

# ORIGINAL MINI PARTS AND ACCESSORIES. INSTALLATION INSTRUCTIONS.



## Advanced Car Eye 3.0 Retrofit.

MINI Clubman (F54)

MINI 5-door (F55)

MINI 3-door (F56)

MINI 3-door (F56 BEV)

MINI Convertible (F57)

MINI Countryman (F60)

### Retrofit kit number

**MINI Advanced Car Eye 3.0 pro (Pro version with display and radar)**

66 21 5 A44 4A3

66 21 5 A44 4A5

66 21 5 A44 4A7

### MINI Advanced Car Eye 3.0

66 21 5 A44 4A4

66 21 5 A44 4A6

66 21 5 A44 4A8

### Installation time

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

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

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

These times may vary depending on the 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, please send an inquiry to the technical parts support team.

Quote the following information:

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

Please do not archive the printout of these installation instructions. The current version can be found in the EPC (electronic parts catalogue).

### **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.**

**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 cars; proceed in the same way on RHD cars.

The front camera with display **C** or the front camera **D** must not restrict the driver's view. The lens on the front camera with display **C** or the front camera **D** must be within the wiper area of the windscreen wipers and outside the sun protection strip (screen-printed strip).

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


All buttons and the SD card slot must be freely accessible after the front camera with display **C** or the front camera **D** has been installed.

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


The rear window camera **E** must not restrict the driver's view. Ideally, the rear window camera **E** should be positioned in the area whose view is blocked by the headrests (or 3rd row of seats).

The rear window camera **E** must be installed in the same way as the front camera with display **C** or the front camera **D** on the rear window in an area cleaned by the windscreen wiper.

When bonding the front camera with display **C** or the front camera **D**, ensure that no excessive tension or pressure is exerted on the camera by the connection cable, as the front camera with display **C** or the front camera **D** may otherwise become detached.

 The installation work is only shown for the front camera with display **C**, use the same procedure for the front camera **D**. ◀

The adhesive strip already installed on the front camera with display **C** or the front camera **D** may only be used once.

 On cars where the rear window camera **E** is not installed, branch **B5** must be tied back and stowed so that it does not rattle. ◀

## Ordering information for F55, F56, F57 and F56 BEV

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

Socket contact MCP 2.8 x 0.8 **H** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

Socket contact MCP 4.8 x 0.6 **M** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

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

## Ordering information for F54 and F60

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

Socket contact MCP 2.8 x 0.8 **H** is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

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

**Customer information**

Give the operating instructions (1 page) and, if there is one, the attachment to the declaration of conformity to the customer.

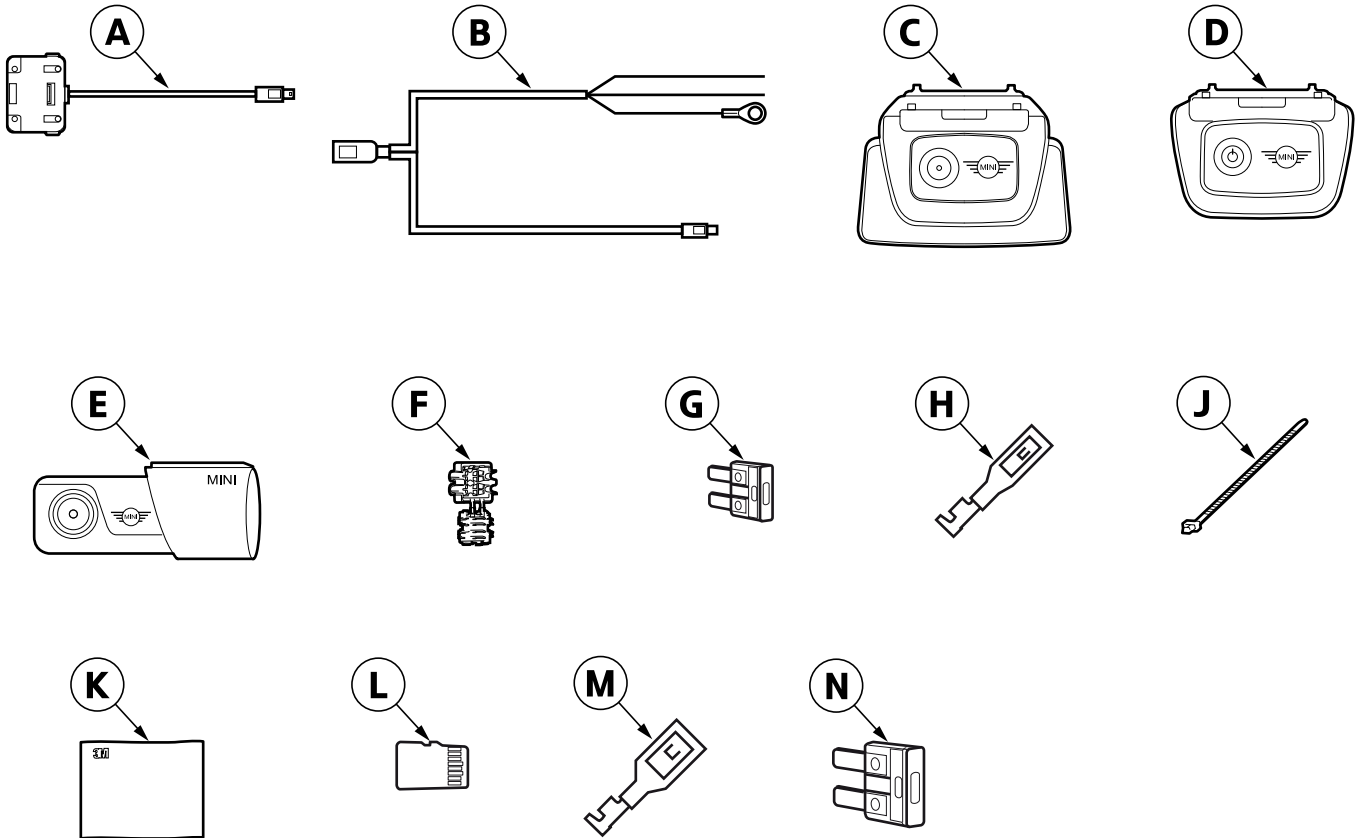
**Special tools required**

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

## Table of contents

Section	Page
1. Parts list for F55, F56, F57 and F56 BEV .....	6
2. Parts list for F54 and F60 .....	7
3. Preparatory work .....	8
4. Base and retrofit wiring harness connection diagram for F55, F56, F57 and F56 BEV .....	9
5. Base and retrofit wiring harness connection diagram for F54 and F60 .....	10
6. Installation and cabling diagram .....	11
7. Installation position of front camera .....	12
8. Retrofit wiring harness connection .....	13
9. Connection and installation of the rear window camera in cars with a fixed rear window .....	17
10. Connection and installation of the rear window camera in cars with a glued rear window in the tail-gate .....	18
11. Customer information .....	19
12. Concluding work and coding .....	20

## 1. Parts list for F55, F56, F57 and F56 BEV

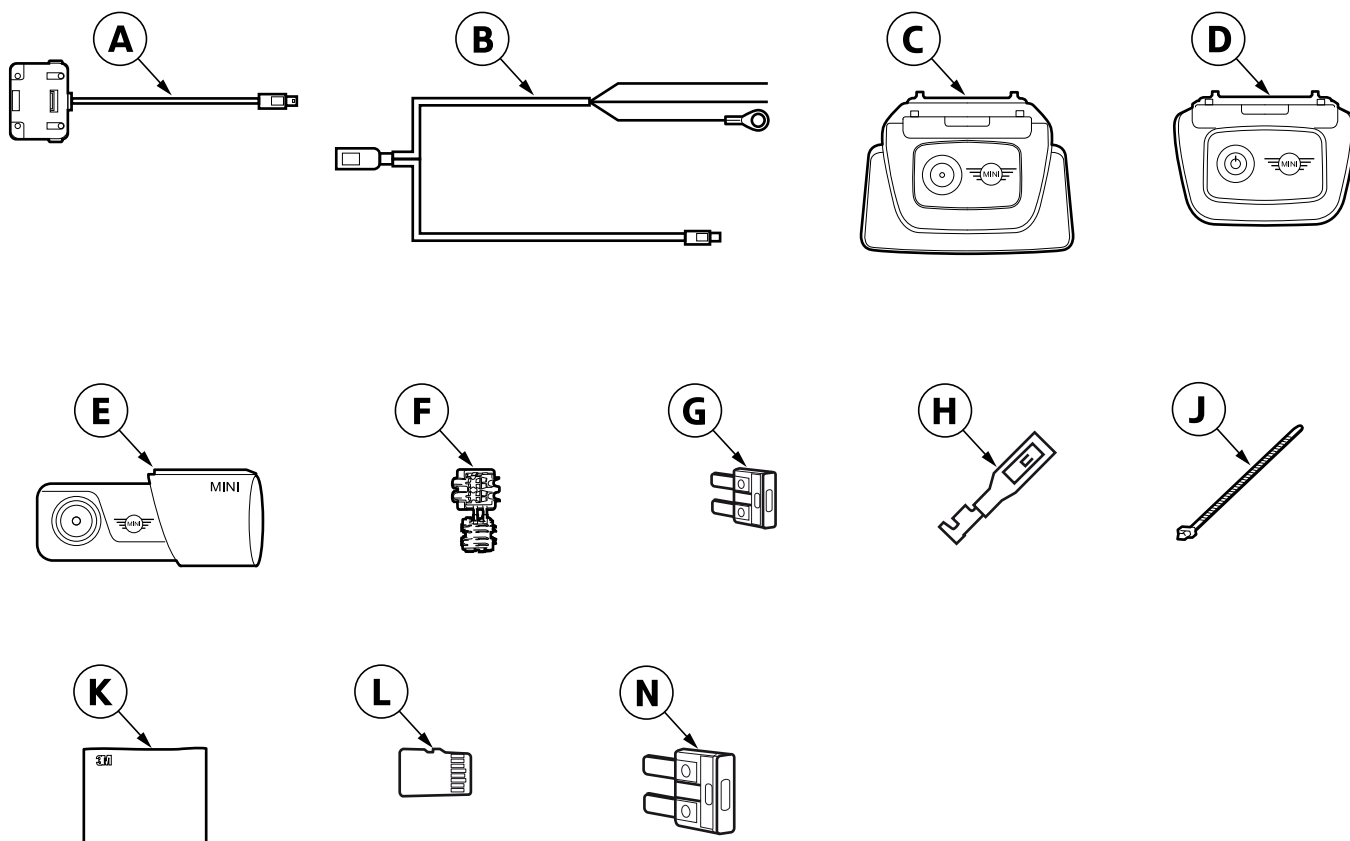


F56 0262 Z

### Legend

- A** Base
- B** Retrofit wiring harness
- C** Front camera with display
- D** Front camera
- E** Rear window camera (not for convertibles)
- F** 2-way miniature connector (not required)
- G** MINI 5A fuse (not included in the retrofit kit)
- H** Socket contact MCP 2.8 x 0.8 (not supplied with the retrofit kit)
- J** Cable ties (20 x)
- K** Cleaning cloth (2 x)
- L** Micro SD card
- M** Socket contact MCP 4.8 x 0.6 (not supplied with the retrofit kit)
- N** ATO 5A fuse (not included in the retrofit kit)

## 2. Parts list for F54 and F60



F54 0095 Z

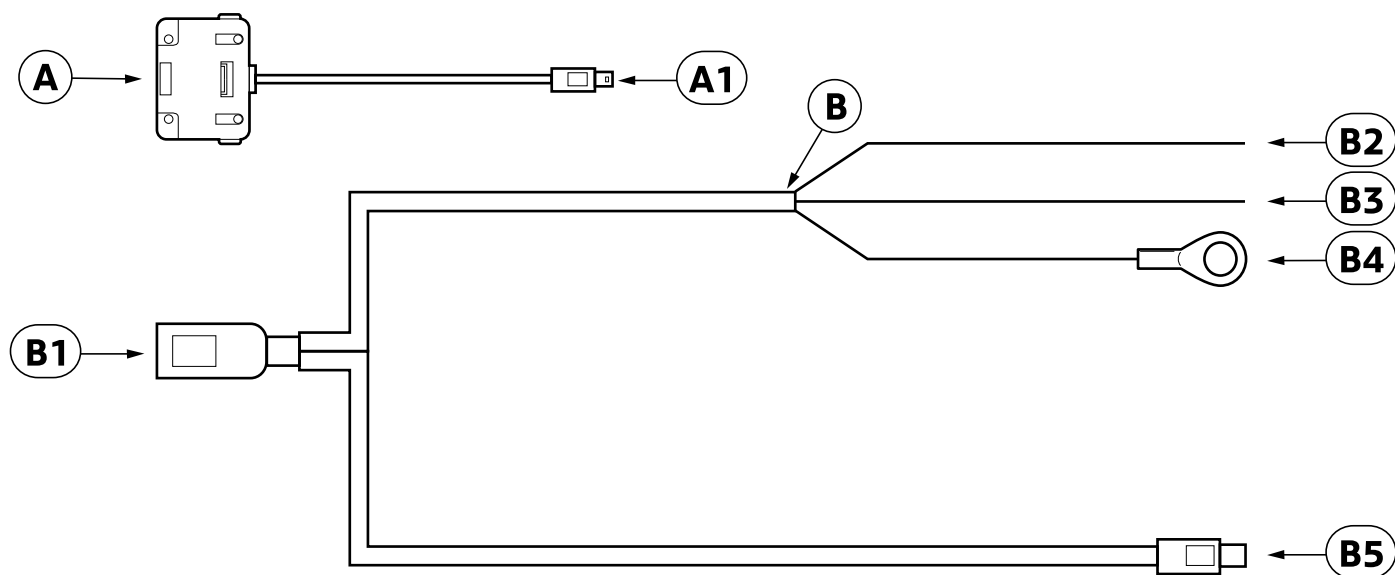
### Legend

- A** Base
- B** Retrofit wiring harness
- C** Front camera with display
- D** Front camera
- E** Rear window camera (not for F54)
- F** 2-way miniature connector (not required)
- G** MINI 5A fuse (not included in the retrofit kit)
- H** Socket contact MCP 2.8 x 0.8 (2 x, not supplied with the retrofit kit)
- J** Cable ties (20 x)
- K** Cleaning cloth (2 x)
- L** Micro SD card
- N** ATO 5A fuse (not included in the retrofit kit)

### 3. 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 wiring harnesses and cables	61 00 ...
Instructions for handling the documents: Repair manual, technical data, tightening torques	00 11 ...
<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
Release the front right-hand power distributor	---
Trim on bottom right B pillar (only if installing the rear window camera)	51 43 150
Rear seat (only if installing the rear window camera)	52 26 ...
Rear right backrest side section (only if installing the rear window camera)	52 26 ...
Trim on rear right roof pillar (only if installing the rear window camera)	51 43 ...
Tailgate trim (only if installing the rear window camera)	51 49 000


#### 4. Base and retrofit wiring harness connection diagram for F55, F56, F57 and F56 BEV



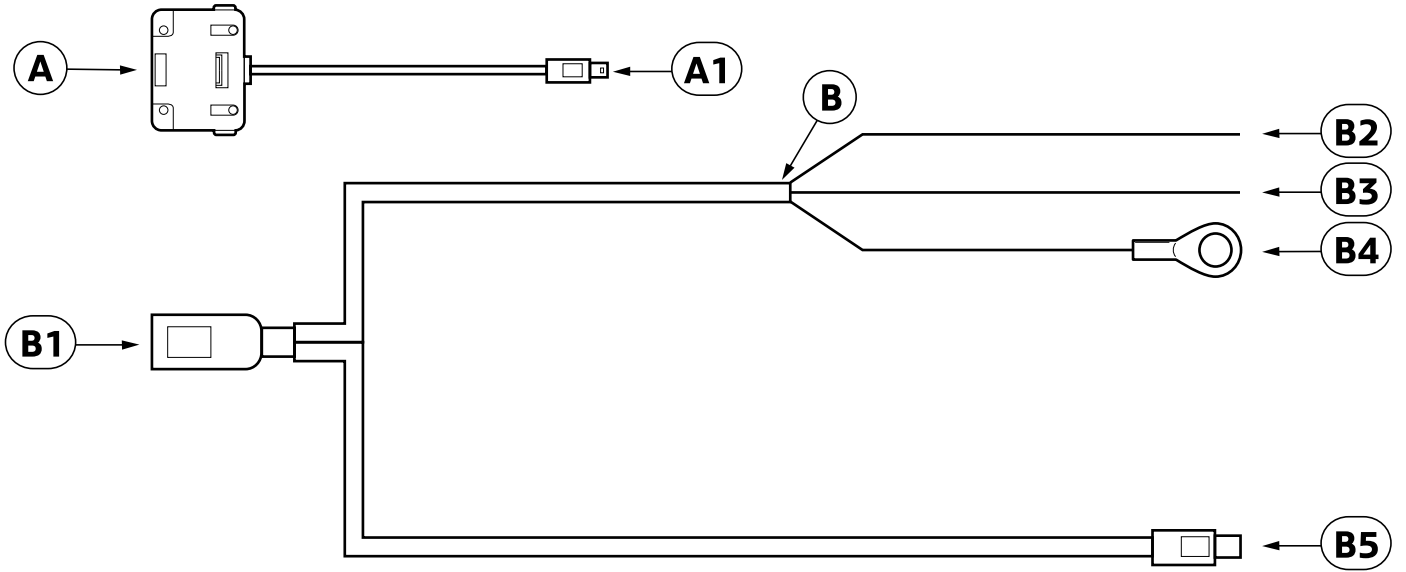
F55 0067 Z

Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Base with cable	---	---	---	---
A1	Locking plug	---	---	To locking socket	B1
B	Retrofit wiring harness	---	---	---	---
B1	Locking socket	---	---	To locking plug	A1
B2	Open cable	Terminal 30	RED 0.5 mm <sup>2</sup>	With socket contact <b>H</b> to power distributor <b>Z7</b> With socket contact <b>M</b> to power distributor <b>Z7</b>	Z7*2B PIN 6/PIN 7/PIN 9 *
B3	Open cable	Terminal 15	YELLOW 0.5 mm <sup>2</sup>	With socket contact <b>H</b> to power distributor <b>Z7</b>	Z7*3B PIN 22
B4	Eyelet	Terminal 31	BLACK 0.5 mm <sup>2</sup>	To earth connector <b>Z10</b>	Z10*6B
B5	Connection cable for rear window camera	---	---	To rear window camera <b>E</b>	---

\* Depending on available slot in plug **Z7\*2B**.

 Note cable colours. ◀


## 5. Base and retrofit wiring harness connection diagram for F54 and F60



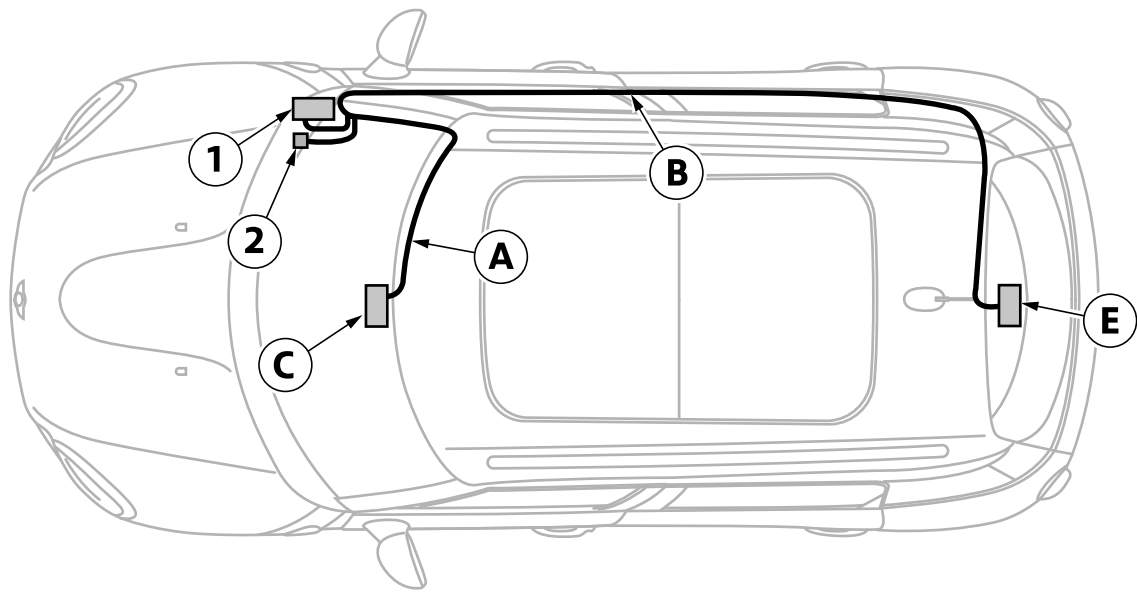
F55 0067 Z

Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Base with cable	---	---	---	---
A1	Locking plug	---	---	To locking socket	B1
B	Retrofit wiring harness	---	---	---	---
B1	Locking socket	---	---	To locking plug	A1
B2	Open cable	Terminal 30	RED 0.5 mm <sup>2</sup>	With socket contact <b>H</b> to power distributor <b>Z7</b>	Z7*2B PIN 7/PIN 9 *
B3	Open cable	Terminal 15	YELLOW 0.5 mm <sup>2</sup>	With socket contact <b>H</b> to power distributor <b>Z7</b>	Z7*3B PIN 22
B4	Eyelet	Terminal 31	BLACK 0.5 mm <sup>2</sup>	To earth connector <b>Z10</b>	Z10*6B
B5	Connection cable for rear window camera	---	---	To rear window camera <b>E</b>	---

\* Depending on available slot in plug **Z7\*2B**.

 Note cable colours. ◀

## 6. Installation and cabling diagram

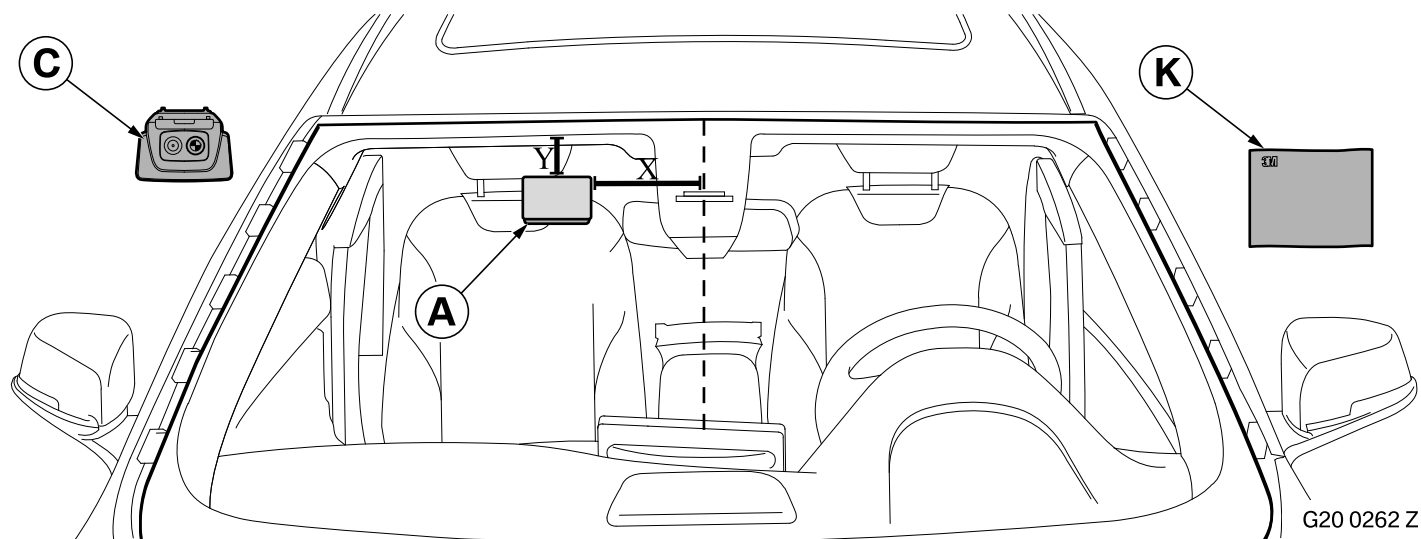


F55 0066 Z

- A** Base
- B** Retrofit wiring harness
- C** Front camera
- E** Via-window camber (not for convertibles or F54 cars)
  
- 1** Front right power distributor **Z7**
- 2** Earth connector, front right **Z10\*6B**

## 7. Installation position of front camera

▶ The car diagram is an example. ◀



▶ Front camera **C** must not restrict the driver's field of vision. The front camera **C** must be installed within the windscreen wiper's wipe area and outside the coloured sun protection strip (screen printed strip).

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

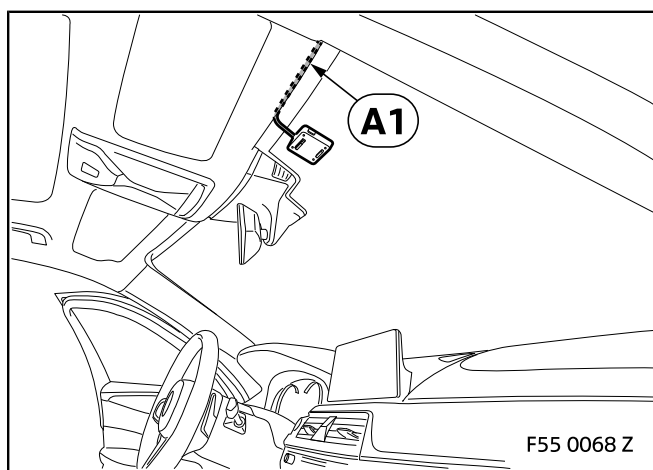
The bonding surfaces must be clean and free of grease. Clean the bonding surfaces with the cleaning cloth **K**. Apply at room temperature only (minimum 20 °C).

The adhesive strip already installed on the base **A** may only be used once. If the adhesive strip is positioned incorrectly once, it must be replaced. ◀

Affix base **A** to the specified position on the windscreen.

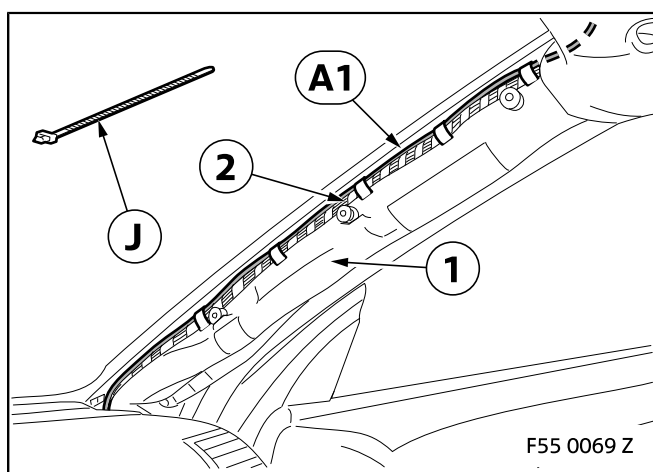
- Y = 20 mm
- X = 200 mm

## 8. Retrofit wiring harness connection



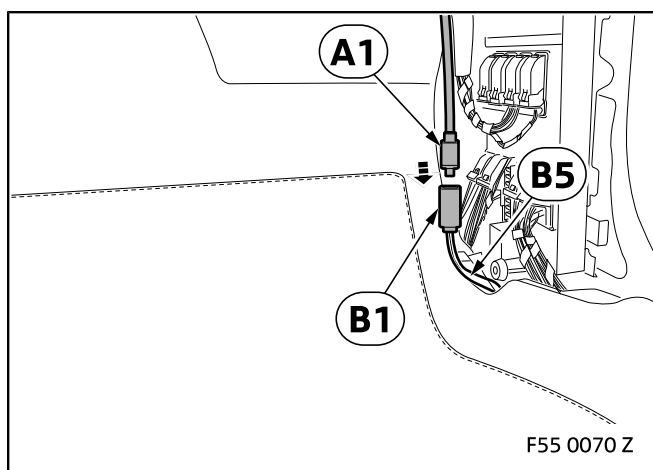
### All cars

Route branch **A1** to the right-hand A pillar as shown.



**!** Secure branch **A1** to the standard wiring harness (2) with cable ties **J** so as not to adversely affect the function of the airbag (1). ◀

Route branch **A1** along the right-hand A pillar to the footwell.

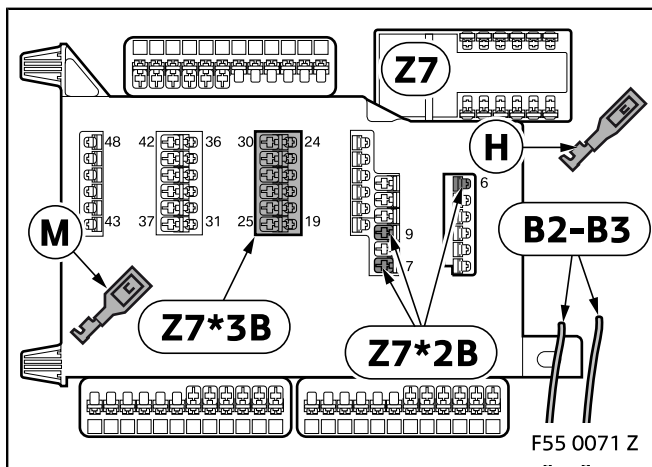


Insert branch **A1** into branch **B1** until it engages.

### Only if installing the rear window camera

Route branch **B5** to the location of the rear window camera.

## 8. Retrofit wiring harness connection



### For F55, F56, F57 and F56 (BEV) only

▶ The PIN from branch **B2** depends on the empty slot. ◀

Route branches **B2-B3** to the location of power distributor **Z7**.

Connect branches **B2-B3** as follows to power distributor **Z7**:

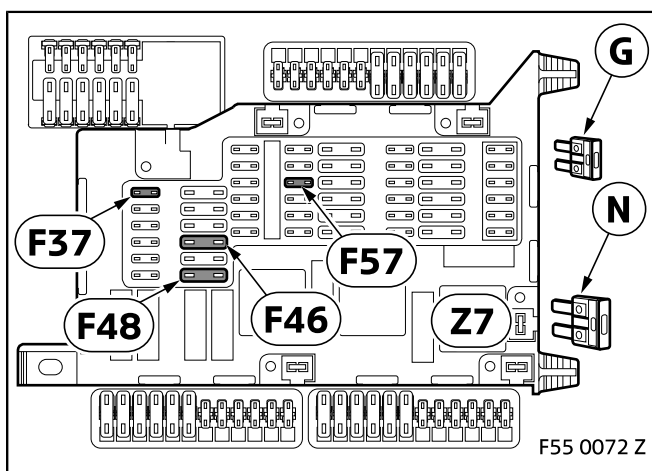
- Connect branch **B2**, RED cable, with crimped socket contact **H** to PIN 6, with crimped socket contact **M** to PIN 7 or PIN 9 of plug **Z7\*2B**
- Connect branch **B3**, YELLOW cable, with crimped socket contact **H** to PIN 22 of plug **Z7\*3B**

▶ The slot for fuses **N** and **G** depends on the PIN from branch **B2**: ◀

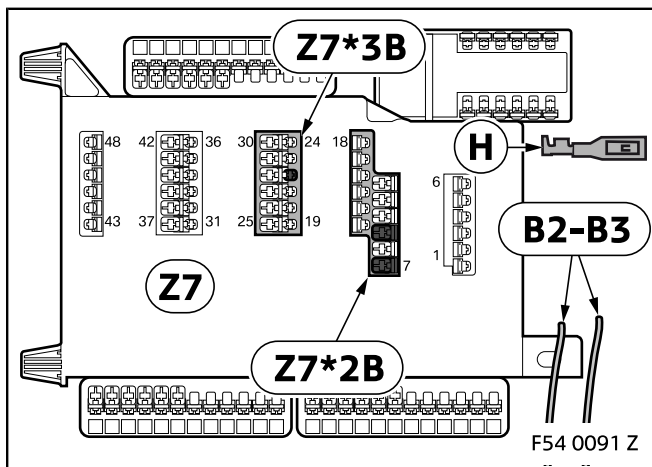
- PIN 6 = Slot F37
- PIN 7 = Slot F48
- PIN 9 = Slot F46

Insert fuse **G** into slot **F37** and **F57** in power distributor **Z7**.

Insert fuse **N** into slot **F46** or **F48** in power distributor **Z7**.



## 8. Retrofit wiring harness connection



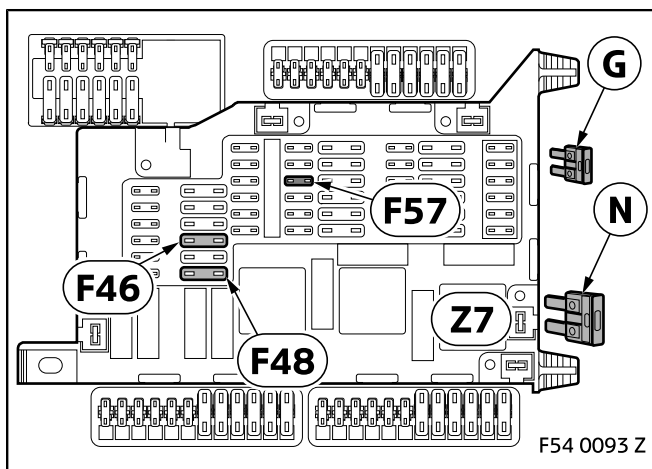
### For F54 and F60 only

▢ The PIN from branch **B2** depends on the empty slot. ◀

Route branches **B2-B3** to the location of power distributor **Z7**.

Connect branches **B2-B3** as follows to power distributor **Z7**:

- Connect branch **B2**, RED cable, with crimped socket contact **H** to PIN 7 or PIN 9 of plug **Z7\*2B**
- Connect branch **B3**, YELLOW cable, with crimped socket contact **H** to PIN 22 of plug **Z7\*3B**

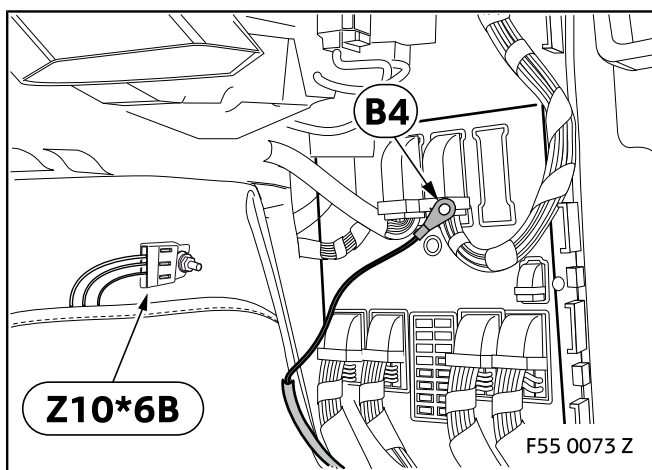


▢ The slot for fuse **N** depends on the PIN for branch **B2**

- PIN 7 = Slot F48
- PIN 9 = Slot F46

Insert fuse **N** into slot **F46** or **F48** in power distributor **Z7**.

Insert fuse **G** into slot **F57** in fuse box **Z7**.

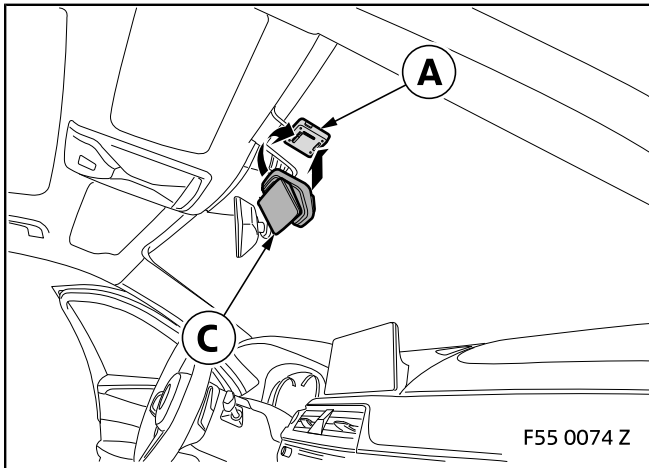


### All cars

Route branch **B4**, BLACK cable, to the location of earth connector **Z10\*6B**.

Secure branch **B4** to earth connector **Z10\*6B**.

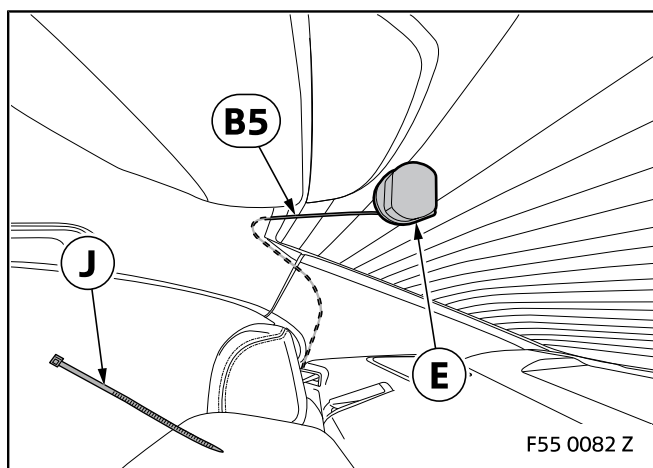
## 8. Retrofit wiring harness connection



Fit front camera with display **C** as shown in the base **A**.

## 9. Connection and installation of the rear window camera in cars with a fixed rear window

- ▶ The bonding surfaces must be clean and free of grease. Apply at room temperature only (minimum 20 °C). ◀



- ▶ The rear window camera **E** must not restrict the driver's view. ◀

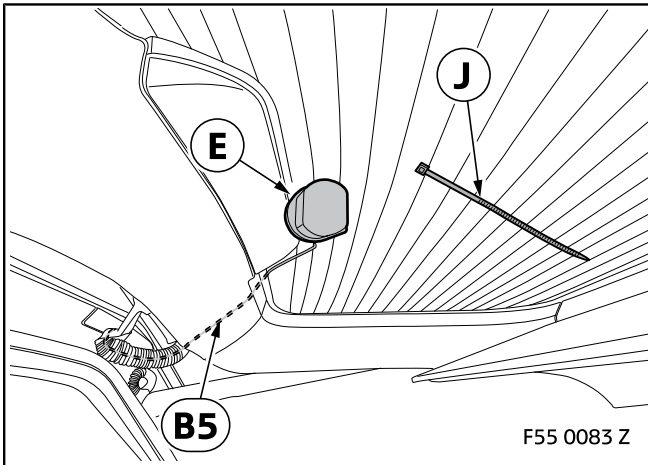
Affix the rear window camera **E**.

Route branch **B5** along the standard wiring harness to the rear window and connect to rear window camera **E**.

- ▶ Secure the cable from branch **B5** at multiple points behind the trim using cable tie **J**. ◀

## 10. Connection and installation of the rear window camera in cars with a glued rear window in the tailgate

- ▶ The bonding surfaces must be clean and free of grease. Apply at room temperature only (minimum 20 °C). ◀



- ▶ The rear window camera **E** must not restrict the driver's view. ◀

Bond the rear window camera **E** to the rear window.

Route branch **B5** along the standard wiring harness to the rear window and connect to rear window camera **E**.

- ▶ Secure the cable from branch **B5** at multiple points behind the trim using cable tie **J** only when the rear window is fully open. ◀

## 11. Customer information

### Switch on the ignition

Model	Built in or after	Number of presses of Start-Stop button
All MINI models	2018	Press once

## 12. 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:

- Operating instructions (1 page) and, if there is one, the attachment to the declaration of conformity

### **Firmware update**

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