

# Original BMW i Parts and Accessories. Installation Instructions.



## Advanced Car Eye 2.0 Retrofit.

**BMW i3 (I01)**

**BMW i8 (I12, I15)**

### Retrofit kit number

66 21 2 457 032 BMW Advanced Car Eye 2.0

66 21 2 457 699 BMW Advanced Car Eye 2.0 (UK/TH)

### Installation time

The installation time for the BMW Advanced Car Eye front and rear-view camera retrofit is **approx. 2.0 hours**.

If only the BMW Advanced Car Eye front camera retrofit is being installed, the installation time is reduced to **approx. 1.0 hour**.

On cars that have the rear windscreen in the tailgate, the installation time increases by **0.5 hours**.

The installation time may vary depending on condition of the car and the equipment in it.

### Important information

These installation instructions are primarily designed for use within the BMW dealership organisation and by authorised BMW service companies.

These installation instructions are intended for use by qualified specialist staff trained on BMW cars with the relevant expert knowledge.

All work must be completed using the latest BMW repair manuals, wiring diagrams, servicing manuals and work instructions, in a logical order, using the prescribed tools (special tools), and observing current health and safety regulations.

**If you experience installation or functional problems, restrict troubleshooting to approx. 0.5 hours for mechanical work and 1.0 hour for electrical work.**

To avoid unnecessary extra work and/or costs, send an inquiry straight away to the technical parts support team via the Aftersales Assistance Portal (ASAP).

Quote the following information:

- VIN,
- retrofit kit part number,
- a detailed description of the problem,
- any work already carried out.

Do not archive the hard copy of these installation instructions, since daily updates are supplied in ASAP!

## Pictograms

-  Denotes instructions that draw your attention to dangers.
-  Denotes instructions that draw your attention to special features.
-  Denotes the end of the instruction or warning text.

### **Refer to safety instructions for working on electric/hybrid cars, see ISTA/AIR 61 00 ...**

**The high-voltage system must be disconnected from the supply before starting the work.**

**Do not start the work if the KOMBI does not indicate that the power supply has been disconnected. Danger of death!**

**In this case a certified electrician, qualified to work on 1000 V DC systems, and using suitable measuring instruments and methods, must establish that the power supply has been disconnected before work is started.**

**In these cases, you must contact Technical Support. In addition, the car must be locked and cordoned off using tapes!**

## Installation information

Ensure that the cables and/or lines are not kinked or damaged as you install them in the car. Costs incurred by this will not be reimbursed by BMW AG.

Additional cables/wires that are installed must be secured with cable ties. If the specified PIN chambers are occupied, bridges, double crimps, or twin-lead terminals must be used.

All illustrations show LHD (left-hand drive) cars; proceed similarly on RHD (right-hand drive) cars.

Front camera **B** must not restrict the driver's field of vision. The lens of front camera **B** must be within the wiper area of the windscreen wipers and outside of the screen-printed strip.

Ensure that the function of the sun visor and the adjustment range of the interior rear-view mirror are not restricted.

After installing front camera **B**, all buttons and the SD card slot must be freely accessible.

 The rear window camera **C** cannot be installed on any convertibles. ◀

Rear-window camera **C** (optional) must be installed in the same way as front camera **B** on the rear windscreen, if present, in an area cleaned by the windscreen wiper.

Rear-window camera **C** should be positioned in the centre with a horizontal view to the rear.

When affixing the front camera **B**, it must be ensured that no excessive tension or pressure is exerted on the camera by the connection cable, as the front camera **B** may otherwise become detached.

 On cars where rear-window camera **C** is not installed, branch **A1** must be tied back and stowed away without rattling. ◀

## Ordering instructions

The double flat spring contact **E** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

The socket contact **F** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

The fuse **G** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

The fuse **H** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

The ring eyelet **O** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

The double flat spring contact with twin-lead terminal **P** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

**Customer information**

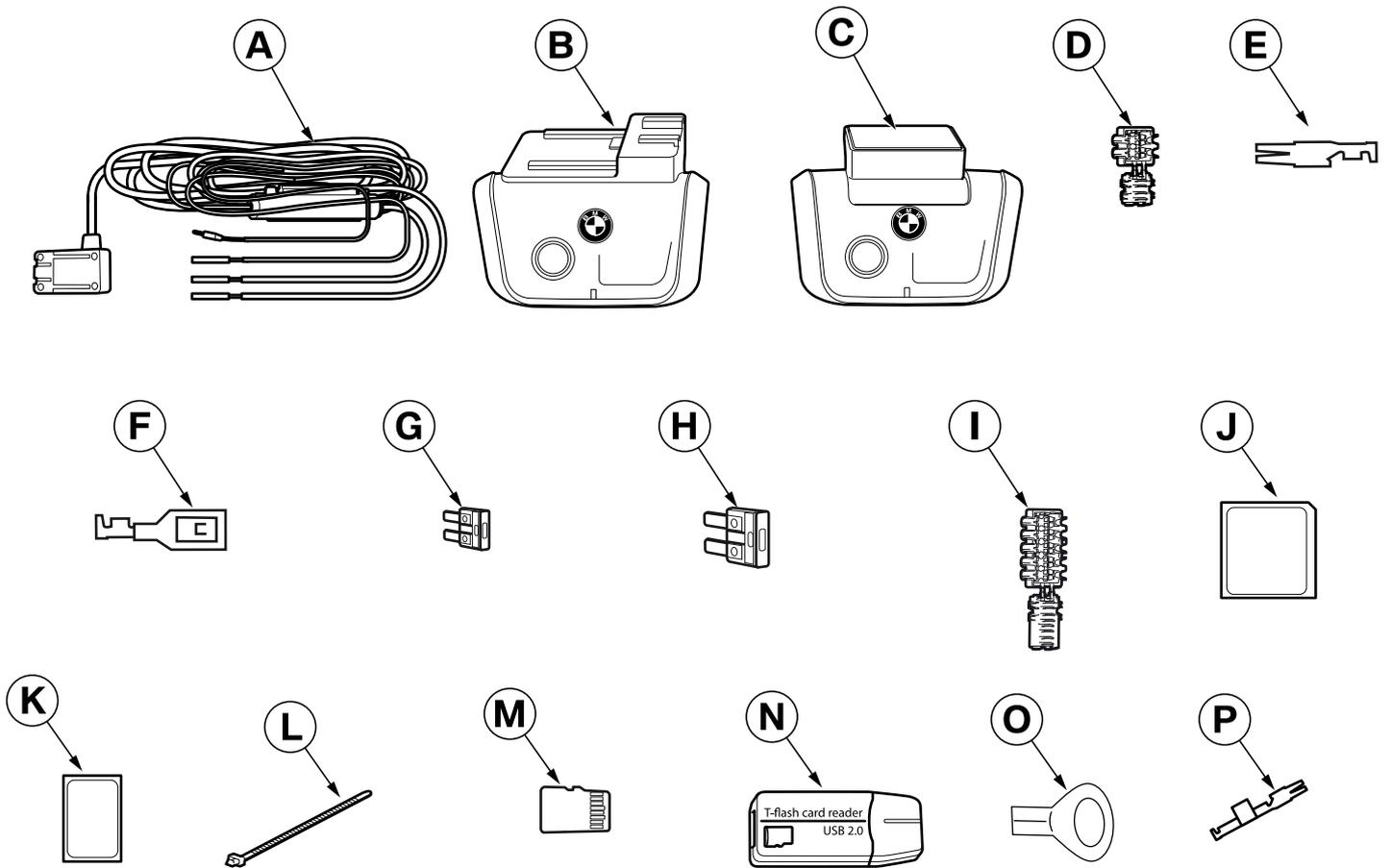
Print out the “Customer information” section at the end of the installation instructions and present it to the customer.

**Special tools required**

Refer to the relevant ISTA/AIR repair manual for details of the special tool required.

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## 1. Parts list



001 1458 Z

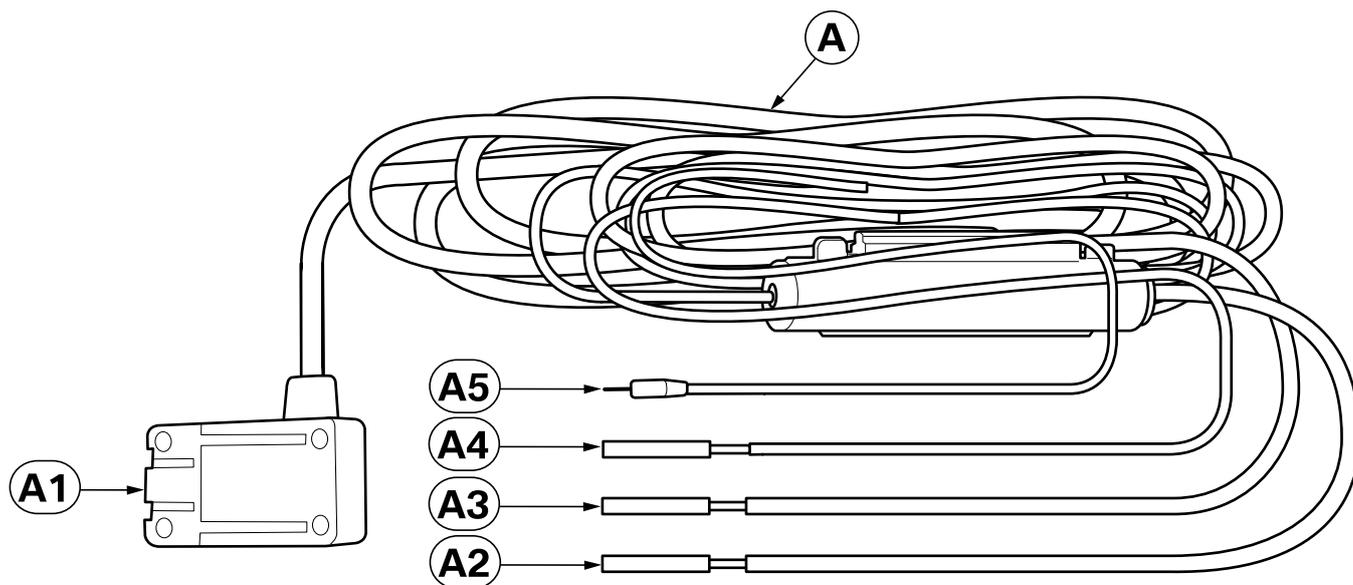
### Legend

- A** Retrofit wiring harness
- B** Front camera
- C** Rear window camera (for I01 and I12 cars only)
- D** 2-way miniature connector (2 x)
- E** Double flat spring contact (not supplied in the retrofit kit)
- F** Socket contact (not supplied with the retrofit kit)
- G** MINI fuse (5A, not included in the retrofit kit)
- H** ATO fuse (5A, not included in the retrofit kit)
- I** 5-way miniature connector
- J** Tape for front camera
- K** Tape for rear window camera
- L** Cable ties (20 x)
- M** Micro SD card
- N** Micro SD card to USB adapter
- O** 6 mm eyelet (not included in the retrofit kit)
- P** Double flat spring contact with twin-lead terminal (not supplied with the retrofit kit)

## 2. Preparatory work

	ISTA/AIR No.
Disconnect the high voltage system from the supply	61 25 900
Disconnect all negative battery cables	61 20 900
Release and disconnect various plug connections	61 13 ...
Cut, strip and crimp cables	61 11 ...
Open the plug housing and remove the contacts from various connection systems	61 13 ...
Instructions for handling the documents: Repair manual, technical data, tightening torques	00 11 ...
Instructions for handling wiring harnesses and cables	61 00 ...
<b>The following components must be removed first of all</b>	
Trim for front right A pillar	51 43 201
Bottom right dashboard trim	51 45 181
Side footwell trim on right A pillar	51 43 075
<b>Also for I01 and I12 cars (only if installing the rear window camera)</b>	
Rear seat	52 26 ...
Rear right backrest side part	52 26 ...
Roof pillar trim on the rear right	51 43 ...
Luggage compartment wheel arch trim, rear right	51 47 151
Tailgate trim	51 49 000

### 3. Retrofit wiring harness connection diagram

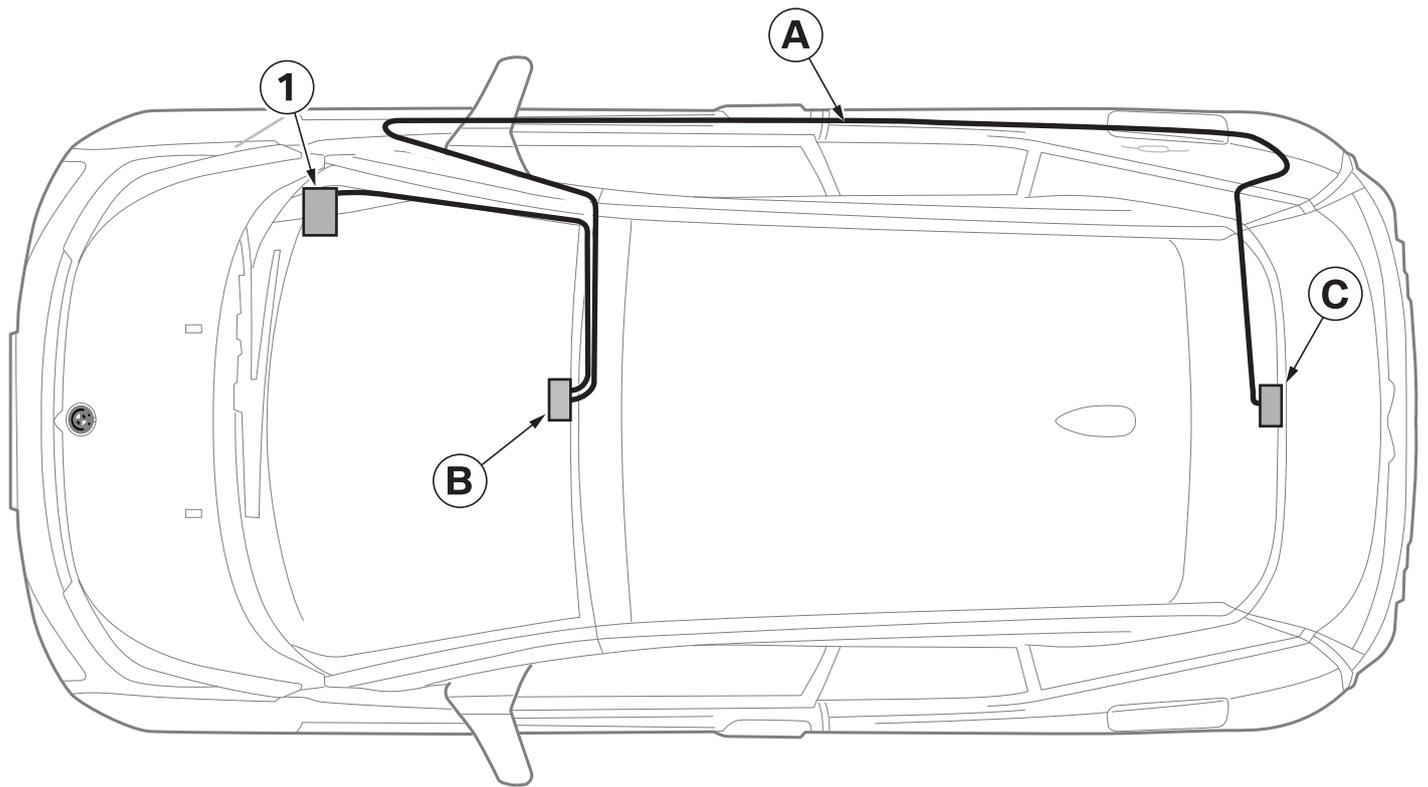


001 1374 Z

Item	Designation	Signal	Cable colour/ Cross-section	Connection lo- cation in the car	Abbreviation/ Slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera <b>B</b>	---
A2	Open cable	Terminal 30	GE 0.35 mm <sup>2</sup>	With double flat spring contact <b>E</b> to fuse box <b>Z13</b>	Z13*1B PIN 7
A3	Open cable	Terminal 15	RT 0.35 mm <sup>2</sup>	With double flat spring contact <b>F</b> to fuse box <b>Z13</b>	Z13*5B PIN 20
A4	Open cable	Terminal 31	SW 0.35 mm <sup>2</sup>	With eyelet <b>O</b> to ground support point <b>Z10</b>	Z10*3B
A5	Connection cable for rear window camera	---	---	<b>For I03 and I12 cars only</b> To rear window camera <b>C</b> <b>For I15 cars only</b> Insulate and tie back	---

 Note cable colours. ◀

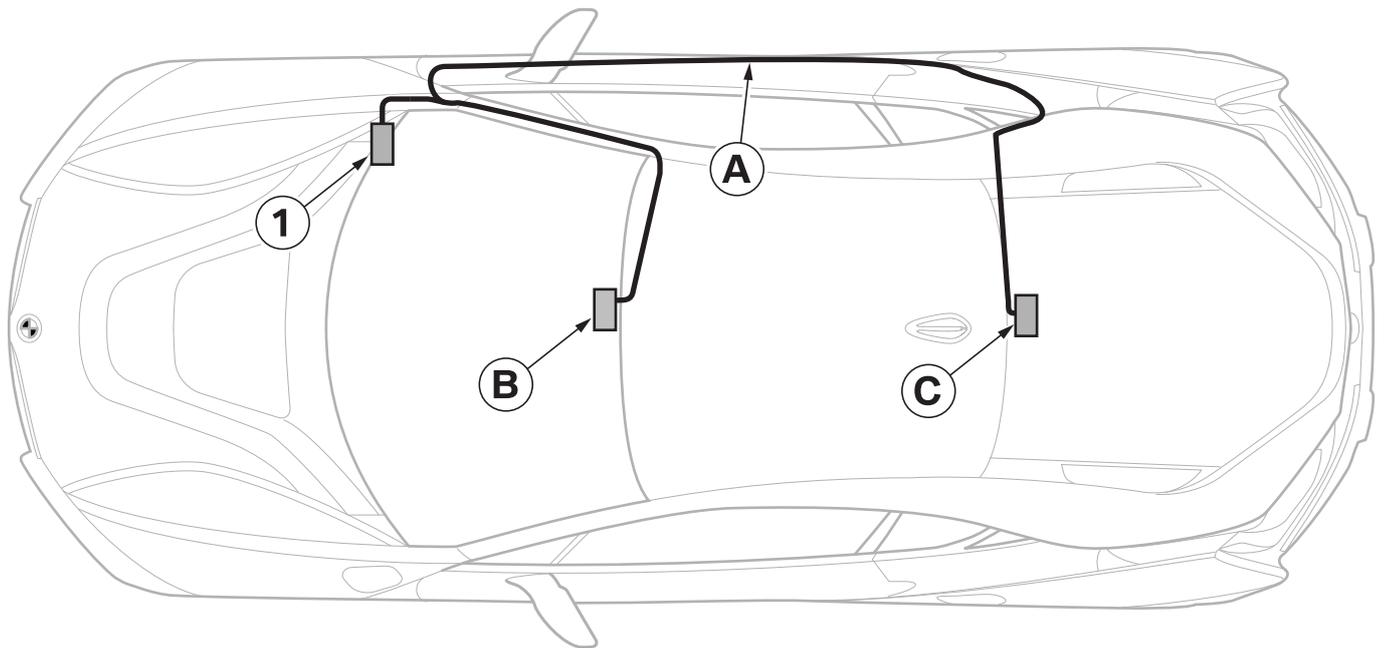
#### 4. Installation and cabling diagram for I01 only



I01 0029Z

- A** Retrofit wiring harness
- B** Front camera with bracket
- C** Rear-view camera
  
- 1** Power distribution box **Z13**

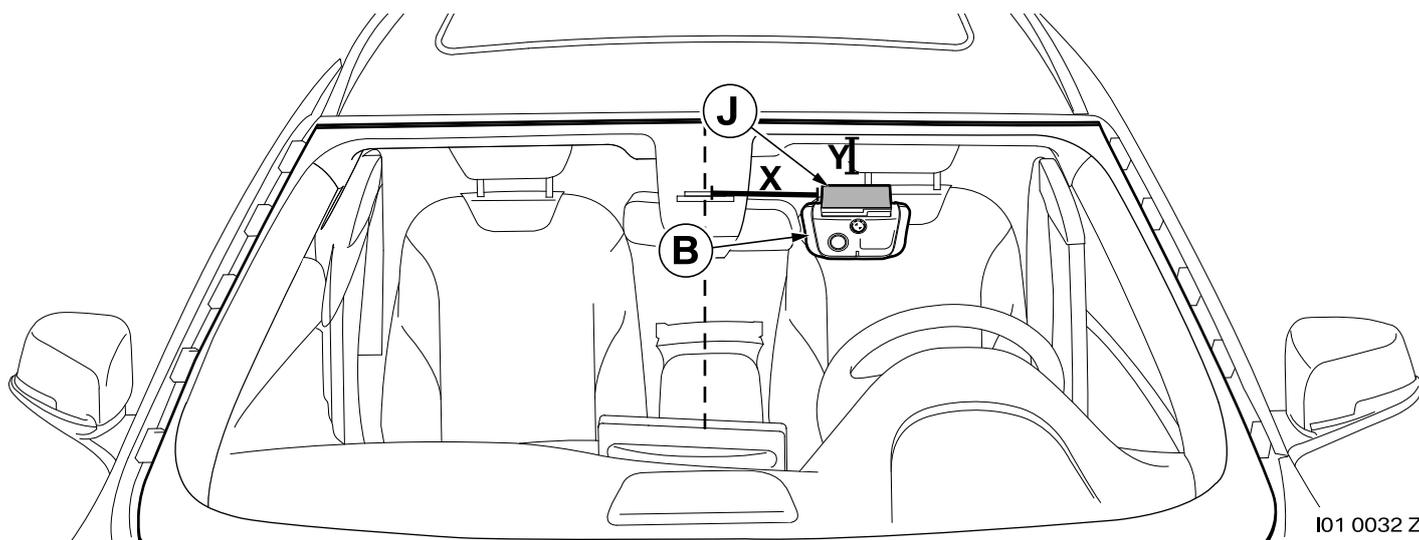
## 5. Installation and cabling diagram for I12 and I15 only



I12.0010 Z

- A** Wiring harness
- B** Front camera with bracket
- C** Rear window camera (for I12 cars only)
- 1** Power distribution box **Z13**

## 6. Installation position for I01



I01 0032 Z

Front camera **B** must not restrict the driver's field of vision. Front camera **B** must be installed within the windscreen wiper's wipe area and outside the coloured sun protection strip.

After installing front camera **B**, all buttons, plugs and the SD card slot must be freely accessible.

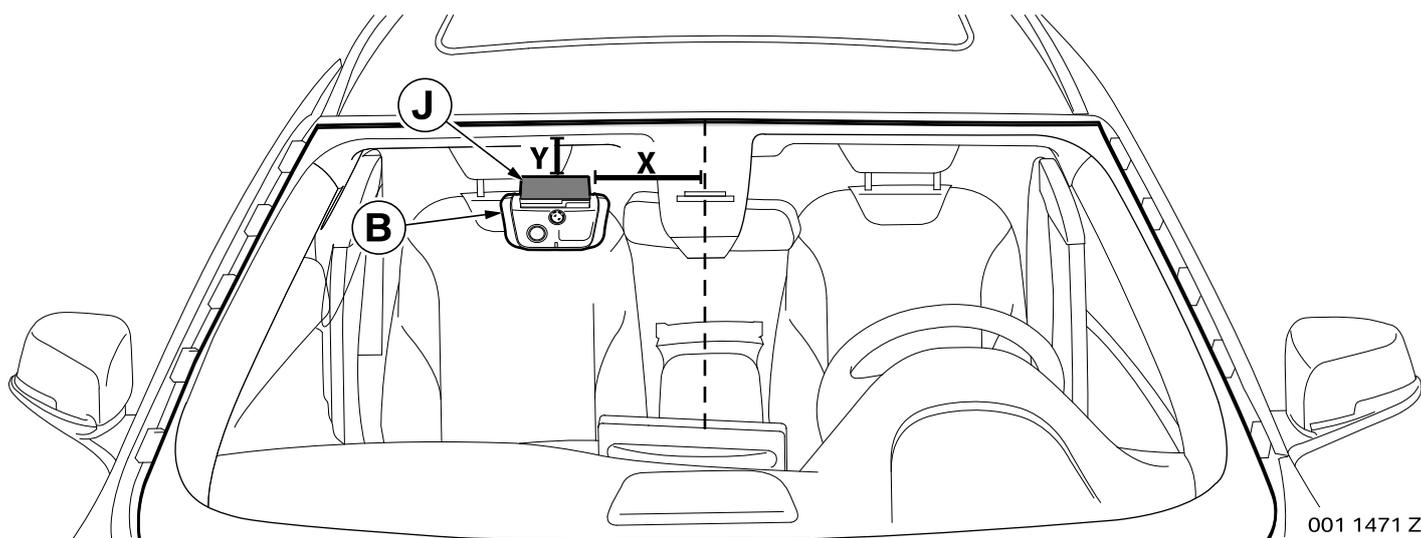
The bonding surfaces must be clean and free of grease. Working temperature at least 20 °C. ◀

Affix tape **J** to the prescribed position on the front windscreen.

Bond front camera **B** as shown according to the following dimensions:

- Y = 20 mm
- X = 150 mm

## 7. Installation position for I12 and I15



▶ Front camera **B** must not restrict the driver's field of vision. Front camera **B** must be installed within the windshield wiper's wipe area and outside the coloured sun protection strip.

After installing front camera **B**, all buttons, plugs and the SD card slot must be freely accessible.

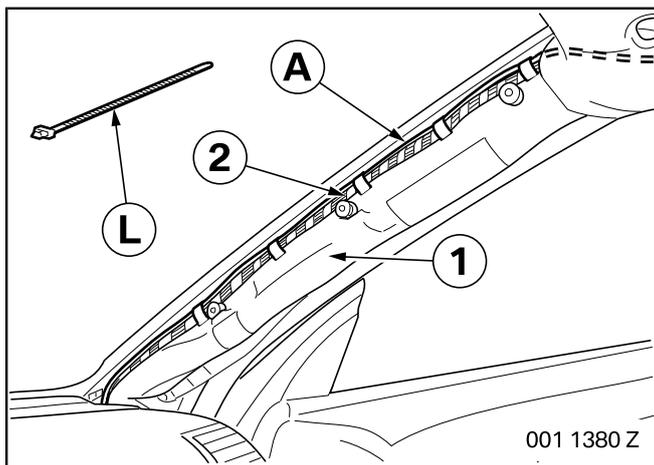
The bonding surfaces must be clean and free of grease. Working temperature at least 20 °C. ◀

Affix tape **J** to the prescribed position on the front windshield.

Bond front camera **B** as shown according to the following dimensions:

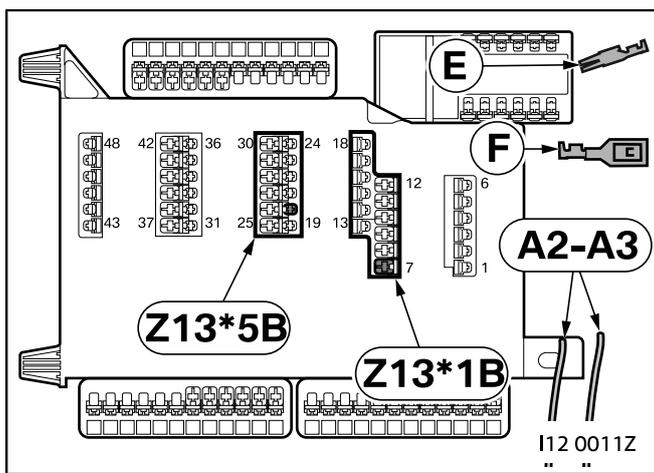
- Y = 20 mm
- X = 200 mm

## 8. Install the front camera



**!** In order not to adversely affect the function of the airbag (1), secure wiring harness **A** to the standard wiring harness (2) with cable tie **L**. ◀

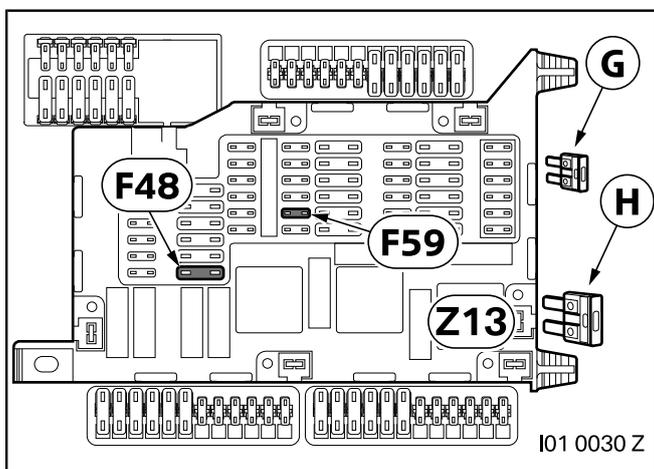
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branches **A2-A3** to the installation point of power distribution box **Z13**.

Connect branches **A2-A3** as follows to power distribution box **Z13**:

- Connect branch **A2**, GE cable, with crimped double flat spring contact **E** to PIN 7 of plug **Z13\*1B**
- Connect branch **A3**, RT cable, with crimped socket contact **F** to PIN 20 of plug **Z13\*1B**

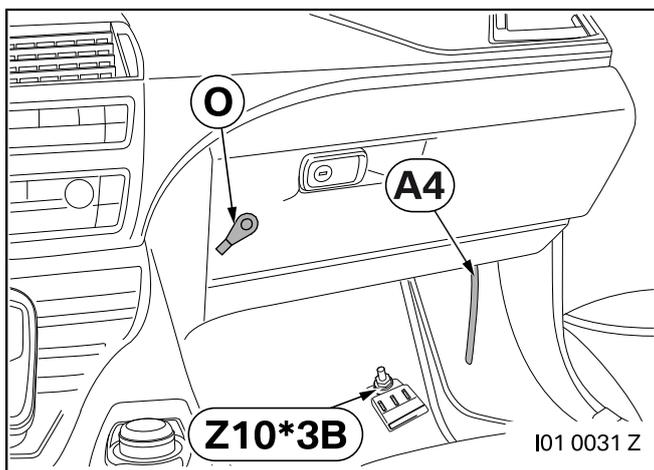


– PIN 7 = Slot F48

– PIN 20 = Slot F59

Insert fuse **H** into slot **F48** in fuse box **Z13**.

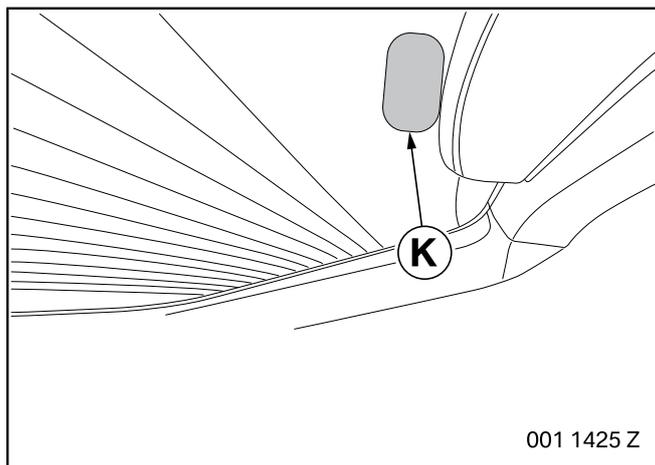
Insert fuse **G** into slot **F59** in fuse box **Z13**.



Route branch **A4** to the location of ground support point **Z10\*3B**.

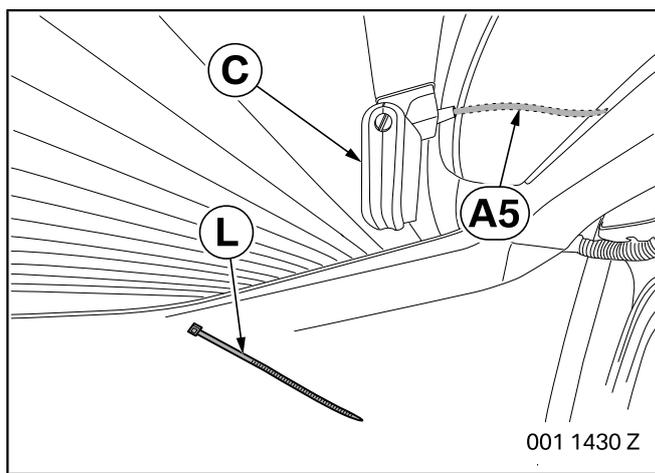
Secure branch **A4** with crimped eyelet **O** to ground support point **Z10\*3B**.

## 9. Install the rear window camera, for I01 and I12 only



- ▶ The bonding surfaces must be clean and free of grease. Working temperature at least 20 °C. ◀

Affix tape **K** to the rear windscreen.



- ▶ Rear-window camera **C** must not restrict the driver's field of vision.

The bonding surfaces must be clean and free of grease. Working temperature at least 20 °C. ◀

Affix the rear-window camera **C** to the rear window in the centre below the third brake light.

Route branch **A5** along the standard wiring harness to the rear window and connect to rear-window camera **C**.

- ▶ Secure branch **A5** several times using cable tie **L**. ◀

## 10. Concluding work and coding

The retrofit system does not require programming/coding.

- Adjust the front- and rear-window camera as per the customer information
- Remove the protective film from the camera lens on the front and rear window cameras
- Conduct a function test
- Re-assemble the car

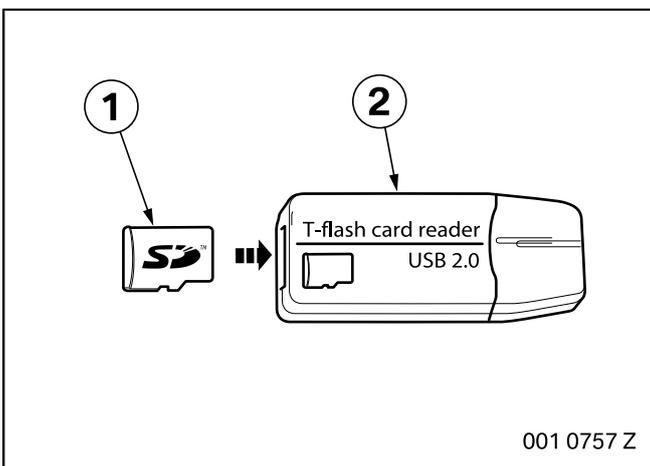
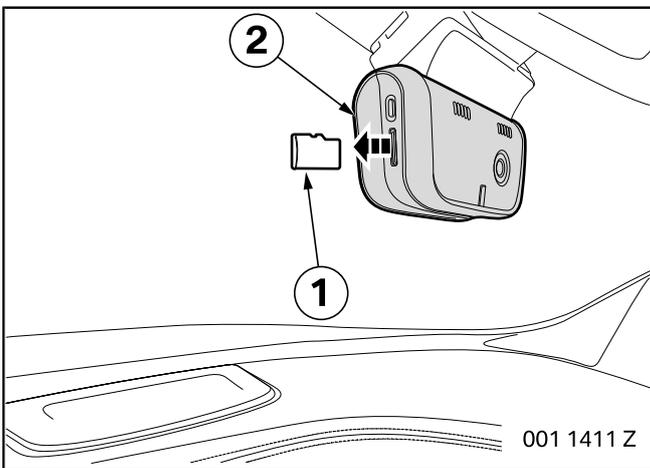
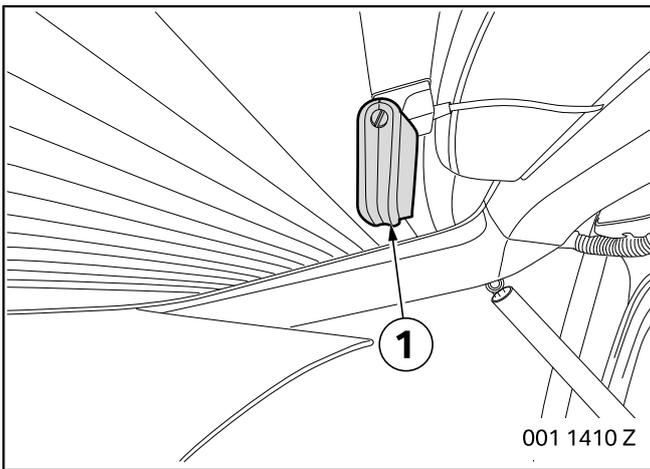
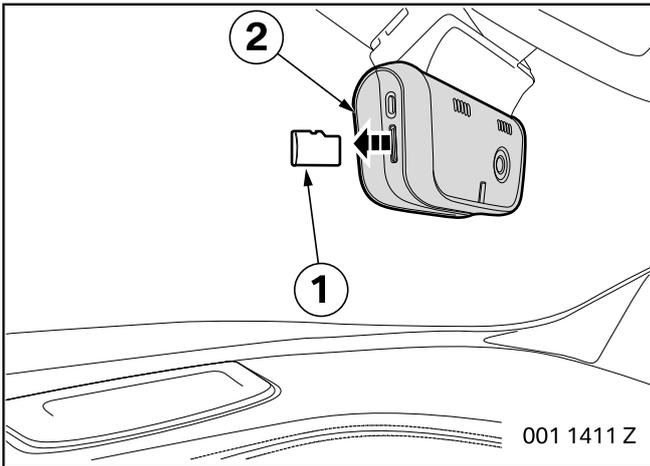
The following parts must be given to the customer:

- Micro SD card **M**
- Micro SD card to USB **N**
- Customer information/owner's manual and, if available, supplementary declaration of conformity

### Firmware update

 The firmware update must absolutely be carried out using the ACE app on the customer's mobile phone. ◀

## 11. Customer information



### Commissioning

 The micro SD card (1) may only be inserted into or removed from the front camera (2) when it is switched off since otherwise data could be damaged and malfunctions may occur. ◀

Slide the micro SD card (1) into the front camera (2).

### Adjusting the rear window camera

 **Danger of accidents!**  
All settings must only be carried out while the car is stationary. ◀

Only the upper quarter of the image should show sky over the horizon. The middle 2/4 display the traffic situation and the lowest quarter shows the near area, or the tailgate.

Swivel or tilt the rear-window camera (1) until the angle of the rear-window camera (1) corresponds to the definition described above.

### Reading data via the PC

 The micro SD card (1) may only be inserted into or removed from the front camera (2) when it is switched off since otherwise data could be damaged and malfunctions may occur. ◀

Slide the micro SD card (1) out of the front camera (2).

Slide the micro SD card (1) into the USB adapter (2).

Connect the USB adapter (2) to your PC.

The reference source for the required software can be found in the supplied operating instructions.

## 11. Customer information

### Switch on the ignition

Model	Built in or after	Number of presses of Start-Stop button
i3 (i01)	2013	Press once
i8 (I12)	2014	Press once
i8 (I15)	2018	Press once