbase	[mm]	2670	2670	+/-0
e	Rear overhang	[mm]	975	792	+183
f	Rear track width, basic wheels	[mm]	1565	1565	+/-0
g	Vehicle width with exterior rearview mirror	[mm]	2081	2081	+/-0
h	Vehicle length	[mm]	4526	4319	+207
i	Width excluding exterior mirrors	[mm]	1800	1799	+1

1.5. Silhouette comparison

A silhouette (outline) comparison with the F40 shows the differences in the dimensions of the two vehicles.

F44
F40



TC19-1409

Silhouette comparison of F44 and F40

F44 Complete Vehicle.

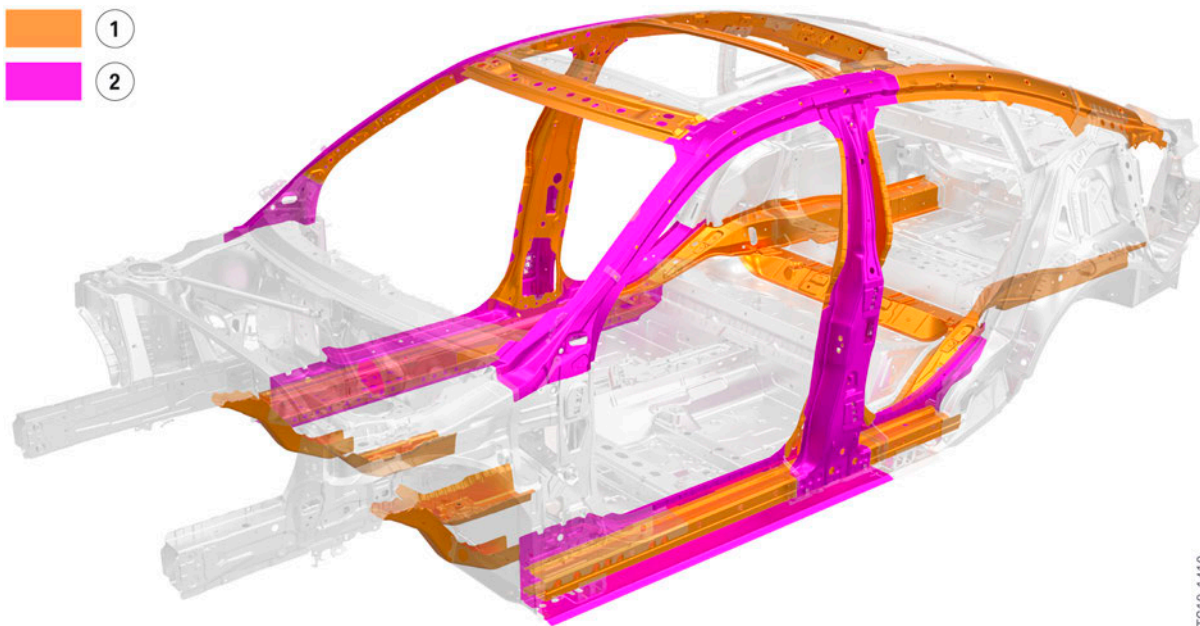
2. Body.

2.1. Body structure

2.1.1. Overview

As on the F40, the body structure of the F44 is also made of various high-tensile steels and new profile geometries. From the front of the car up to the B-pillar, the body structure of the F44 is identical with that of the F40. The advantages are:

- High strength of the body structure
- Low weight



TG19-1410

F44 body structure

Index	Explanation
1	Multi-phase steel > 300 N/mm ²
2	Ultra-high-strength steel > 900 N/mm ²

Side sill reinforcement

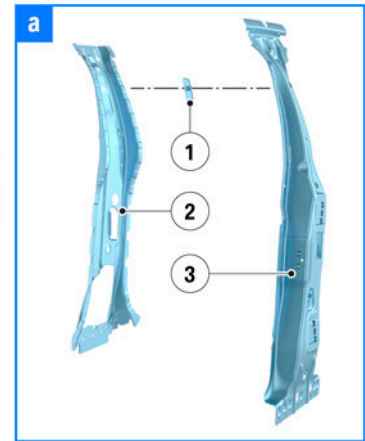
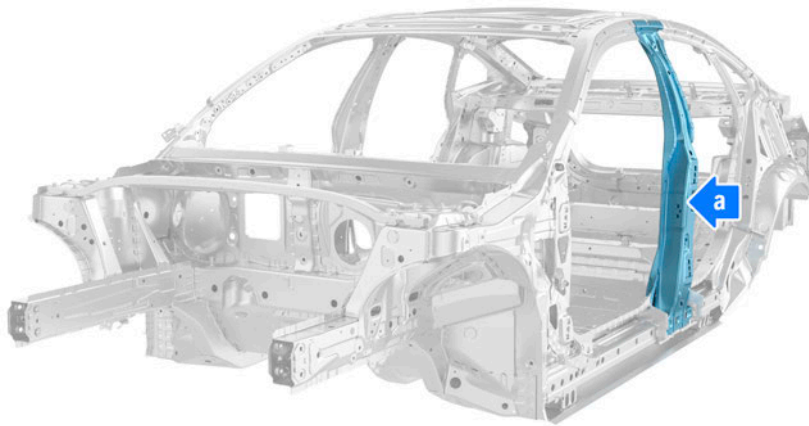
On the F44, the reinforcing beam in the inner side sill is a common part with the F40.

2.1.2. B-pillar

The B-pillar of the F44 is a lightweight-design component. The B-pillar consists only of 2 sheet-metal panels and a reinforcing plate for the seat-belt slide bar. Optimized design of the profile contour and door flange enables a high effectiveness profile. As a result, additional reinforcing can be deleted. In addition to the weight saving, it has also been possible to reduce the cost of the B-pillar.

F44 Complete Vehicle.

2. Body.



F44 structure of B-pillar

Index	Explanation
1	Seat-belt slide bar reinforcing plate
2	B-pillar inner panel
3	B-pillar reinforcing plate, hot-formed

2.2. Common/synergistic parts

On the F44 there is a large number of common and synergistic parts carried over from the F40.

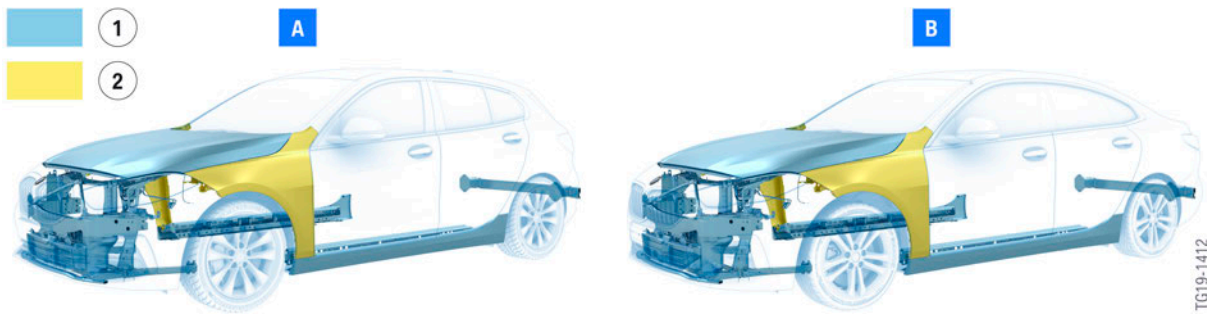
The front side panel is a synergistic part. Its geometry is virtually identical on the F40 and F44. The only difference is in the transition to the A-pillar node. This is due to the frameless doors on the F44.

There are common parts in the following areas:

- Front panel
- Front and rear bumper brackets
- Side sills
- Air ducts and air flap control
- Hood including release and locking system
- Sealing

F44 Complete Vehicle.

2. Body.



Common/synergistic parts shared by F40 and F44

Index	Explanation
1	Common parts
2	Synergy parts
A	F40
B	F44

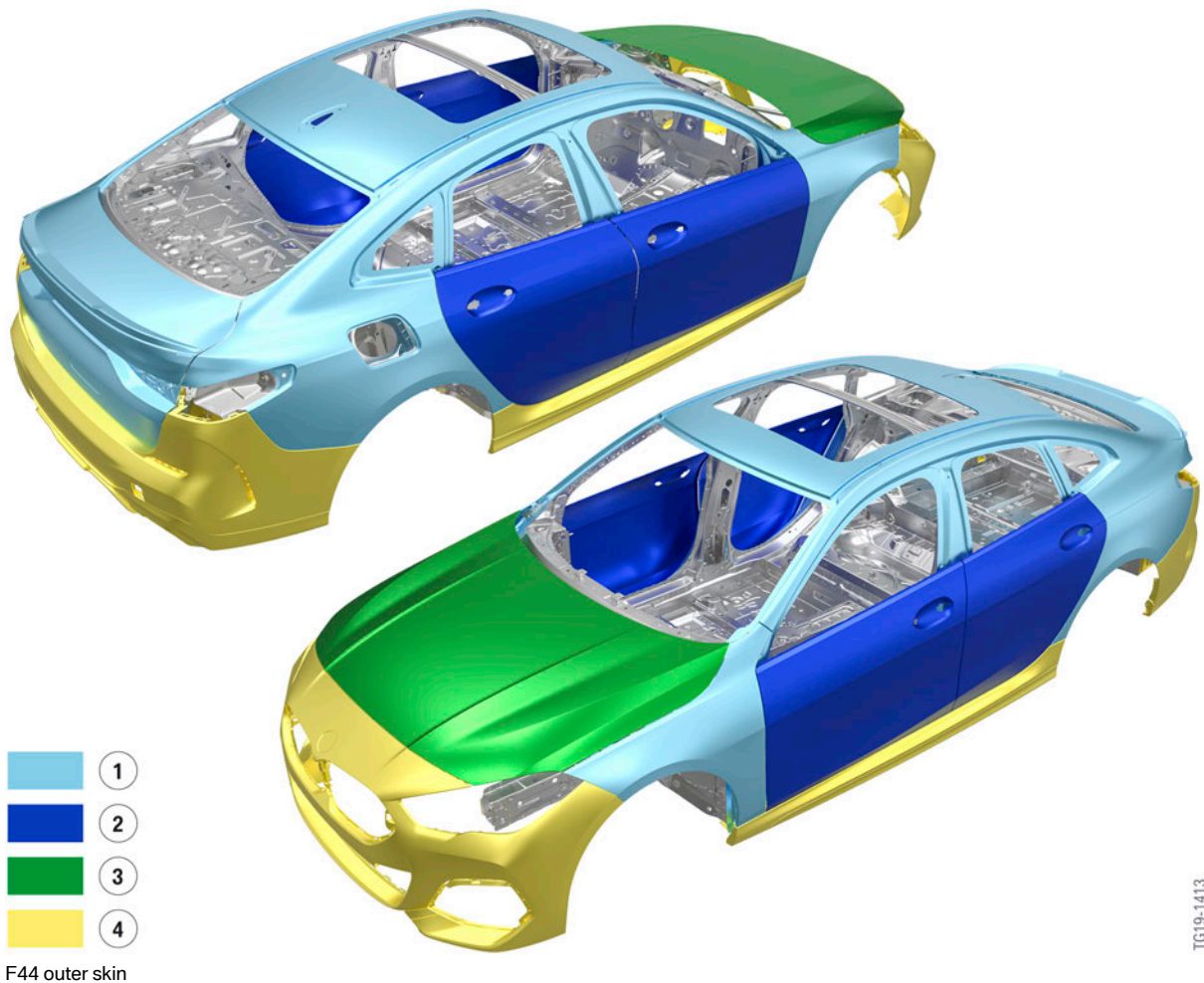
2.3. Exterior equipment

2.3.1. Panel/Shell

In contrast with the F40, the trunk of the F44 is made of steel rather than aluminum.

F44 Complete Vehicle.

2. Body.



Index	Explanation
1	Deep drawing steel
2	Bake-hardening steel
3	Aluminum
4	Thermoplastic

2.3.2. Front

Even though the F44 is based on the F40, the exterior design of the BMW 2 Series is distinctly different from the BMW 1 Series. The particularly noticeable differences at the front are the radiator grill, the headlights and the front apron with the air inlets.

F44 Complete Vehicle.

2. Body.



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F44 Exterior design highlights

Index	Explanation
1	Distinct radiator grill
2	Modified headlights
3	Distinct front apron with air inlets

A direct comparison with the F40 reveals the differences on the front end of the F44.



TG19-1415

Comparison of F40 and F44 front ends

Index	Explanation
1	BMW 1 Series (F40)
2	BMW 2 Series Gran Coupe (F44)

F44 Complete Vehicle.

2. Body.

Models

The F44 models available reveal design distinctions on the vehicle front end.



F44 models

Index	Explanation
A	M235i xDrive
B	Sport Line

F44 Complete Vehicle.

2. Body.

2.3.3. Panorama glass roof

The panoramic sunroof familiar from the F40 is available as an option (SA 402) on the F44. Design call, function and operation are the same as for the panorama glass roof of the F40.



F44 panorama roof

Index	Explanation
1	Glass slide/tilt sunroof
2	Fixed glass roof panel

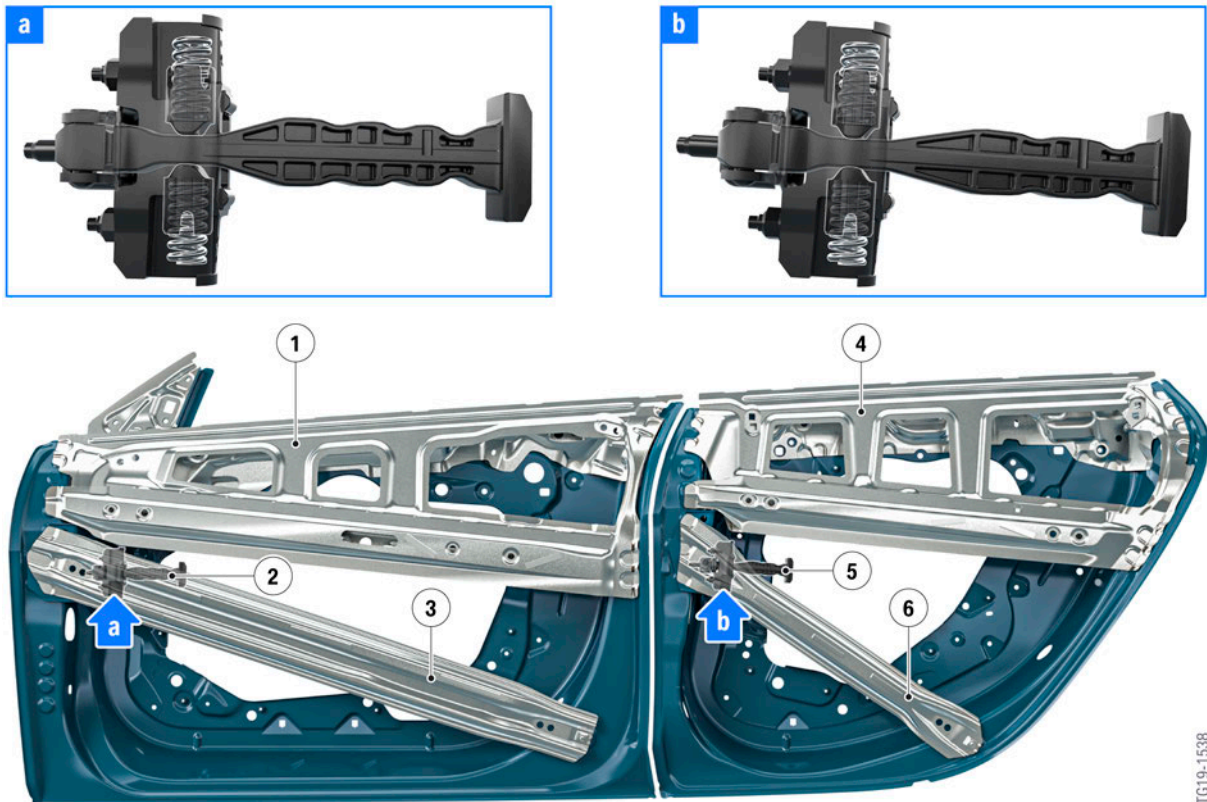
The opening width of the front glass sunroof is 274 mm.

F44 Complete Vehicle.

2. Body.

2.3.4. Doors

The frameless doors on the F44 are made of steel. To strengthen the door structure, it is extensively reinforced. The door outer skin and the inner door panel are joined by laser welding. The door brake on the front doors has 3 holding positions. The door brake on the rear doors has 2 holding positions.



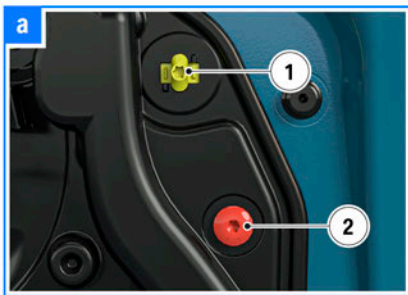
F44 door design

TG19-1538

Index	Explanation
1	Front door outer skin reinforcement including reinforcing rail
2	Front door brake
3	Side impact protector, front
4	Rear door outer skin reinforcement including reinforcing rail
5	Rear door brake
6	Side impact protector, rear

F44 Complete Vehicle.

2. Body.



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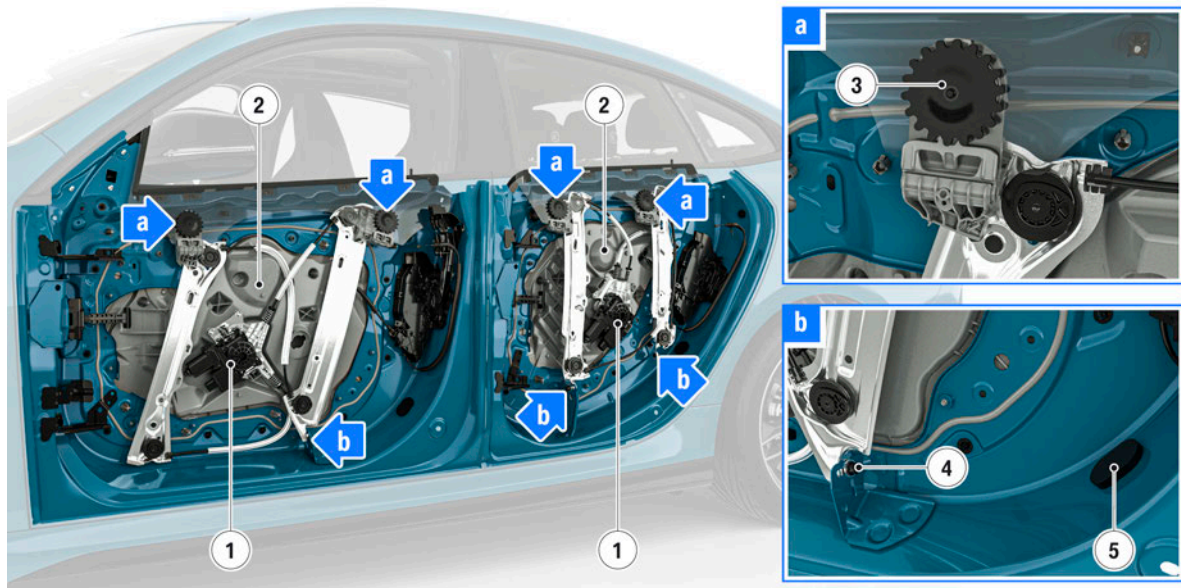
F44 Door system design

Index	Explanation
1	Bayonet fitting
2	Screw connection

F44 Complete Vehicle.

2. Body.

Side windows



F44 side window

Index	Explanation
1	Power window motor
2	Sound insulation cap
3	Slotted nut (for adjusting side window in Z and X directions)
4	Bolts with fastening nuts (range of adjustment of side window in Y direction)
5	Plug (for access to adjuster, item 4)

On the F44 too, the correct adjustment of the front and rear frameless side windows is very important. The following characteristics are thus achieved in the side window area:

- Leak-tightness (avoids wind noise and water ingress)
- Avoiding rattling and creaking
- No undesirable reversing of the side windows when closing (anti-trap function)

The special tool required to adjust the side window adjustment elements match those of the current BMW coupes.

The current repair instructions must always be observed for the procedure and exact dimensions for correct adjustment work.

F44 Complete Vehicle.

2. Body.

2.3.5. Rear



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F44 Exterior design highlights

Index	Explanation
1	3rd Brake light under rear window
2	Continuous rear trim strip
3	Full LED rear lights
4	Distinct rear apron

F44 Complete Vehicle.

2. Body.

Models

The F44 models available reveal design distinctions on the rear end.



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F44 models

Index	Explanation
A	M235i xDrive
B	Sport Line

F44 Complete Vehicle.

2. Body.

Tailgate

The outer skin of the F44 trunk lid is made of 4 separate parts which are joined together by laser soldering techniques. The inner panel forms the basic frame of the trunk lid.



Structure of F44 trunk lid

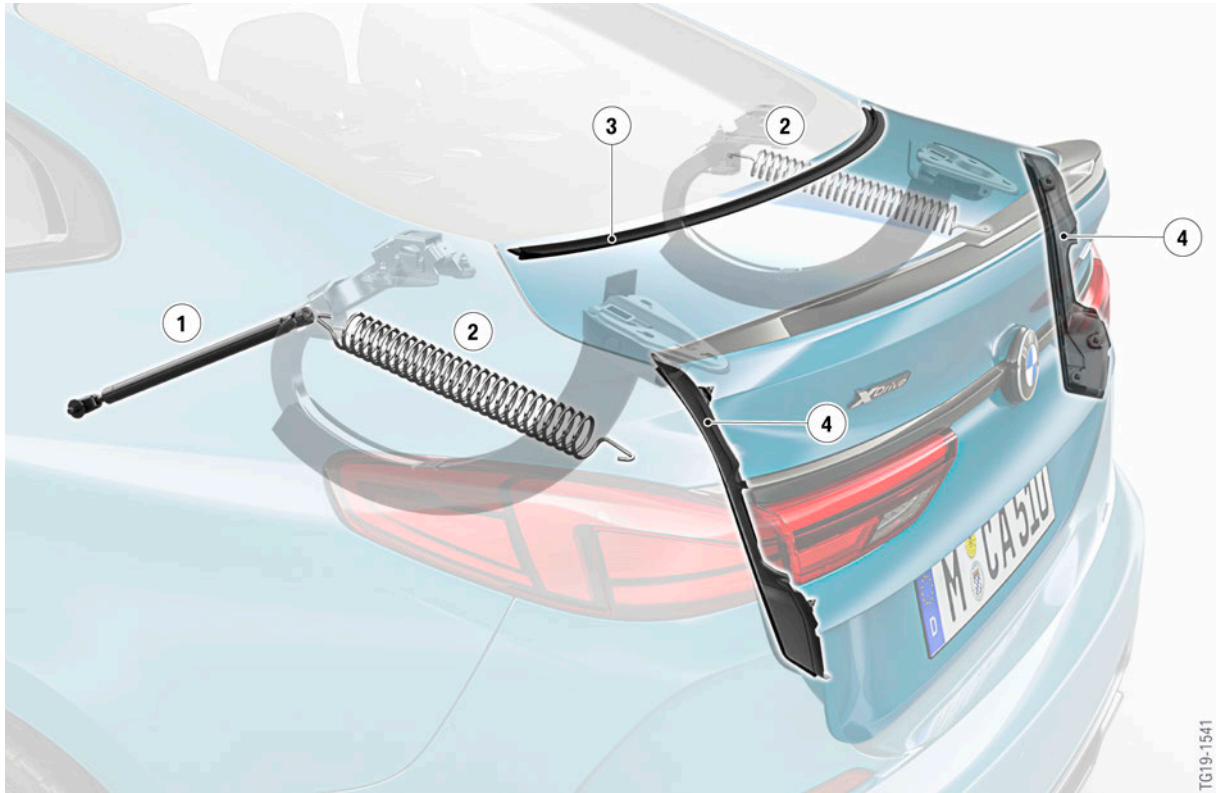
Index	Explanation
1	Inner panel
2	Top outer skin
3	End plate
4	Central outer skin panel
5	Bottom outer skin

The standard equipment of the F44 includes a self-opening trunk lid. The self-opening function is achieved by means of a mechanical linkage made up of gas struts and tension springs. With the optional Comfort Access feature (SA 322), the trunk lid can also be opened by placing your foot underneath the rear apron. An automatic trunk lid closing function is not offered on the F44.

An aero-acoustic lip between the rear window and the trunk lid reduces interior noise. Side strips on the trunk lid prevent water ingress into the trunk.

F44 Complete Vehicle.

2. Body.



F44 trunk lid mechanism and equipment

Index	Explanation
1	Gas pressure spring
2	Tension spring
3	Aero-acoustic lip
4	Side strips including gutters

F44 Complete Vehicle.

2. Body.

2.4. Interior equipment

2.4.1. Overview

The interior design of the F44 is the same as that of the F40.



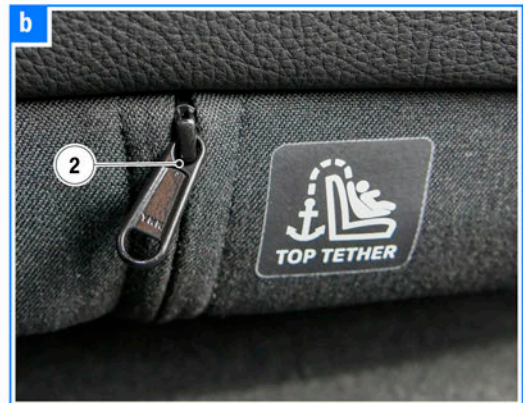
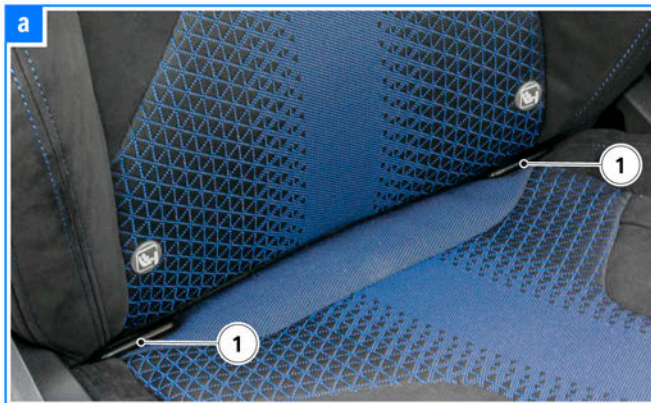
F44 interior

2.4.2. i-Size child seat fixing for front passenger seat

In EuroNCAP countries, the i-Size child seat fixing for the front passenger seat (SA 478) is automatically included. As well as the two familiar ISOFIX attachment points, the i-Size-certified front passenger seat has a third fixing point known as the top tether on the back of the backrest. Thus the child seat can be secured by means of a top retaining strap against tipping forwards in the event of an accident. The top tether is accessible via a zip fastener and marked with a pictogram.

F44 Complete Vehicle.

2. Body.



i-Size child seat fixing for front passenger seat

Index	Explanation
1	ISOFIX
2	Top tether

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F44 Complete Vehicle.

2. Body.

2.4.3. 2nd row seat

The 2nd row of seats in the F44 comes as standard with a 40/20/40 split rear bench seat with mechanically folding backrests. There is a center armrest with integrated cupholders incorporated in the center backrest.

The backrests are folded down mechanically by means of the release handles in the trunk. The left release handle releases the left and the center backrests at the same time. The right-hand release handle only releases the right-hand backrest. In addition, the center backrest can be released from the passenger compartment by means of the handle under the head restraint.



TG19-1420

Release handles for folding backrests in F44

Index	Explanation
1	Release for folding left and center backrests (mechanical)
2	Release for folding right-hand backrest (mechanical)

F44 Complete Vehicle.

2. Body.



F44 Release to tilt/fold the backrest

Index	Explanation
1	Release for folding center backrest

F44 Complete Vehicle.

2. Body.

2.4.4. Luggage compartment

The trunk capacity of the F44 is 430 liters. By comparison, the trunk of the F40 holds 380 liters.

As standard, the F44 is not supplied with a removable floor panel for the trunk.



Equipment in F44 trunk

Index	Explanation
1	Cover for vehicle toolkit and tire repair kit
2	Folding, 3-piece removable floor panel ¹
3	Bag holder ¹
4	Power socket (12 V) ¹
5	Stow compartment with retaining net ¹
6	Retaining catch for removable floor panel ¹

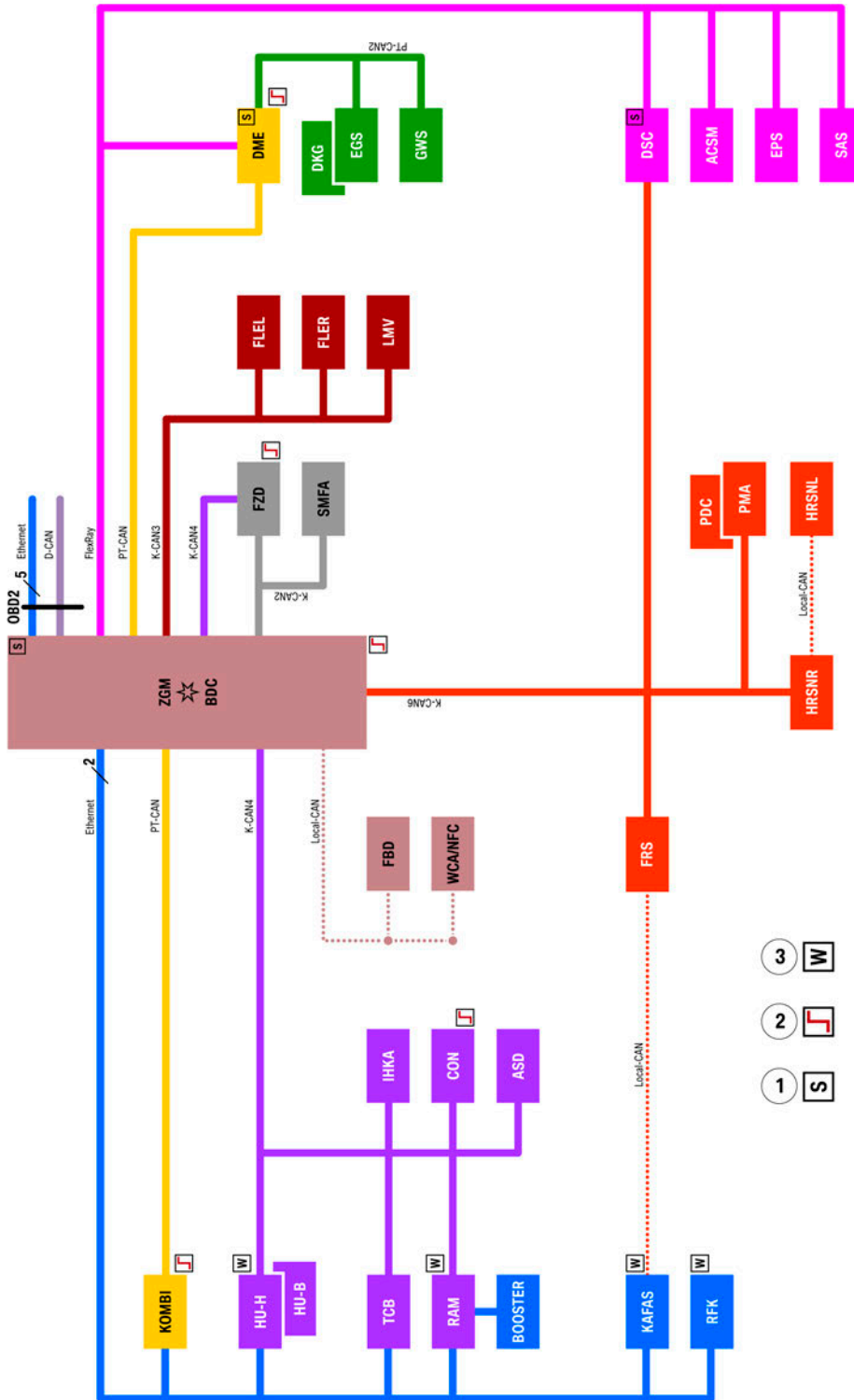
¹ Included in storage compartment package (standard SA 493), and space-saver spare (option SA 300)

The space-saver spare wheel (SA 300) is located in the storage compartment underneath the folding removable floor panel. The space-saver spare option is only available on the 228i xDrive Gran Coupe.

F44 Complete Vehicle.

3. General Vehicle Electronics.

3.1. Bus overview



F44 bus overview

F44 Complete Vehicle.

3. General Vehicle Electronics.

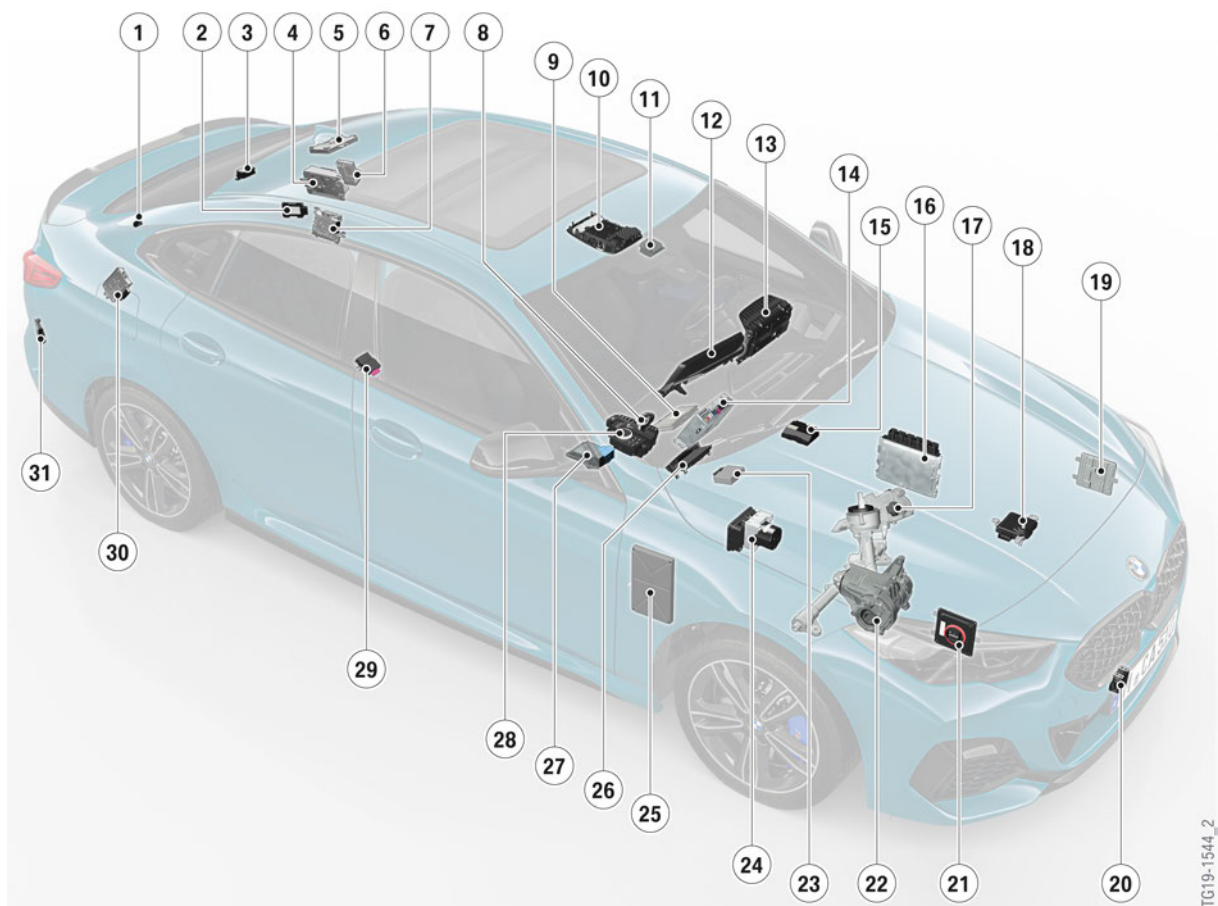
Index	Explanation
ACSM	Advanced Crash Safety Module
ASD	Active Sound Design
BDC	Body Domain Controller
BOOSTER	Booster
CON	Controller
DKG	Double-clutch transmission
DME	Digital Motor Electronics
DSC	Dynamic Stability Control
EGS	Electronic transmission control
EPS	Electronic Power Steering
FBD	Remote control receiver
FLEL	Frontal Light Electronics Left
FLER	Frontal Light Electronics Right
FRS	Front radar sensor
FZD	Roof function center
GWS	Gear selector switch
HU-B	Head Unit Basic
HU-H	Head Unit High
HRSNL	Rear radar sensor short range left
HRSNR	Rear radar sensor short range right
IHKA	Integrated automatic heating / air conditioning
KAFAS	Camera-based driver assistance systems
KOMBI	Instrument cluster
LMV	Longitudinal torque distribution
NFC	Near Field Communication
PDC	Park Distance Control
PMA	Parking Assistant
RAM	Receiver Audio Module
RFK	Rear view camera
SAS	Optional equipment system
SMFA	Driver's seat module
TCB	Telematic Communication Box 3
WCA	Wireless charging station

F44 Complete Vehicle.

3. General Vehicle Electronics.

Index	Explanation
ZGM	Central gateway module
1	Start-up nodes
2	Wake-up authorization
3	Wake-up line

3.2. Installation locations of control units



F44 Installation locations of control units

TG19-1544_2

F44 Complete Vehicle.

3. General Vehicle Electronics.

Index	Explanation
1	Rear view camera (RFK)
2	Rear radar sensor short range left (HRSNL)
3	Remote control receiver (FBD)
4	Receiver Audio Module (RAM)
5	Telematic Communication Box (TCB)
6	Active Sound Design (ASD)
7	Booster
8	Gear selector switch (GWS)
9	Driver's seat module (SMFA)
10	Roof function center (FZD)
11	Camera-based driver support systems (KAFAS)
12	Central Information Display (CID)
13	Instrument cluster (KOMBI)
14	Head unit (HU-H)
15	Integrated automatic heating/air conditioning (IHKA)
16	Digital Motor Electronics (DME)
17	Electronic Power Steering (EPS)
18	Electronic transmission control (EGS)
19	Frontal Light Electronics Left (FLEL)
20	Front radar sensor (FRS)
21	Frontal Light Electronics Right (FLER)
22	Bevel gears
23	Parking maneuvering assistant (PMA)
24	Dynamic Stability Control (DSC)
25	Body Domain Controller (BDC)/Central gateway module (ZGM)
26	Wireless charging station (WCA/NFC)
27	Crash Safety Module (ACSM)
28	Controller (CON)
29	Fuel pump control electronics
30	Optional equipment system (SAS)
31	Rear radar sensor short range right (HRSNR)

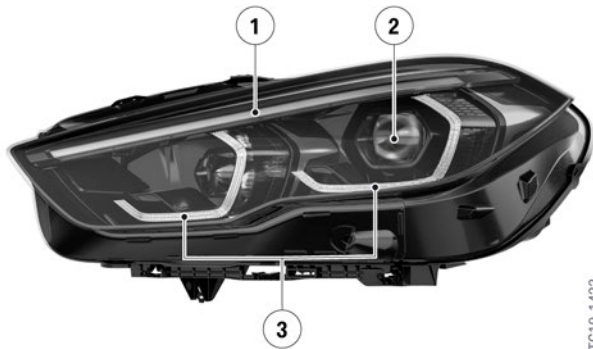
F44 Complete Vehicle.

3. General Vehicle Electronics.

3.3. Headlight

Two headlight variants are available for the F44. The vehicle is fitted with LED headlights as standard. Adaptive LED headlights (SA 552) can be ordered as an option. The function and specifications of the headlights on the F44 are identical to those on the F40. The F40 and F44 headlights differ only by the shape of the headlight housing.

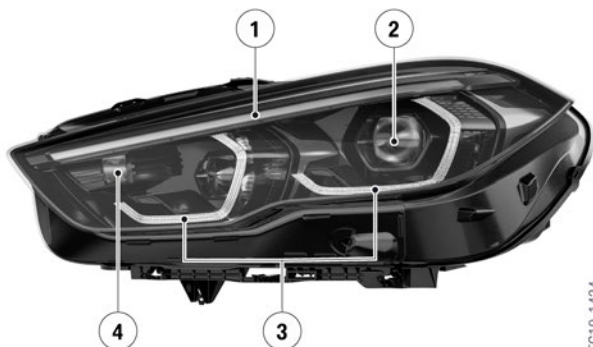
3.3.1. LED headlights



F44 LED headlights

Index	Explanation
1	Turn indicator
2	Low-beam headlight/High-beam headlight
3	Side lights/Daytime driving lights

3.3.2. Adaptive LED headlights



F44 adaptive LED headlight

F44 Complete Vehicle.

3. General Vehicle Electronics.

Index	Explanation
1	Turn indicator
2	Low-beam headlight/High-beam headlight
3	Side lights/Daytime driving lights
4	Cornering light

3.4. Rear lights

The rear light clusters of the F44 are equipped entirely with LED modules.



F44 rear lights

Index	Explanation
1	Brake light
2	Tail light
3	Turn indicator
4	Reversing light

3.5. Speaker system

The choice of speaker systems offered in the F44 is identical to the options on the F40. The only difference relates to the Harman Kardon Surround Sound System (SA 688). In that case, the mid-range speakers and tweeters are fitted in the rear shelf rather than in the headliner.

