

Original BMW Group Parts and Accessories. Installation Instructions.



Advanced Car Eye 2.0 Retrofit.

All BMW and MINI models as per EPC listing

Retrofit kit number

66 21 2 457 032	BMW Advanced Car Eye 2.0
66 21 5 A38 DC0	BMW Advanced Car Eye 2.0
66 21 2 457 699	BMW Advanced Car Eye 2.0 (UK/TH)
66 21 5 A38 DC2	BMW Advanced Car Eye 2.0 (UK/TH)
66 21 2 457 701	MINI Advanced Car Eye 2.0 (UK/TH)
66 21 5 A38 DC3	MINI Advanced Car Eye 2.0 (UK/TH)
66 21 2 457 035	MINI Advanced Car Eye 2.0
66 21 5 A38 DC1	MINI Advanced Car Eye 2.0

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 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 hours 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.

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 cars; proceed in the same way on RHD 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 convertible models or F54 cars. ◀

The rear window camera **C** must not restrict the driver's field of vision. Ideally the rear window camera **C** should be positioned in the area blocked by the headrests (or 3rd row of seats).

The rear window camera **C** must be installed in the same way as front camera **B** on the rear window in an area cleaned by the windscreen wiper.

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.

Tapes **J** and **K** and the adhesive strips, which have already been installed on the front and rear cameras, may only be used once.



On cars where the rear window camera **C** is not installed, branch **A5** must be tied back and stowed so that it does not rattle. ◀

Ordering instructions

The following parts are not supplied in the retrofit kit and are only required for some cars (see EPC for part numbers and further details):

- Double flat spring contact **E**
- Socket contact **F**
- Fuse **G**
- Fuse **H**

- Socket contact **M**
- Socket contact **N**
- Eyelet **O**
- Double flat spring contact with twin-lead terminal **P**
- Fuse holder **Q**

Customer information

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

List of options

SA 415 Roller blind for rear window

SA 416 Sun protection roller blinds

Special tools required

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

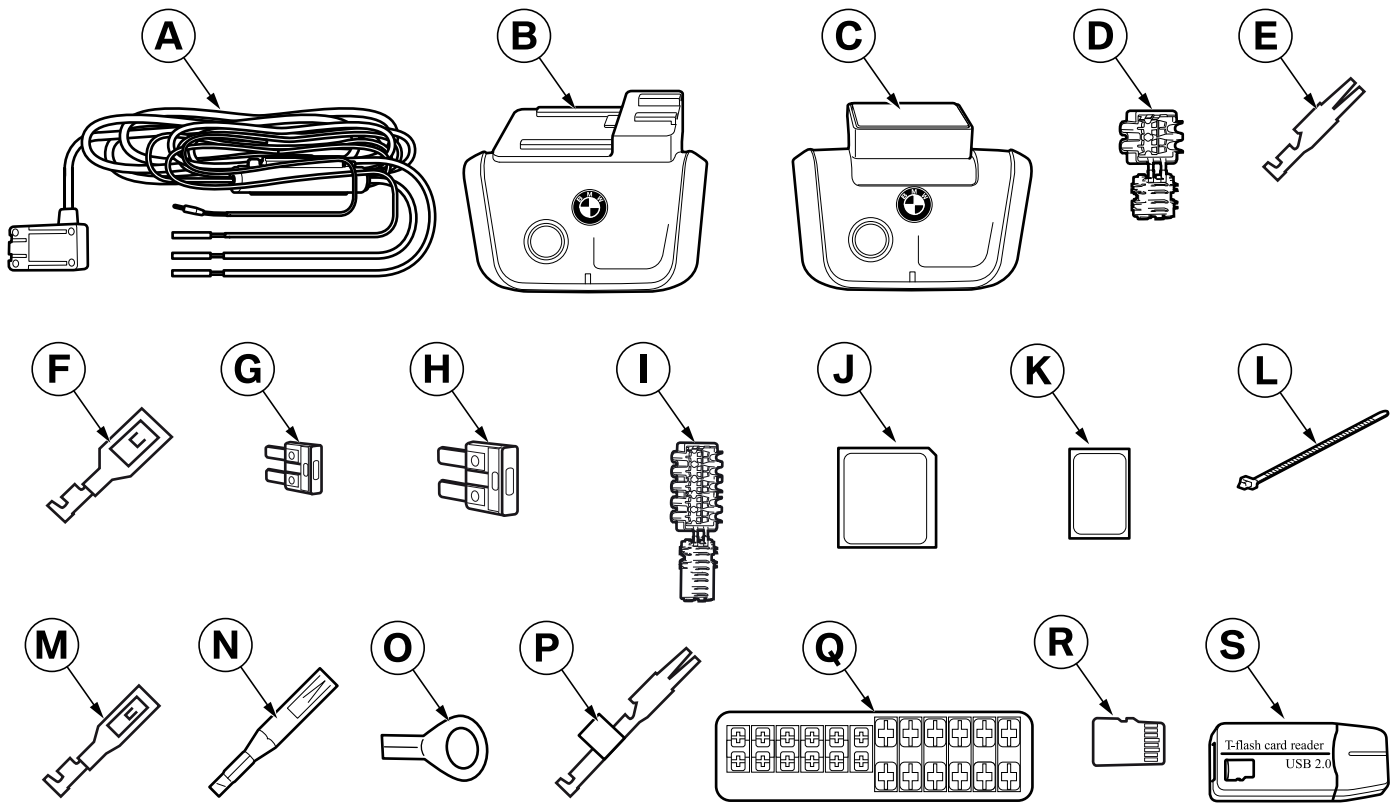
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1. Parts list



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Legend

- A** Retrofit wiring harness
- B** Front camera
- C** Via-window camber (not for convertibles or F54 cars)
- D** 2-way miniature connector (2 x)
- E** Double flat spring contact (not supplied in the retrofit kit)
- F** Socket contact MCP 4.8x0.6 (not supplied in the retrofit kit)
- G** MINI 5A fuse (not included in the retrofit kit)
- H** ATO 5A fuse (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** Socket contact MCP 2.8x0.8 (not supplied in the retrofit kit)
- N** Socket contact MQS 0.63x0.63 (not supplied in the retrofit kit)
- 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)
- Q** Fuse holder (not supplied with the retrofit kit)
- R** Micro SD card
- S** Micro SD card to USB adapter

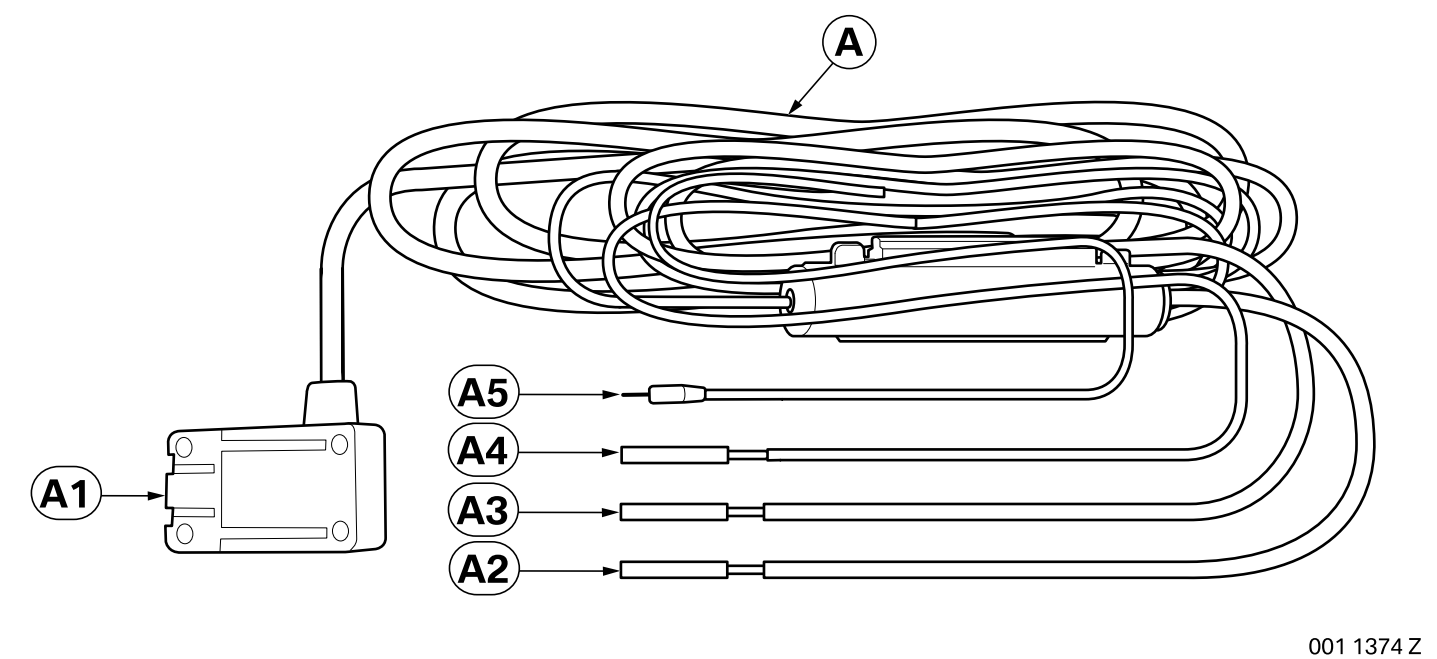


Components **E, F, G, H, M, N, O, P** and **Q** are not supplied in the retrofit kit and are only required for some cars (see EPC for part numbers and further details).

2. Preparatory work

	ISTA/AIR No.
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 ...
The following components must be removed first of all	
All cars with CAS control unit	
Trim for front left A pillar	51 43 201
Pedal trim	51 45 184
Side footwell trim on the left A pillar	51 43 070
Trim on bottom left B-pillar (only if installing the rear window camera)	51 43 150
Rear seat (only if installing the rear window camera)	52 26 ...
Rear left backrest side section (only if installing the rear window camera)	52 26 ...
Trim on rear left roof pillar (only if installing the rear window camera)	51 43 ...
F15, F16, F20, F21, F22, F23, F3x, F40, F44, F45, F46, F48, F49, F8x, F9x, G0x, G1x, G2x, G3x, F5x, F6x, U06 and U06 PHEV cars only	
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
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 ...
Trim for right D pillar (only if installing the rear window camera)	51 43 322
Release the front right-hand power distributor	---
Also on cars with rear windscreen in the tailgate	
Tailgate trim	51 49 000
Also for G01, G02, G05, G06, G07, F95, F96, F97, F98 cars	
Loosen the rear right power distribution box	---

3. Retrofit wiring harness connection diagram for E Series vehicles

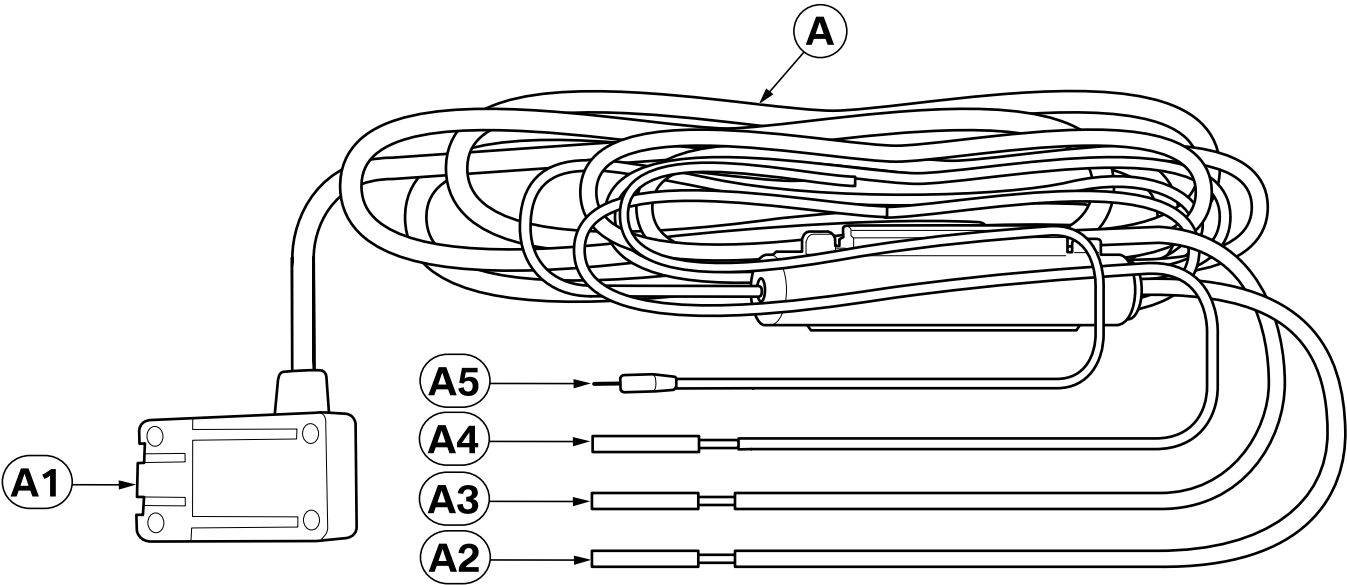


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With miniature connector I to CAS control unit A16	X13376/A16*1B PIN 34
A3	Open cable	Terminal 15	RED 0.5 mm²	With miniature connector D to CAS control unit A16	X13376/A16*1B PIN 14
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With miniature connector D to CAS control unit A16	X13376/A16*1B PIN 12
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

▶ Note cable colours. ◀

4. Retrofit wiring harness connection diagram for F15, F16, F20, F21, F22, F23, F30, F31, F32, F33, F34, F35, F36, F8x

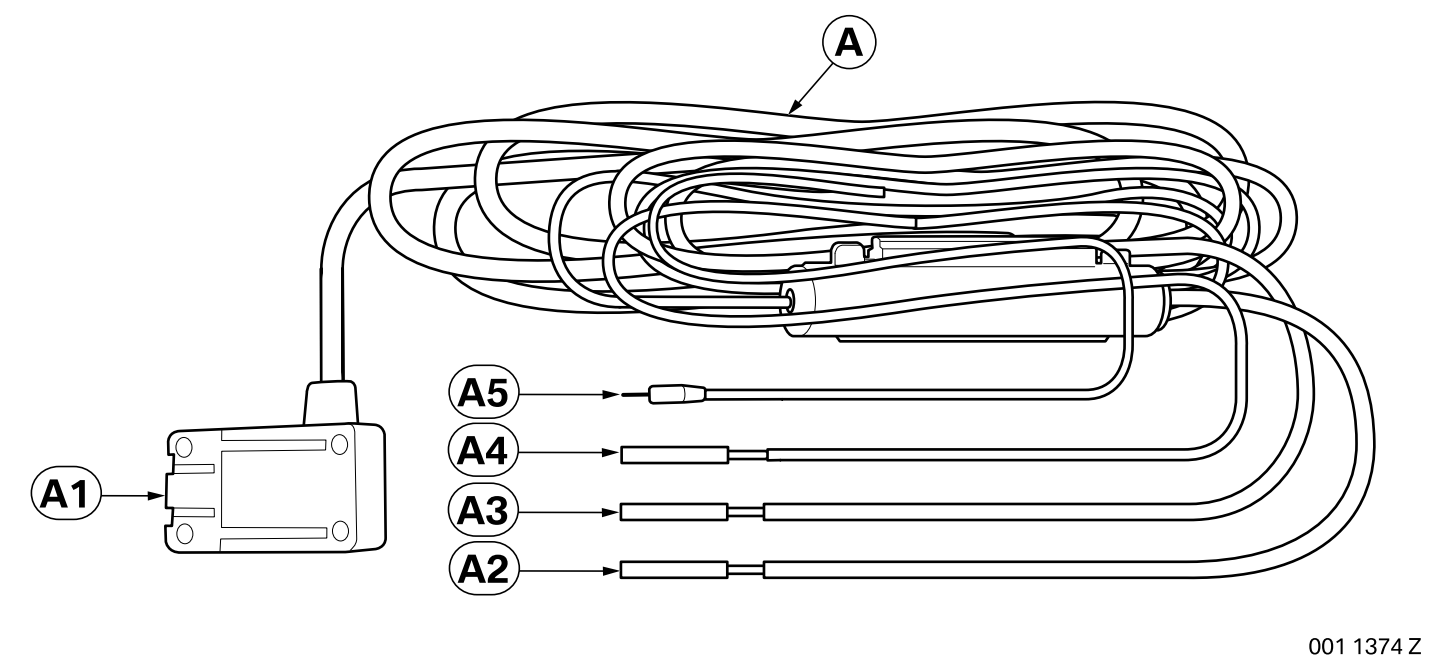


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With double flat spring contact E to fuse box Z7	Z7*6B PIN 6
A3	Open cable	Terminal 15	RED 0.5 mm²	With double flat spring contact E to fuse box Z7	Z7*3B PIN 3/3a
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*6B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀

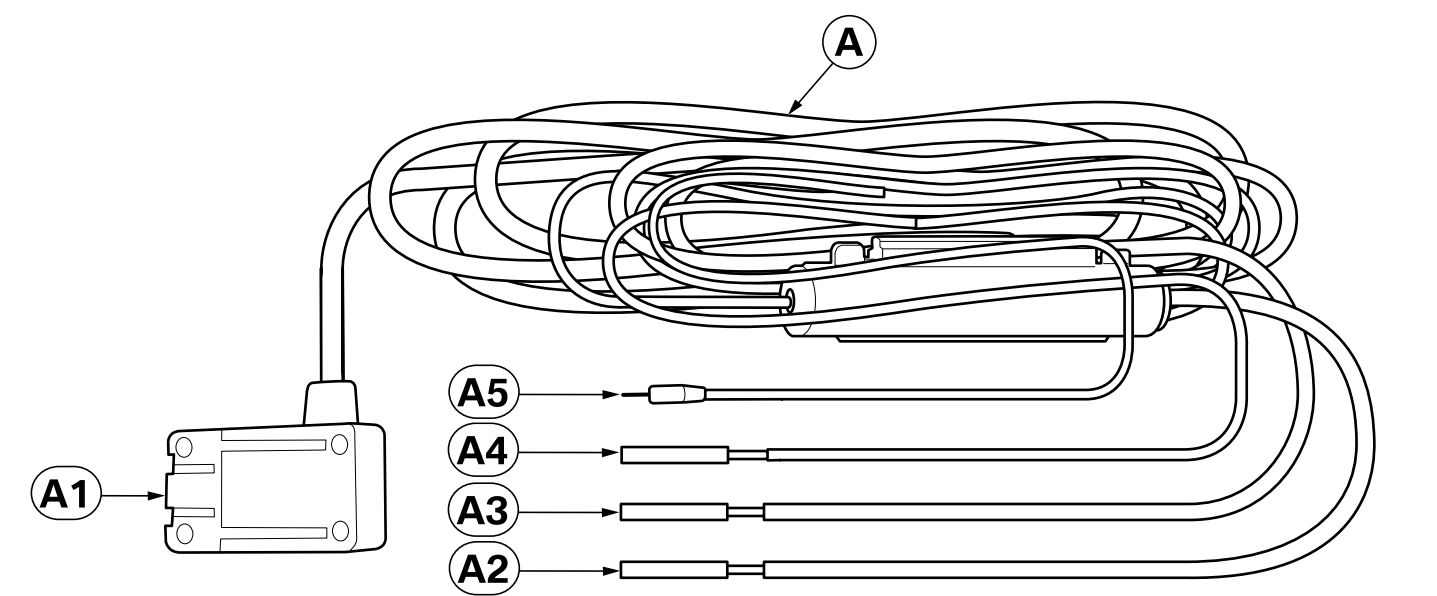
5. Retrofit wiring harness connection diagram for F0x, F10, F11, F12, F13, F18, F25, F26



Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With miniature connector I to CAS control unit A16	X13376/A16*1B PIN 34
A3	Open cable	Terminal 15	RED 0.5 mm²	With miniature connector D to CAS control unit A16	X13376/A16*1B PIN 14
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With miniature connector D to CAS control unit A16	X13376/A16*1B PIN 12
A5	Connection cable for rear window camera	---	---	To rear window camera C	---


 Note cable colours. ◀

6. Retrofit wiring harness connection diagram for F45, F46, F48, F49, F52 built before 07/17

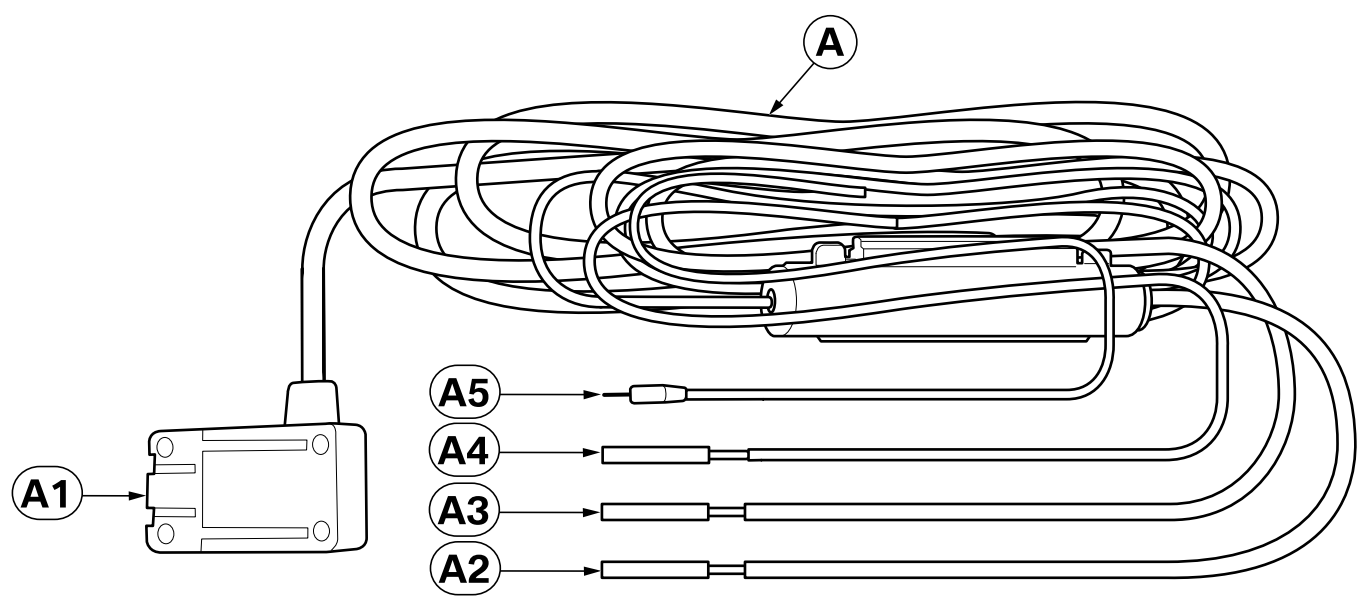


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z7	Z7*2B PIN 7
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z7	Z7*3B PIN 22
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*6B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀


7. Retrofit wiring harness connection diagram for F39, F45, F46, F48, F49, F52 built after 07/17



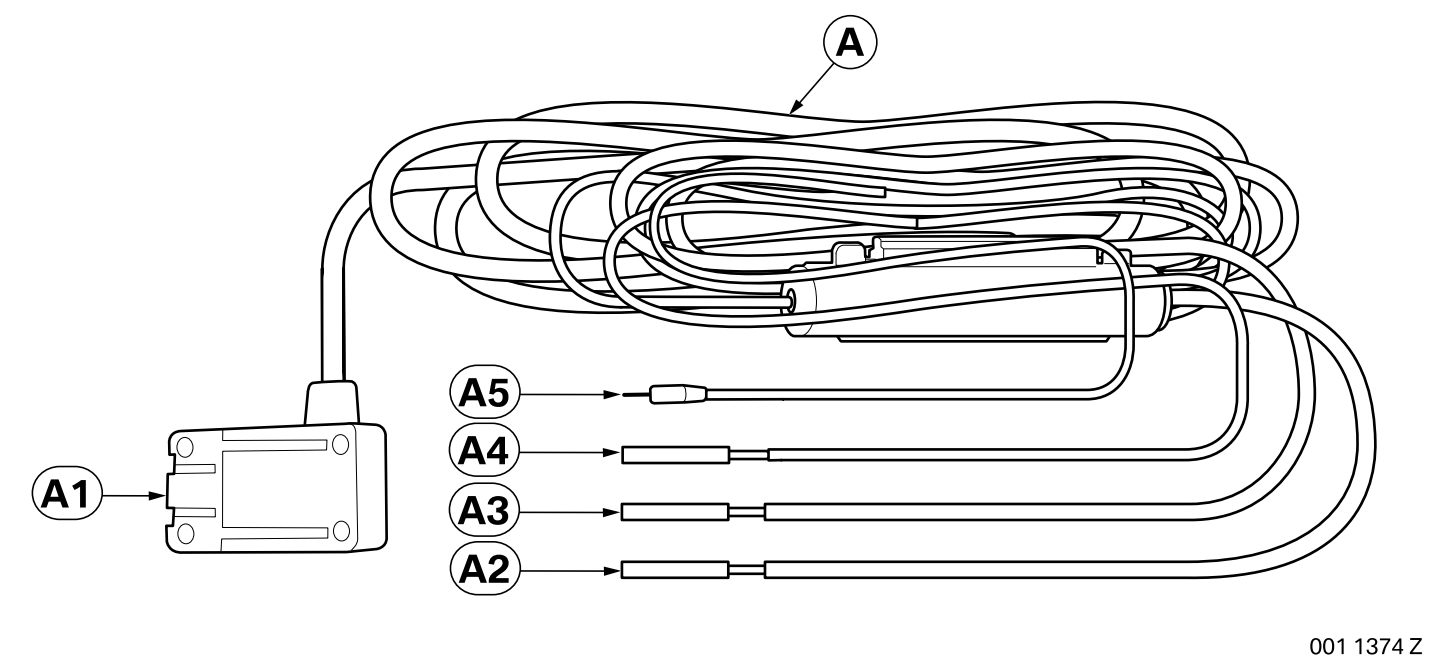
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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z7	Z7*2B PIN 7/PIN 9 *
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z7	Z7*3B PIN 22
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*6B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

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

 Note cable colours. ◀

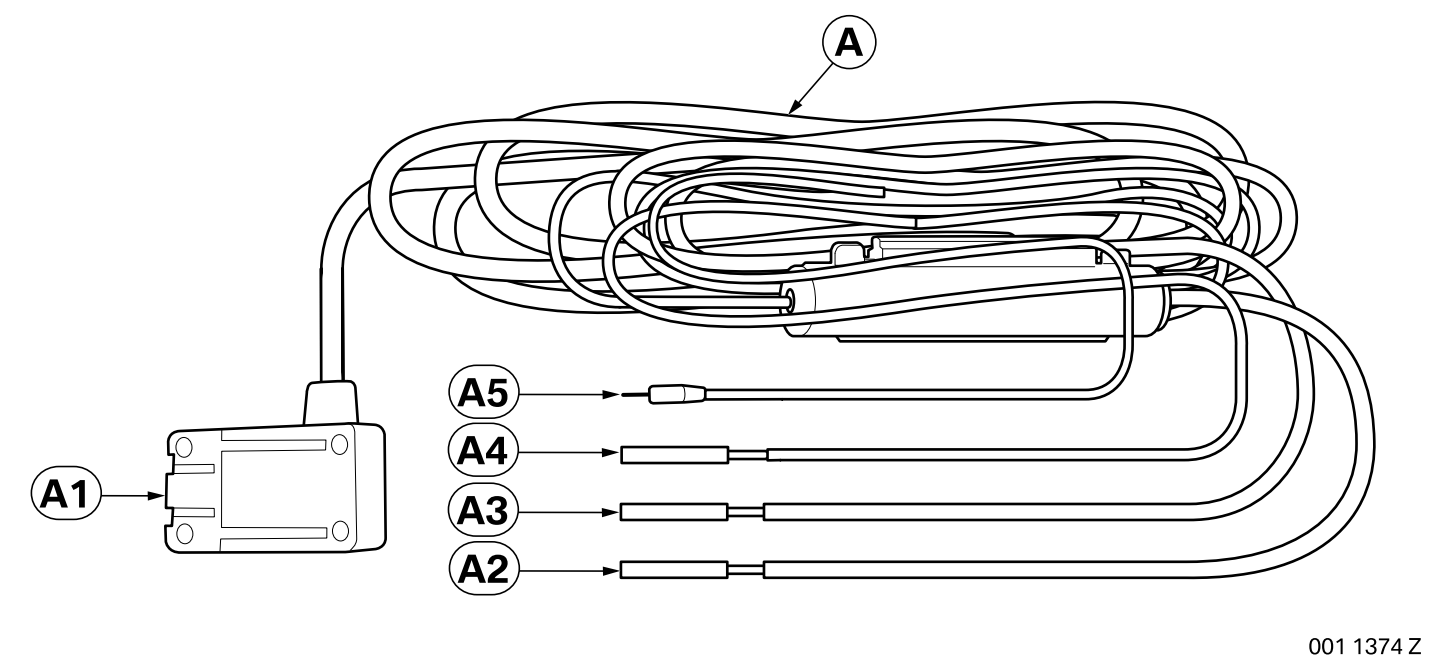
8. Retrofit wiring harness connection diagram for F40, F44




Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M to fuse box Z7	Z7*8B PIN 7
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact N to LIN module A361	A465*1B PIN 29
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*16B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀

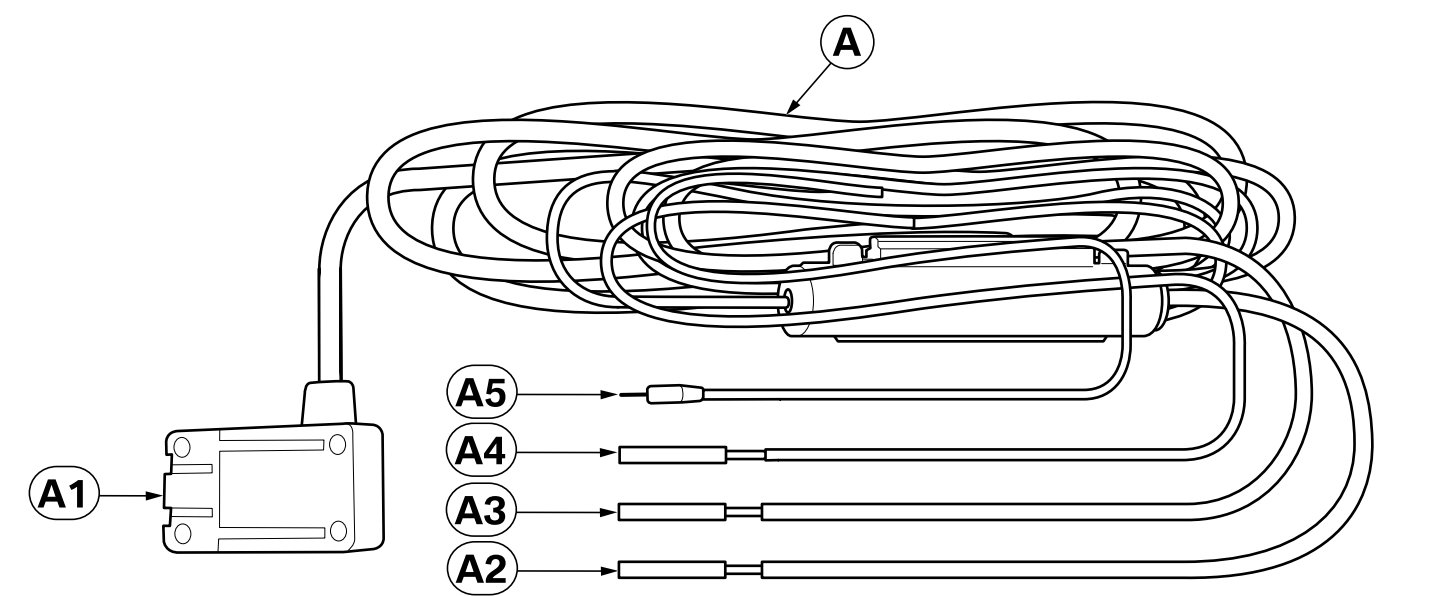
9. Retrofit wiring harness connection diagram for G1x, G3x built before 07/17



Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 31
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 6
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*32B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀

10. Retrofit wiring harness connection diagram for F90, F91, F92, F93, G1x, G3x built after 07/17

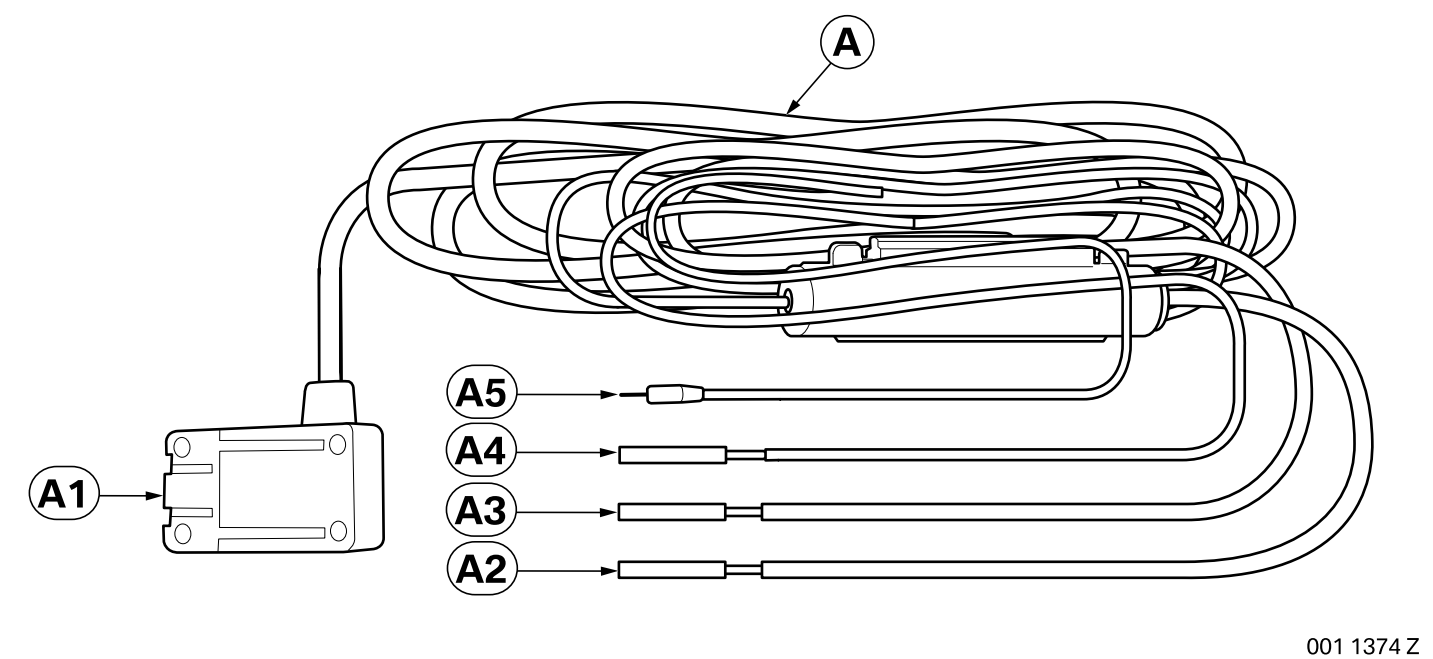


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 33
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 6
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*32B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀

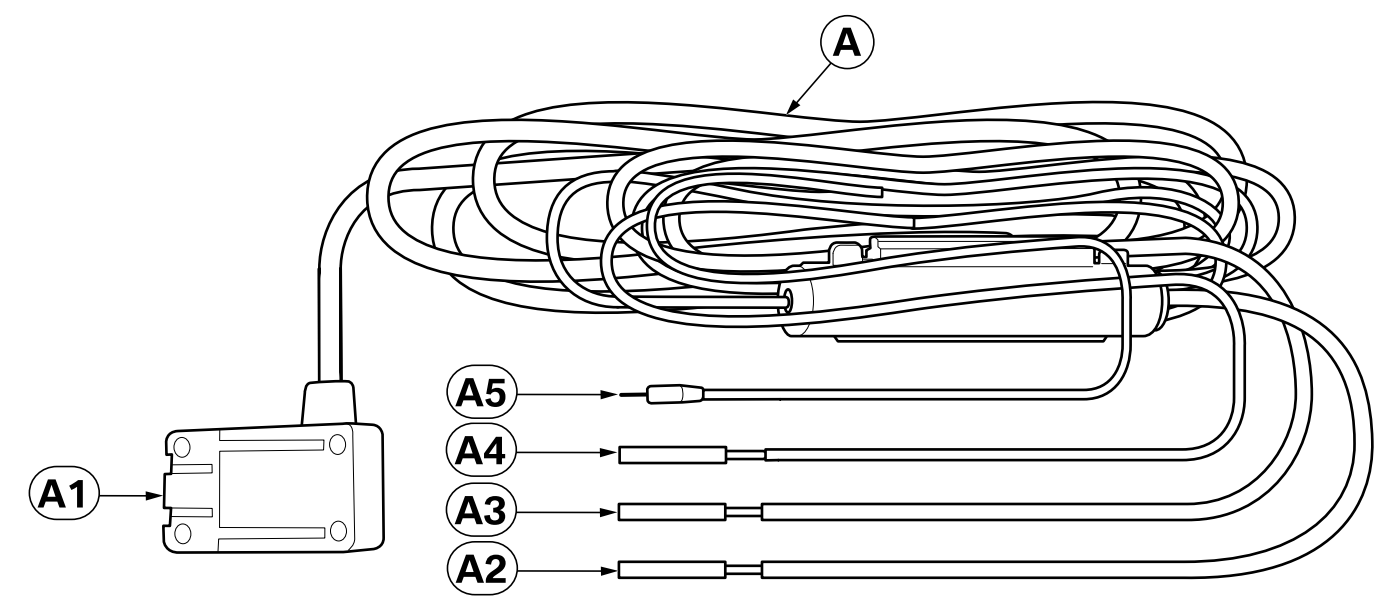
11. Retrofit wiring harness connection diagram for F97, F98, G01, G02



Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 21
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z2	Z2*3B PIN 2
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*14B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀

12. Retrofit wiring harness connection diagram F95, F96, G05, G06, G07

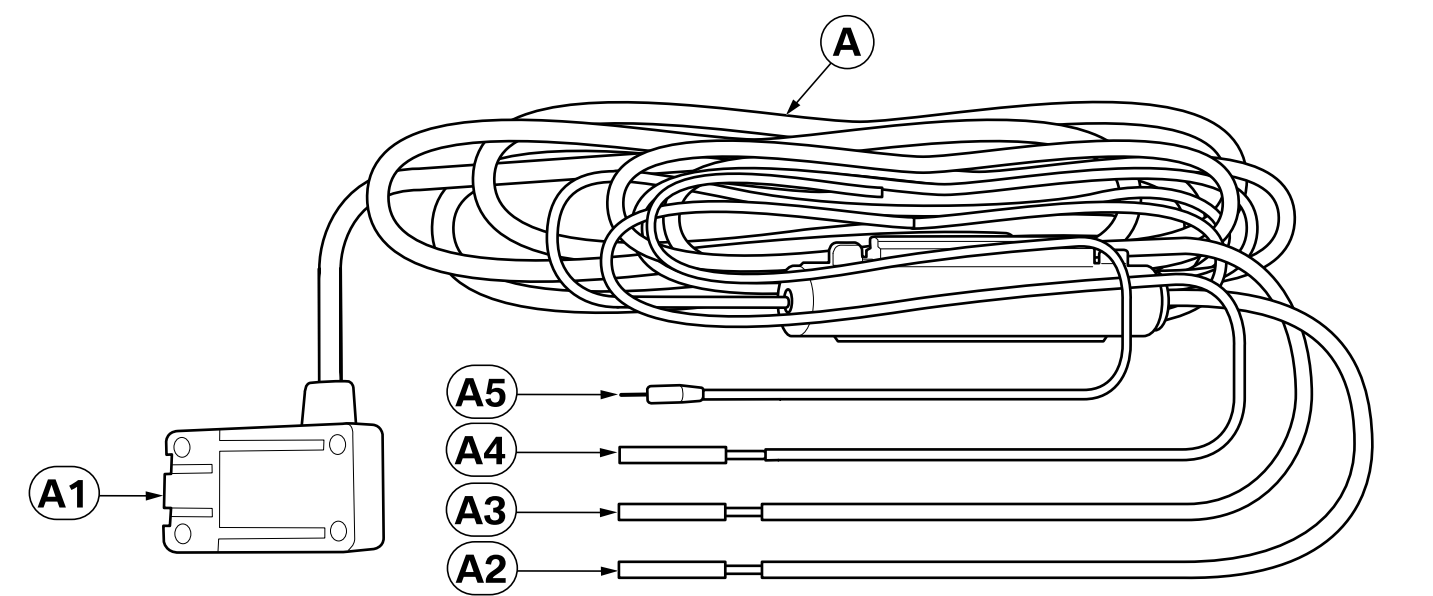


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera C	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 23
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z2	Z2*3B PIN 12
A4	M6 eyelet	Terminal 31	BLACK 0.5 mm²	On ground support point Z10 under the front passenger footwell carpet	Z10*4B
A5	Connection cable for rear window camera	---	---	To rear view camera C	---

 Note cable colours. ◀

13. Retrofit wiring harness connection diagram for G20, G21,G21 PHEV, G22, G23, G26 ICE, G29, G42, G80, G82 and G83

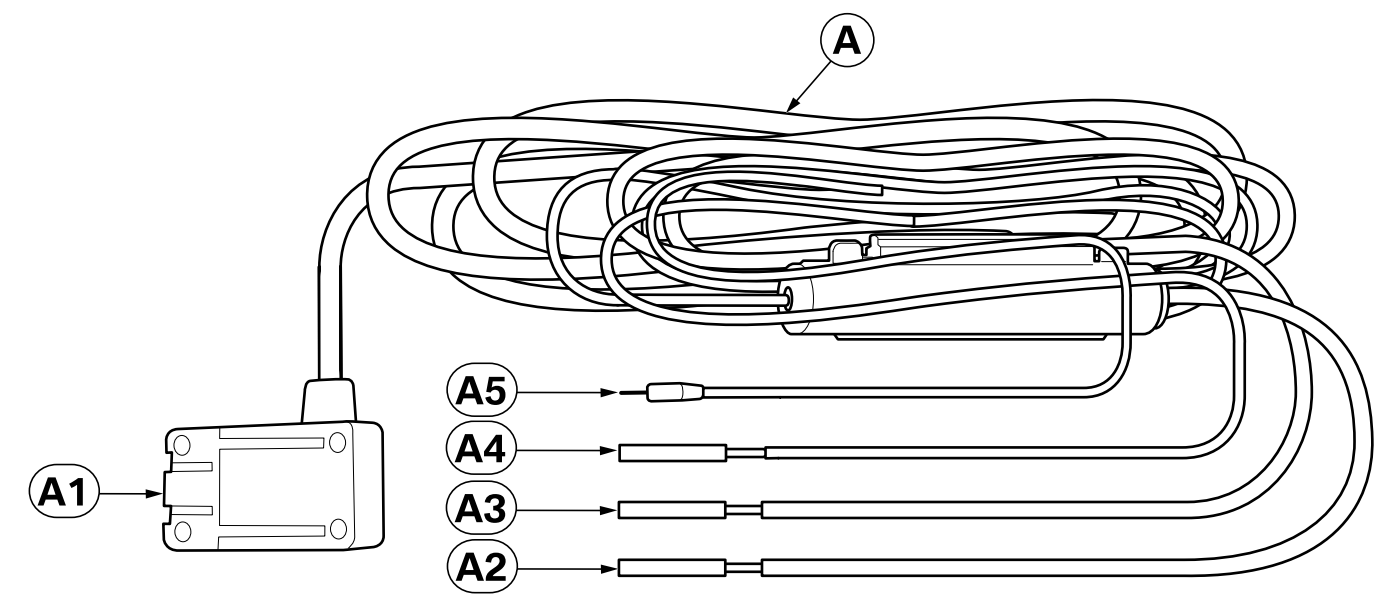


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera C	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 23
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z2	Z2*3B PIN 2
A4	M6 eyelet	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*44B
A5	Connection cable for rear window camera	---	---	To rear view camera C	---

 Note cable colours. ◀

14. Retrofit wiring harness connection diagram for R series

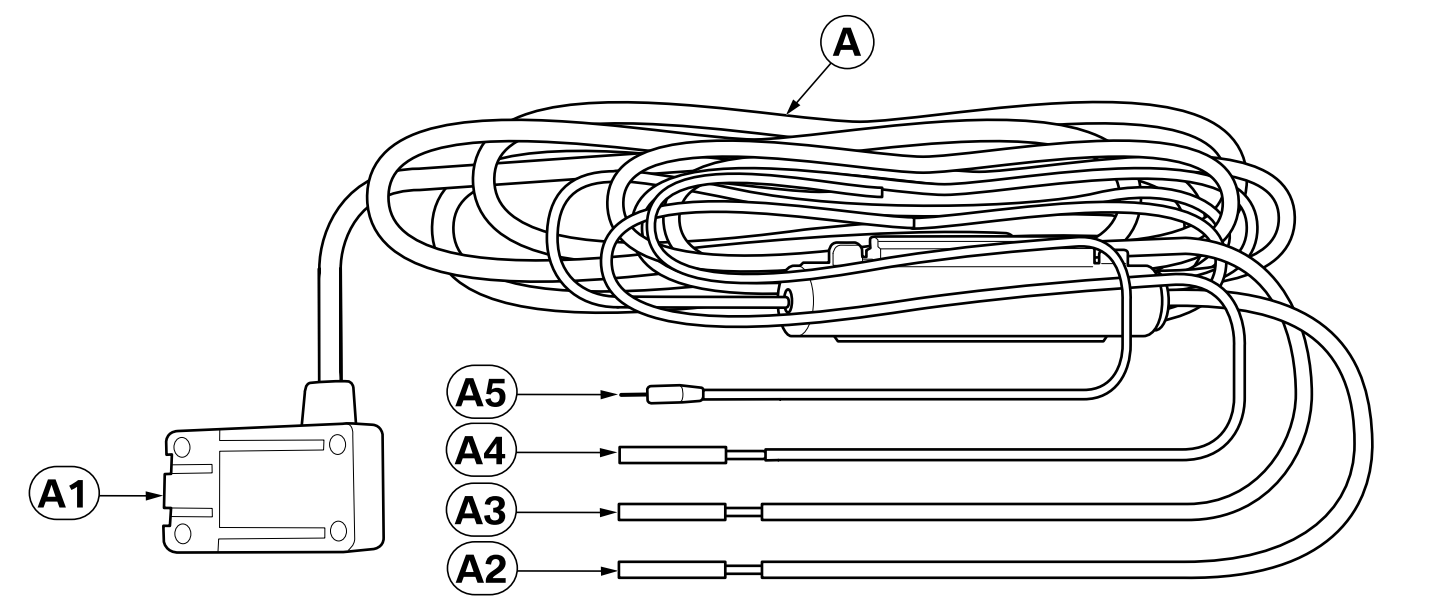


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With miniature connector I to CAS control unit A16	X13376/A16*1B PIN 34
A3	Open cable	Terminal 15	RED 0.5 mm²	With miniature connector D to CAS control unit A16	X13376/A16*1B PIN 14
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With miniature connector D to CAS control unit A16	X13376/A16*1B PIN 12
A5	Connection cable for rear window camera	---	---	To rear window camera C	---


 Note cable colours. ◀

15. Retrofit wiring harness connection diagram for F57, (no rear window camera installation), F55 and F56

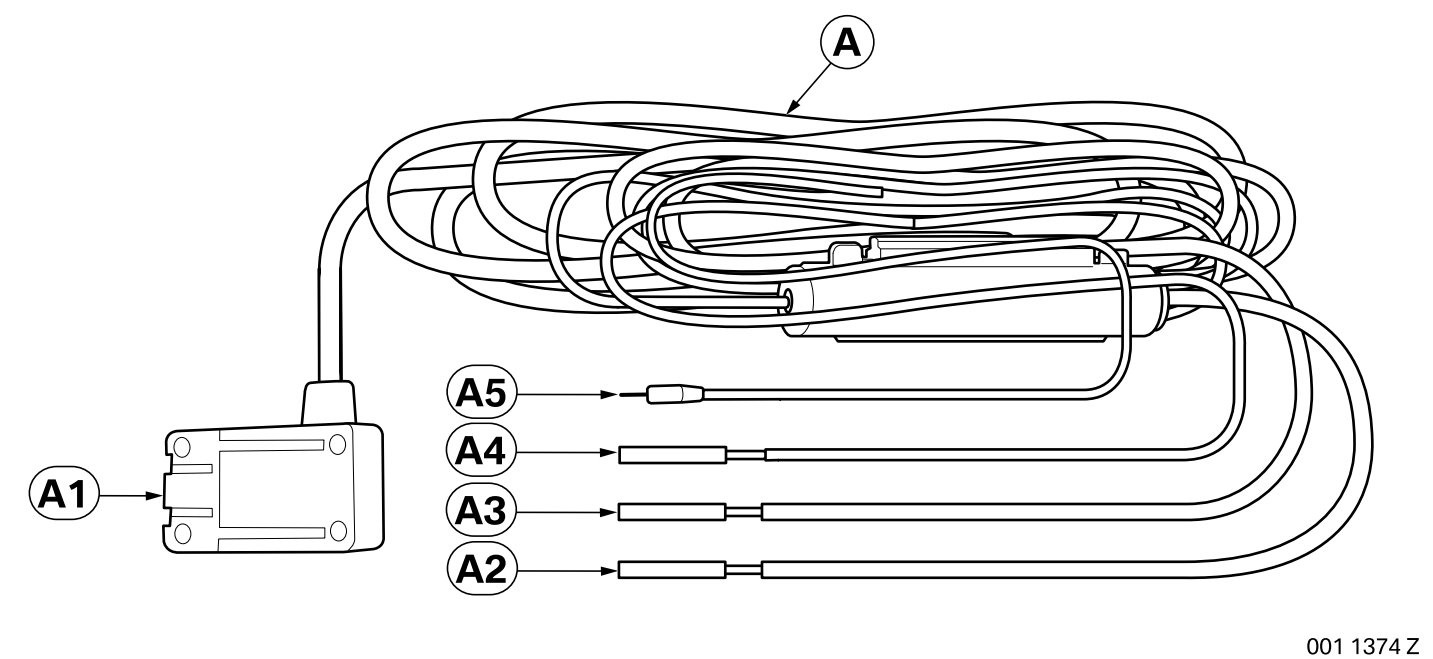


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Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z7	Z7*2B PIN 6/PIN 7/PIN 9
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z7	Z7*3B PIN 22
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*6B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀

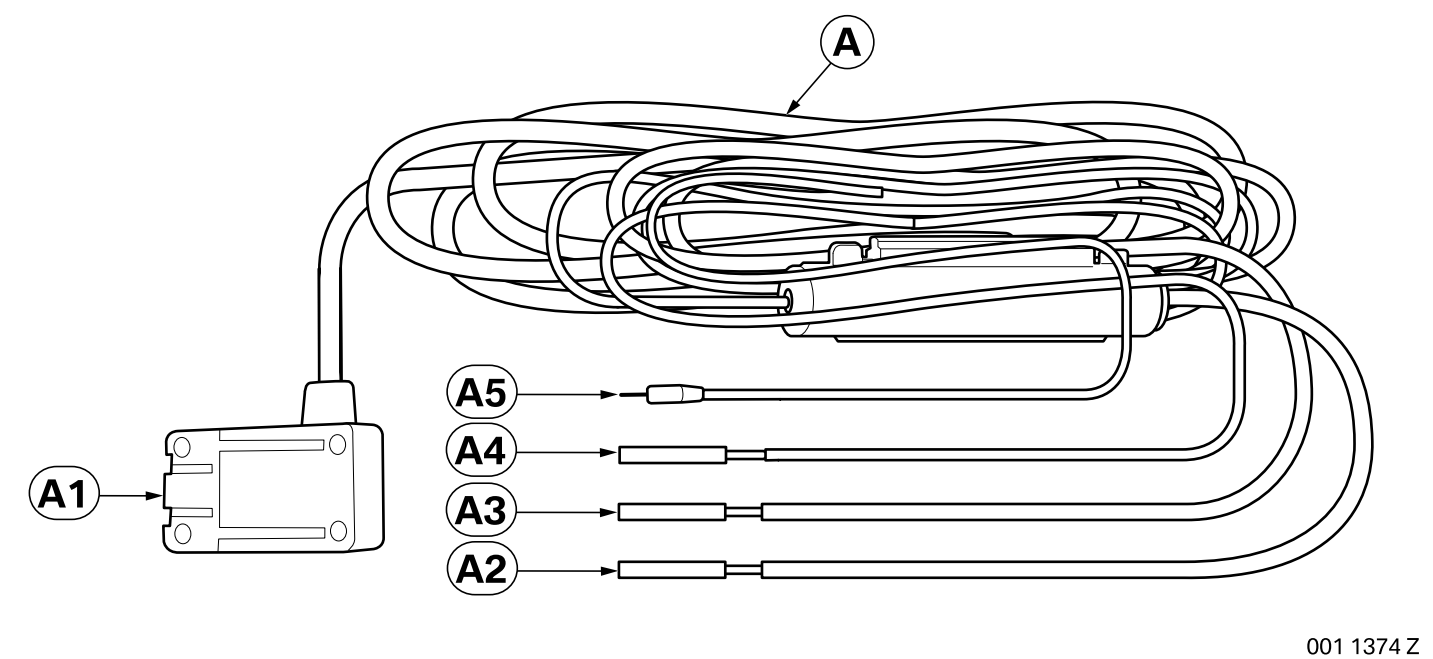
16. Retrofit wiring harness connection diagram for F54 (no rear window camera installation), F60, F60 PHEV built before 07/17



Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z7	Z7*2B PIN 7
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z7	Z7*3B PIN 22
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*6B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

 Note cable colours. ◀

17. Retrofit wiring harness connection diagram for F54 (no rear window camera installation), F60, F60 PHEV built after 07/17

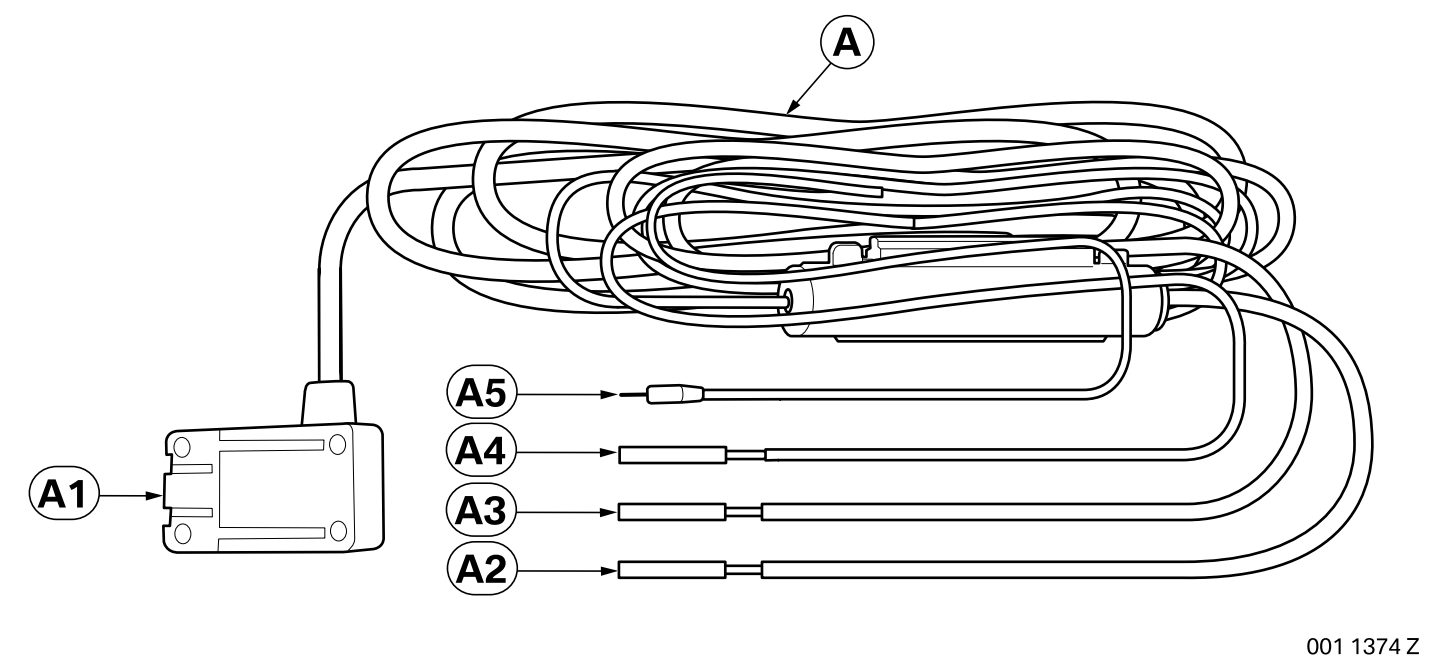


Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	To front camera B	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z7	Z7*2B PIN 7/PIN 9 *
A3	Open cable	Terminal 15	RED 0.5 mm²	With socket contact M on fuse box Z7	Z7*3B PIN 22
A4	Open cable	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*6B
A5	Connection cable for rear window camera	---	---	To rear window camera C	---

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

▶ Note cable colours. ◀

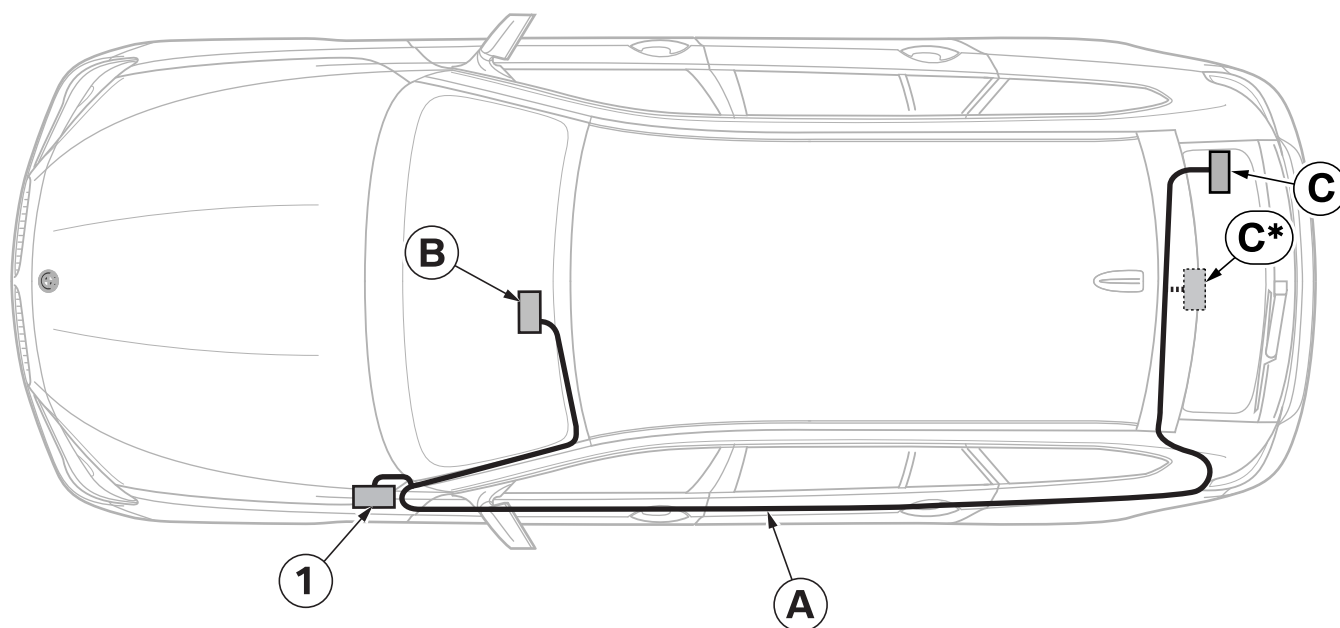
18. Retrofit wiring harness connection diagram for U06 and U06 PHEV



Position	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit wiring harness	---	---	---	---
A1	Locking plug	---	---	On front camera C	---
A2	Open cable	Terminal 30	YELLOW 0.5 mm²	With socket contact M on fuse box Z44	Z44 PIN 23
A3	Open cable	Terminal 15	RED 0.5 mm²	With miniature connector D to BCP A528	A528*3B PIN 1
A4	M6 eyelet	Terminal 31	BLACK 0.5 mm²	With eyelet O to ground support point Z10	Z10*6B
A5	Connection cable for rear window camera	---	---	On rear view camera C	---

19. Installation and cabling diagram for cars with CAS control unit

 Vehicle display is exemplary. ◀

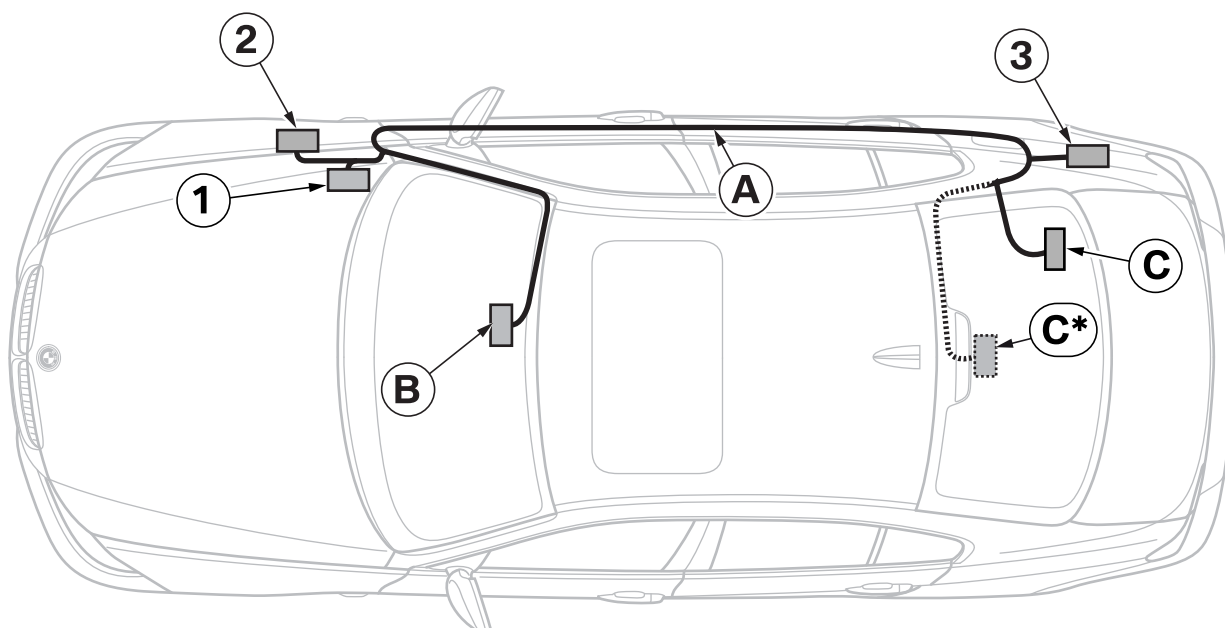


F26 0144 Z

- A** Retrofit wiring harness
- B** Front camera
- C** Rear window camera, preferred installation position for cars with fixed rear window
- C*** Rear window camera, preferred installation position for cars with a rear window in the tailgate and optional installation position for cars with a fixed rear window without SA 415 / SA 416 (roller blind for rear window/sun protection roller blinds)
- 1** CAS control unit **A16**

20. Installation and cabling diagram for F15, F16, F20, F21, F22, F23, F3x, F40, F44, F45, F46, F48, F49, F52, F8x, F9x, G0x, G1x, G2x, G3x

 Vehicle display is exemplary. ◀

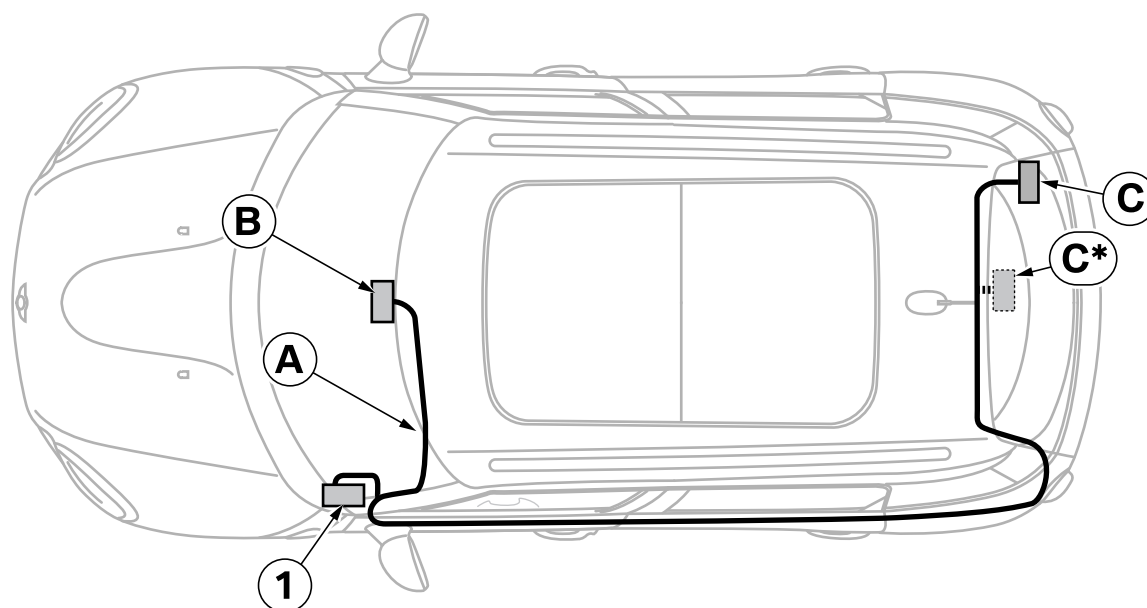


F26 0146 Z

- A** Retrofit wiring harness
 - B** Front camera
 - C** Rear window camera, preferred installation position for cars with fixed rear window
 - C*** Rear window camera, preferred installation position for cars with a rear window in the tailgate and optional installation position for cars with a fixed rear window without SA 415 / SA 416 (roller blind for rear window/sun protection roller blinds)
- 1** Front right fuse box **Z7 (F15, F16, F85, F86, F20, F21, F22, F23, F30, F31, F32, F33, F34, F35, F36, F39, F40, F44, F45, F46, F48, F49 cars only)**
 - 2** Front right fuse box **Z44 (only vehicles F9x, G01, G02, G05, G06, G07, , G1x, G2x, G30, G31, G32, G38)**
 - 3** Rear right fuse box **Z2 (only vehicles F95, F96, F97, F98, G01, G02, G05, G06, G07, G2x)**

21. Installation and cabling diagram for R Series

 Vehicle display is exemplary. ◀

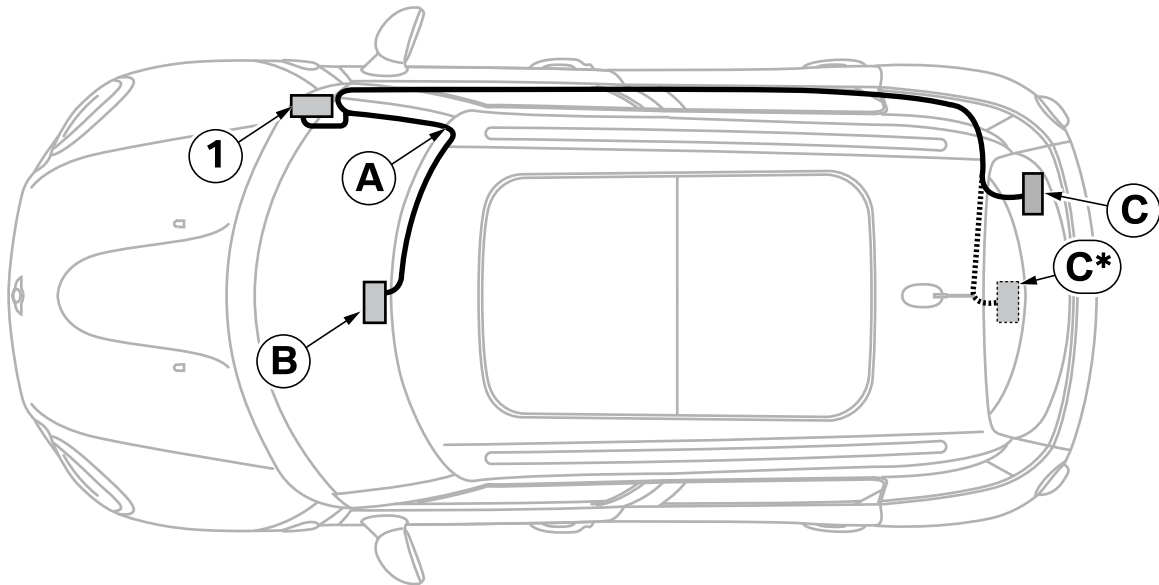


F26 0147 Z

- A** Retrofit wiring harness
- B** Front camera
- C** Rear window camera, preferred installation position for cars with fixed rear window
- C*** Rear window camera, preferred installation position for cars with a rear window in the tailgate and optional installation position for cars with a fixed rear window without SA 415 / SA 416 (roller blind for rear window/sun protection roller blinds)
- 1** CAS control unit **A16**

22. Installation and cabling diagram for F54, F57 (no rear window camera installation), F55, F56, F60, F60 PHEV

 Vehicle display is exemplary. ◀

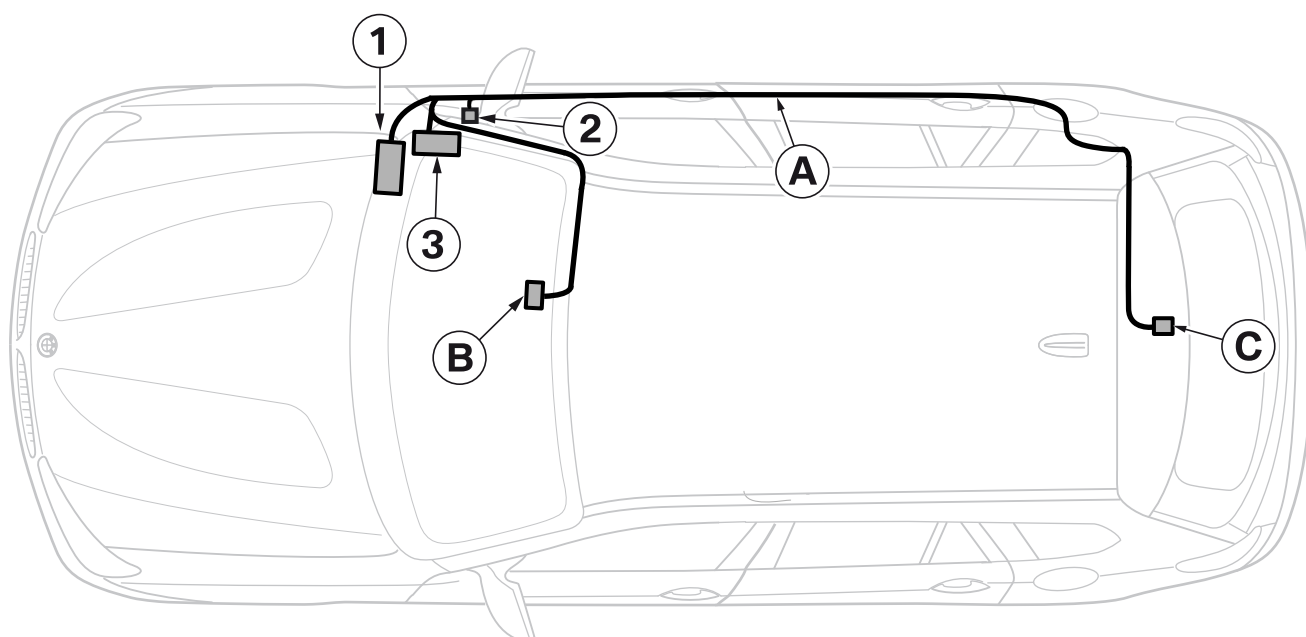


F26 0145 Z

- A** Retrofit wiring harness
- B** Front camera
- C** Rear window camera, preferred installation position for cars with fixed rear window
- C*** Rear window camera, preferred installation position for cars with a rear window in the tailgate and optional installation position for cars with a fixed rear window without SA 415 / SA 416 (roller blind for rear window/sun protection roller blinds)
- 1** Front right fuse box **Z7**

23. Installation and cabling diagram for U06 and U06 PHEV

 The car diagram is an example. ◀



U06 0019 Z

A Retrofit wiring harness

B Front camera

C Rear window camera

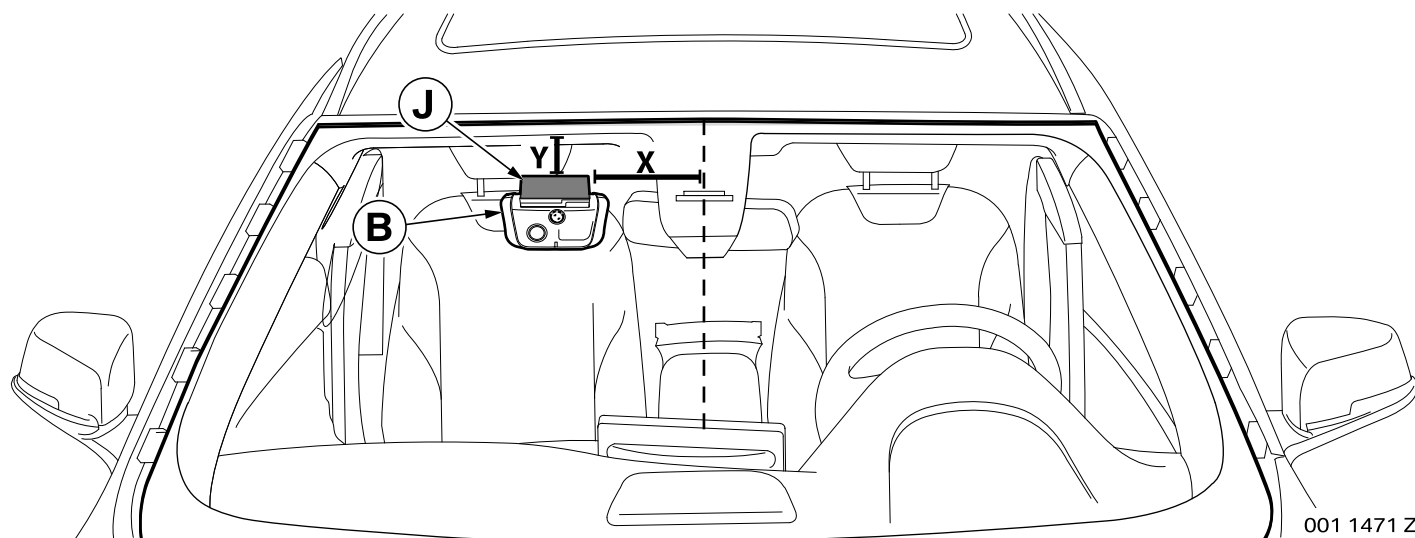
1 Front right fuse box **Z44**


2 Earth connector, front right **Z10*6B**

3 BCP **A528**

24. Installation position for front camera for E series (apart from E89) F0x, F10, F11, F12, F13, F15, F16, F18, F2x, F30, F31, F32, F33, F34, F35, F36, F39, F5x, F6x, F80, F82, F83, F85, F86, F87, F9x, G0x, G1x, G2x, G3x and R series

 Vehicle display is exemplary. ◀



 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. Apply at room temperature only (minimum 20 °C).

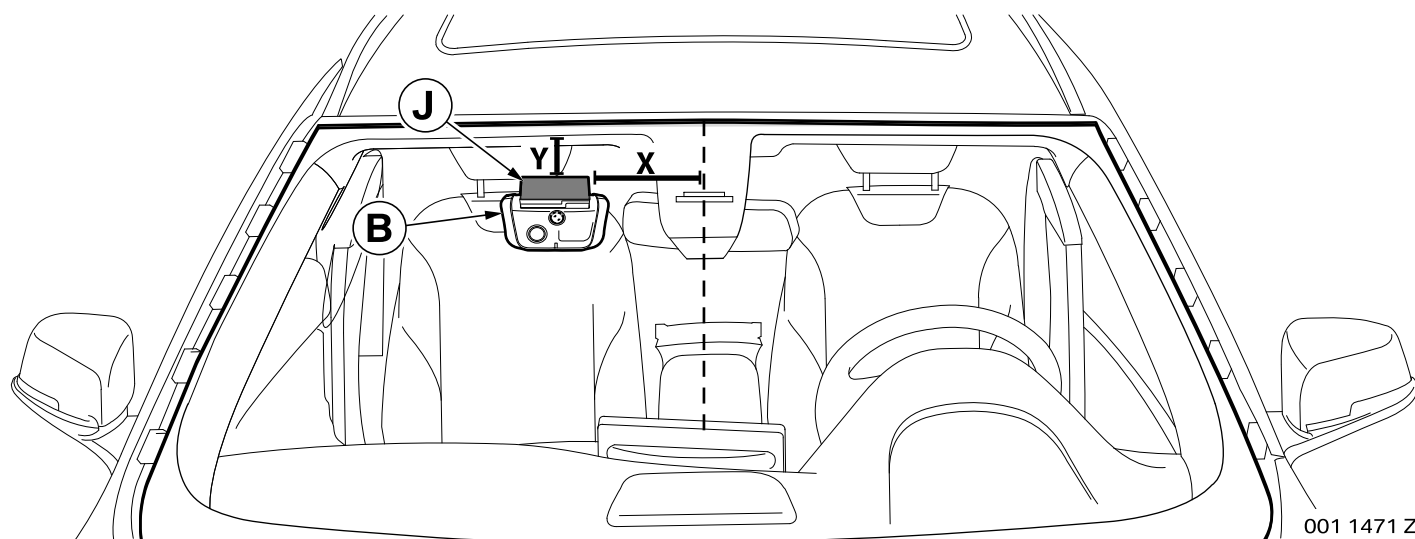
Tape **J** and the adhesive strip which is already installed on the front camera **B** may only be used once. If the tape and/or adhesive strip is positioned incorrectly once, they must be replaced. ◀

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

- Y = 20 mm
- X = 200 mm

25. Installation position for front camera for E89, F40, F44, F45, F46, F48, F49

 Vehicle display is exemplary. ◀



 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. Apply at room temperature only (minimum 20 °C).

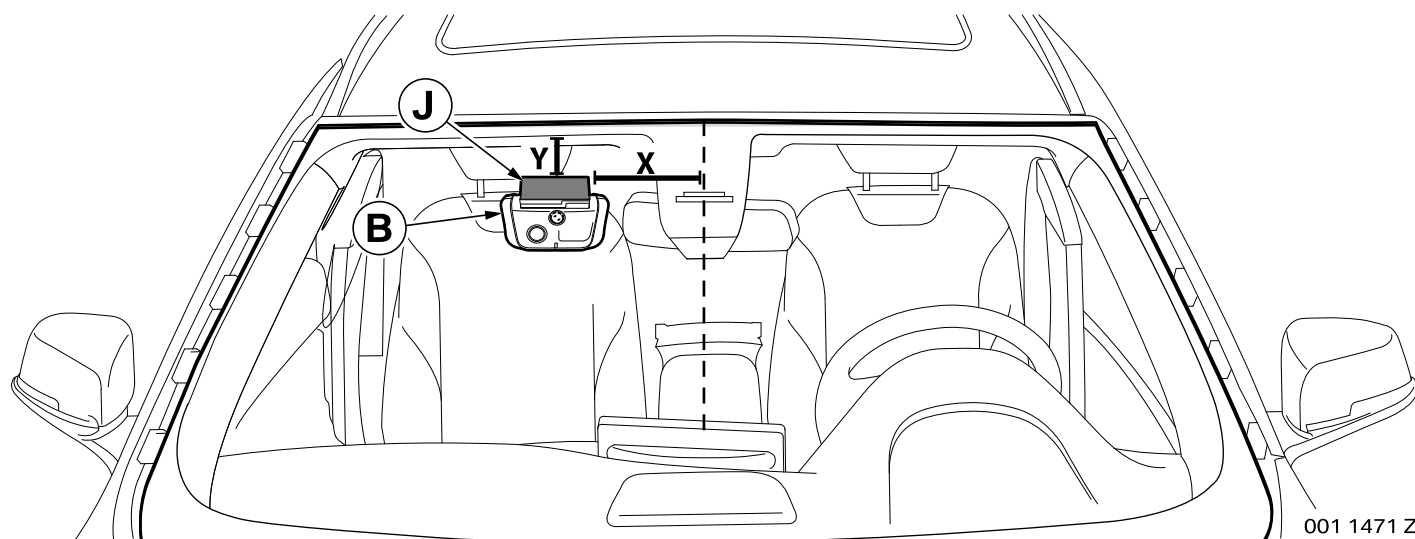
Tape **J** and the adhesive strip which is already installed on the front camera **B** may only be used once. If the tape and/or adhesive strip is positioned incorrectly once, they must be replaced. ◀

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

- Y = 60 mm
- X = 200 mm

26. Front camera installation position for U06 and U06 PHEV

 The car diagram is an example. ◀



001 1471 Z

 The 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.

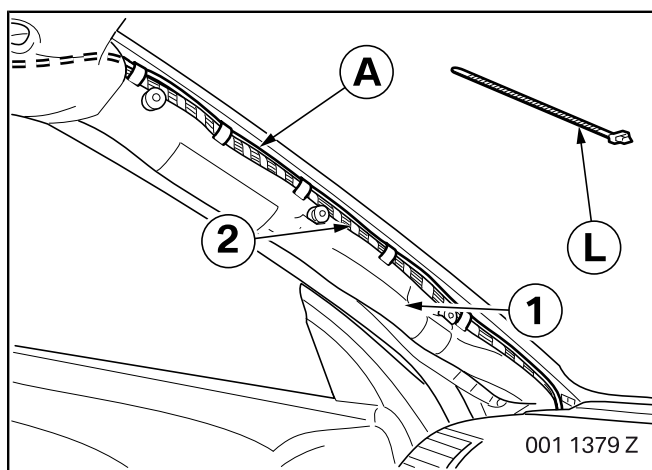
The bonding surfaces must be clean and free of grease. Apply at room temperature only (minimum 20 °C).

Tape **J** and the adhesive strip which is already installed on the front camera **B** may only be used once. If the tape and/or adhesive strip is positioned incorrectly once, they must be replaced. ◀

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

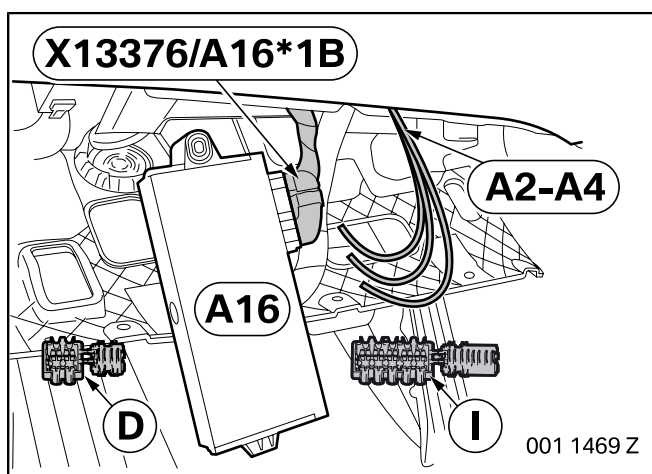
- Y = 20 mm
- X = 200 mm

27. Retrofit wiring harness connection for E series cars



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

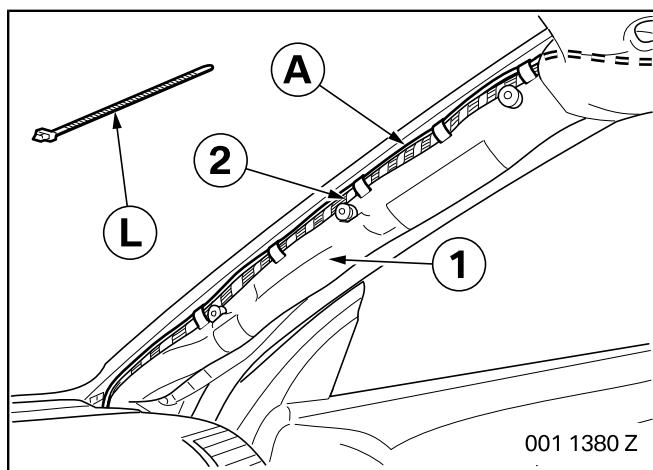
Route retrofit wiring harness **A** along the left A pillar into the footwell.



Connect branches **A2-A4** as follows to CAS control unit **A16**, plug **X13376/A16*1B**:

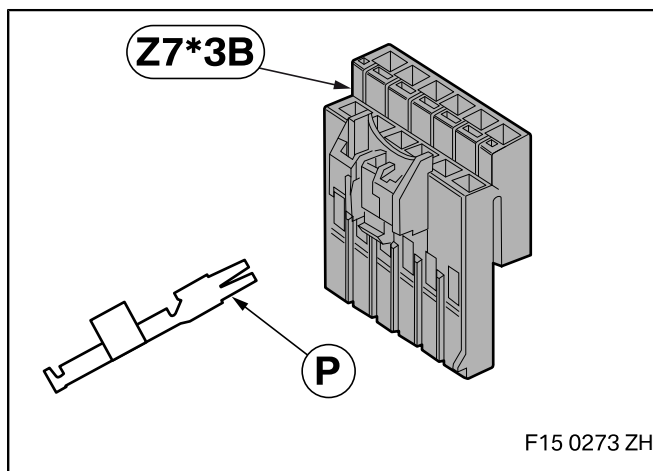
- Branch **A2**, YELLOW cable, using miniature connector **I** to the cable from PIN 34
- Branch **A3**, RED cable, using miniature connector **D** to the cable from PIN 14
- Branch **A4**, BLACK cable, using miniature connector **D** to the cable from PIN 12

28. Retrofit wiring harness connection for F15, F16, F20, F21, F22, F23, F30, F31, F32, F33, F34, F35, F36, F8x cars



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

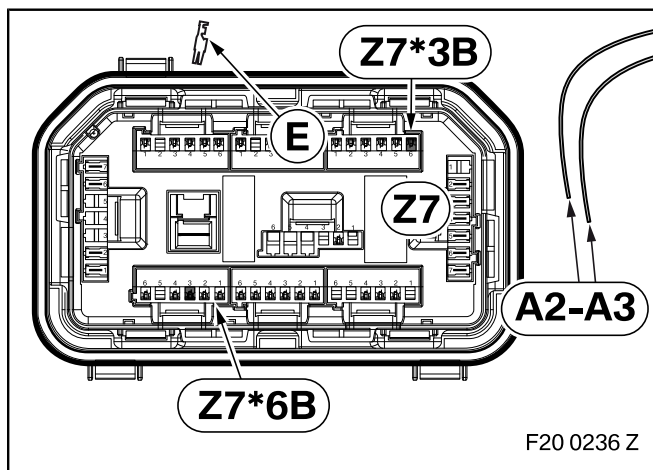
Route retrofit wiring harness **A** along the right A pillar into the footwell.



If PIN 3 on plug **Z7*3B**, BLUE 6+6-pin socket housing is occupied, disconnect the standard RED/YELLOW cable from PIN 3 and cut off the flat spring contact.

Crimp the flat spring contact with twin-lead terminal **P** to the standard RED/YELLOW cable.

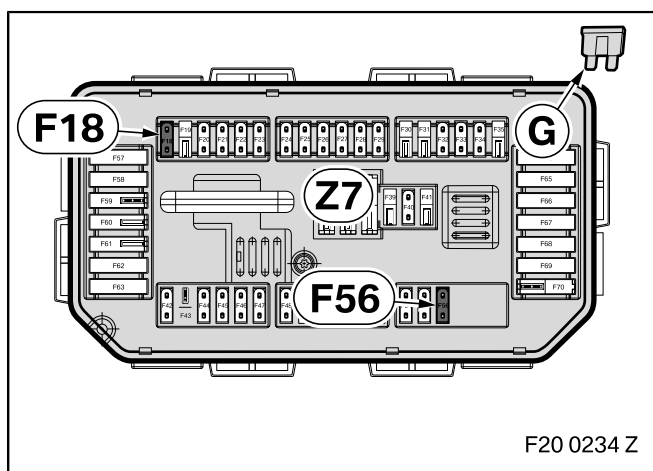
Connect the standard RED/YELLOW cable with the crimped flat spring contact with twin-lead terminal **P** to PIN 3 of plug **Z7*3B**.



Route branches **A2-A3** to the installation point of power distributor **Z7**.

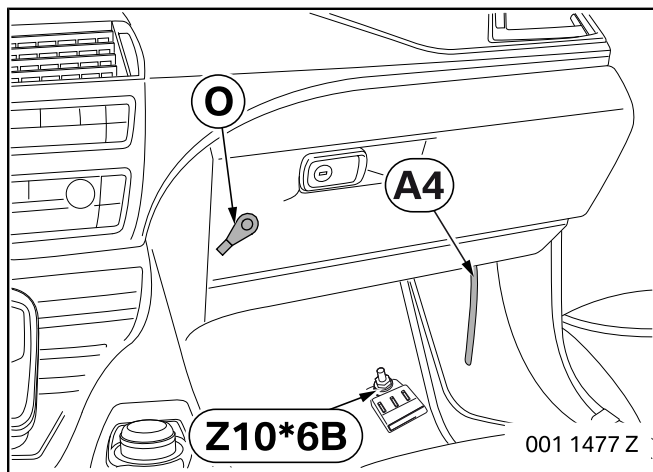
Connect branches **A2-A3** as follows to power distributor **Z7**:

- Connect branch **A2**, YELLOW cable, with crimped double flat spring contact **E** to PIN 6 of plug **Z7*6B**
- Connect branch **A3**, RED cable, with crimped double flat spring contact **E** to PIN 3/3a of plug **Z7*3B**



Insert fuse **G** into slot **F18** and **F56** in fuse box **Z7**.

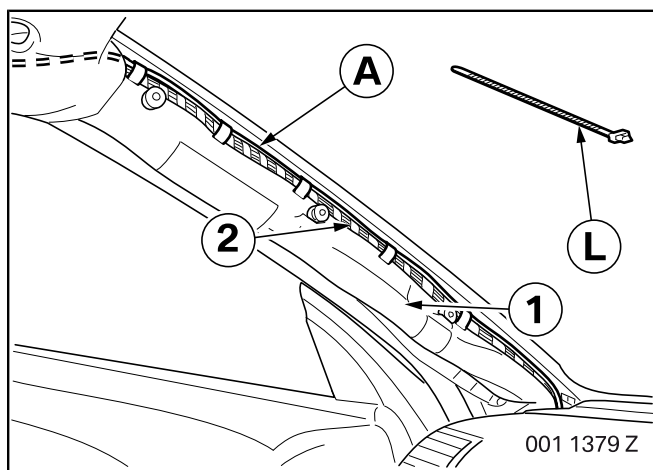
28. Retrofit wiring harness connection for F15, F16, F20, F21, F22, F23, F30, F31, F32, F33, F34, F35, F36, F8x cars



Route branch **A4** to the installation point of ground support point **Z10*6B**.

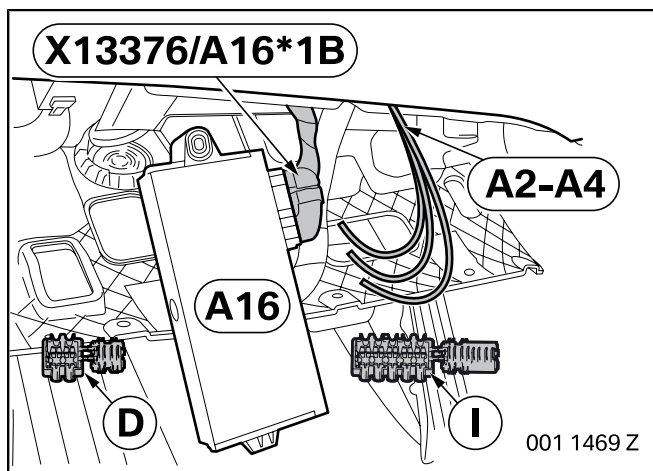
Screw branch **A4** with crimped eyelet **O** onto ground support point **Z10*6B**.

29. Retrofit wiring harness connection for F0x, F10, F11, F12, F13, F18, F25, F26 cars



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

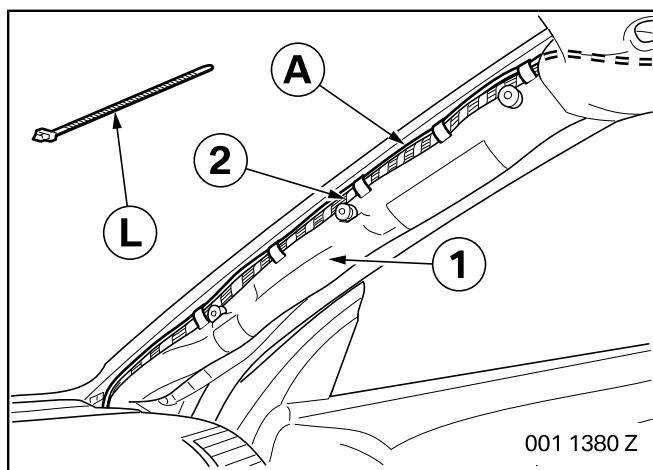
Route retrofit wiring harness **A** along the left A pillar into the footwell.



Connect branches **A2-A4** as follows to CAS control unit **A16**, plug **X13376/A16*1B**:

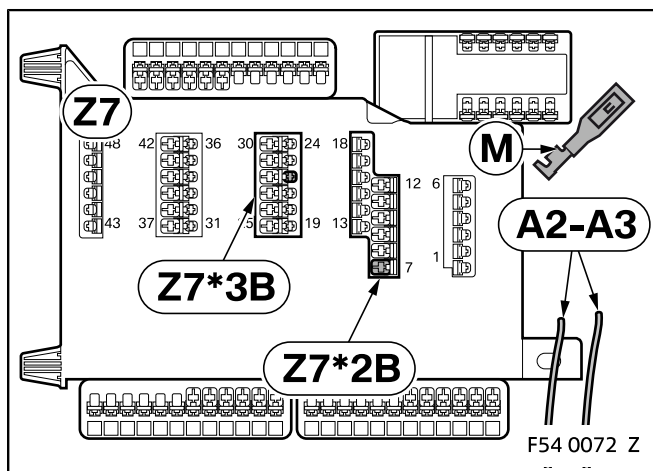
- Branch **A2**, YELLOW cable, using miniature connector **I** to the cable from PIN 34
- Branch **A3**, RED cable, using miniature connector **D** to the cable from PIN 14
- Branch **A4**, BLACK cable, using miniature connector **D** to the cable from PIN 12

30. Retrofit wiring harness connection for F45, F46, F48, F49, F52 cars built before 07/17



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

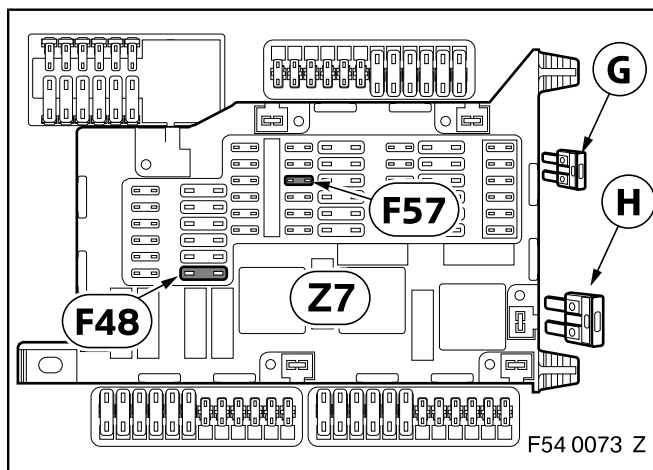
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branches **A2-A3** to the installation point of power distributor **Z7**.

Connect branches **A2-A3** as follows to power distributor **Z7**:

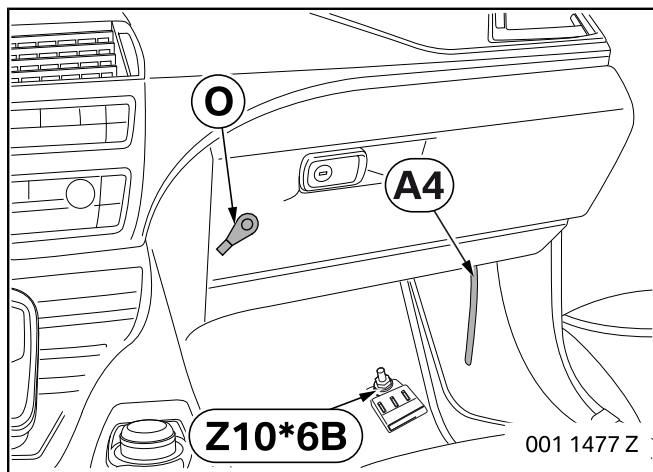
- Connect branch **A2**, YELLOW cable, with crimped socket contact **M** to PIN 7 of plug **Z7*2B**
- Connect branch **A3**, RED cable, with crimped socket contact **M** to PIN 22 of plug **Z7*3B**



Insert fuse **H** into slot **F48** of fuse box **Z7**.

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

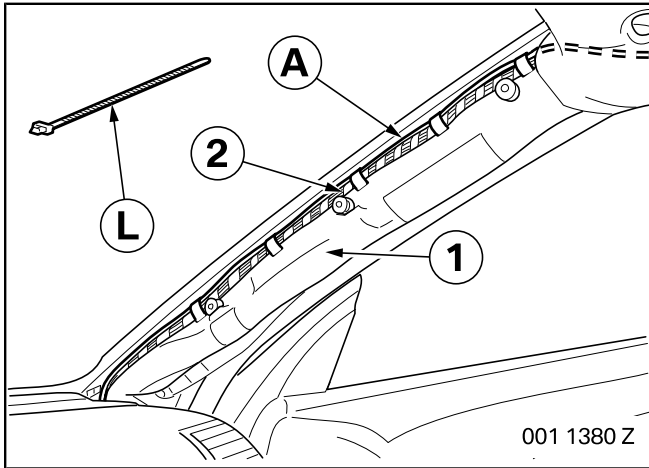
30. Retrofit wiring harness connection for F45, F46, F48, F49, F52 cars built before 07/17



Route branch **A4** to the installation point of ground support point **Z10*6B**.

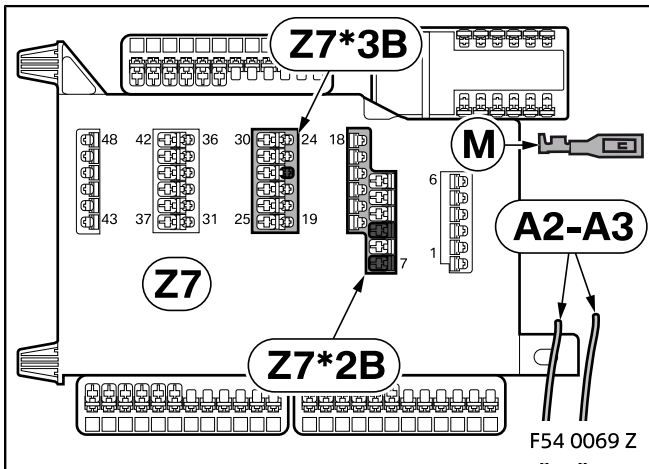
Screw branch **A4** with crimped eyelet **O** onto ground support point **Z10*6B**.

31. Retrofit wiring harness connection for F39, F45, F46, F48, F49, F52 cars built after 07/17



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

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

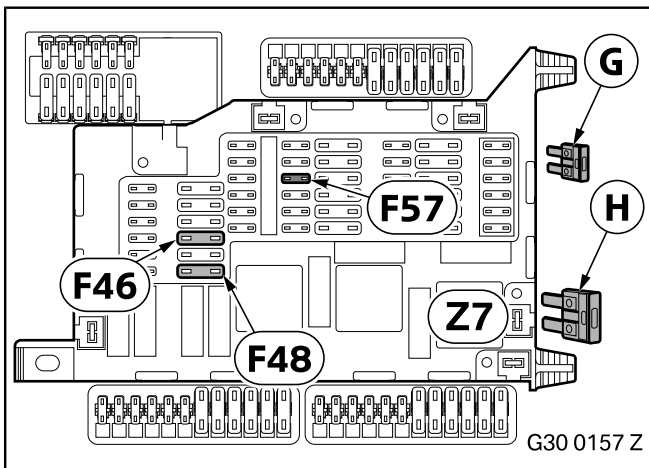


◻ PIN of branch **A2** depends on the empty slot. ◀

Route branches **A2-A3** to the installation point of power distributor **Z7**.

Connect branches **A2-A3** as follows to power distributor **Z7**:

- Connect branch **A2**, YELLOW cable, with crimped socket contact **M** to PIN 7 or PIN 9 of plug **Z7*2B**
- Connect branch **A3**, RED cable, with crimped socket contact **M** to PIN 22 of plug **Z7*3B**



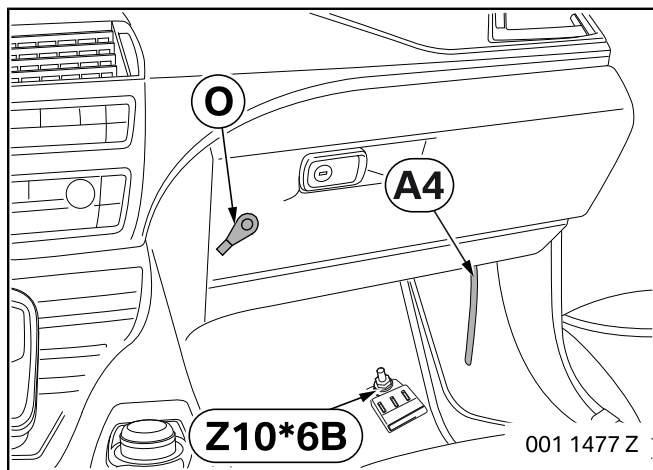
◻ The slot for fuse **H** depends on the PIN for branch **A2**: ◀

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

Insert fuse **H** into slot **F46** or **F48** in fuse box **Z7**.

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

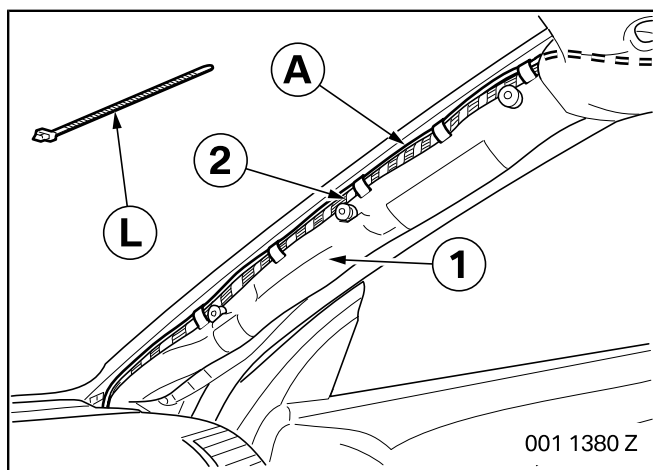
31. Retrofit wiring harness connection for F39, F45, F46, F48, F49, F52 cars built after 07/17



Route branch **A4** to the installation point of ground support point **Z10*6B**.

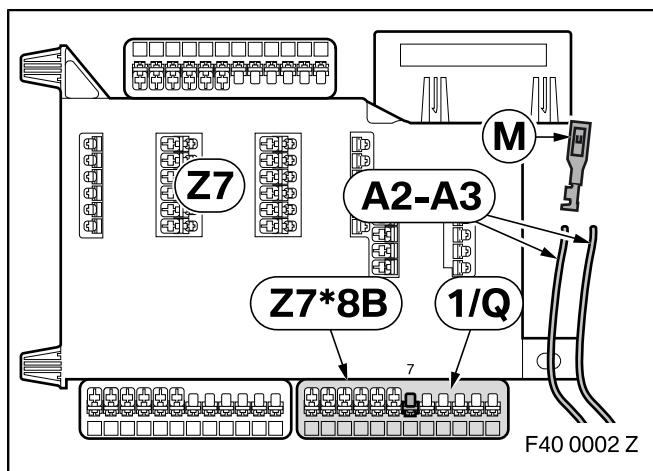
Screw branch **A4** with crimped eyelet **O** onto ground support point **Z10*6B**.

32. Retrofit wiring harness connection for F40, F44 cars



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. **!**

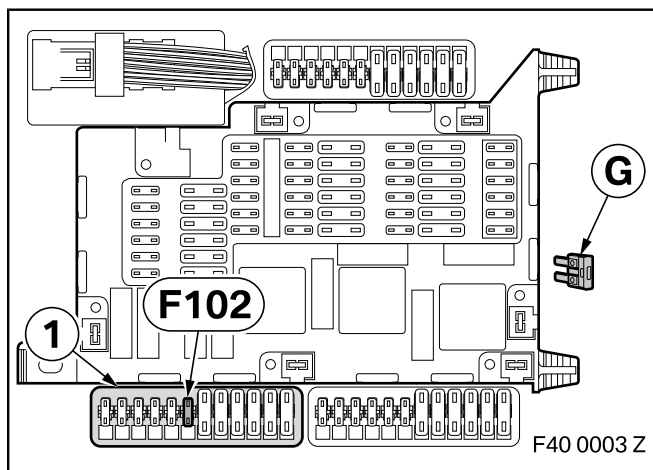
Route retrofit wiring harness **A** along the right A pillar into the footwell.



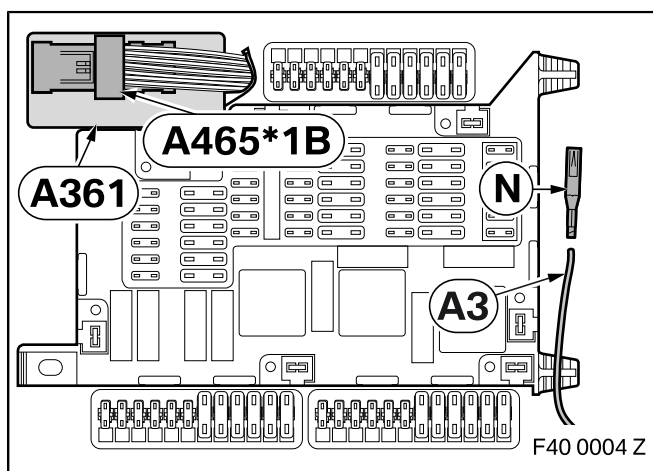
! If the fuse holder (1) is not installed, fit fuse holder **Q** in power distributor **Z7**. **!**

Route branches **A2-A3** to the installation point of power distributor **Z7**.

Connect branch **A2**, YELLOW cable, with crimped socket contact **M** to PIN 7 of plug **Z7*2B** on the fuse holder (1).

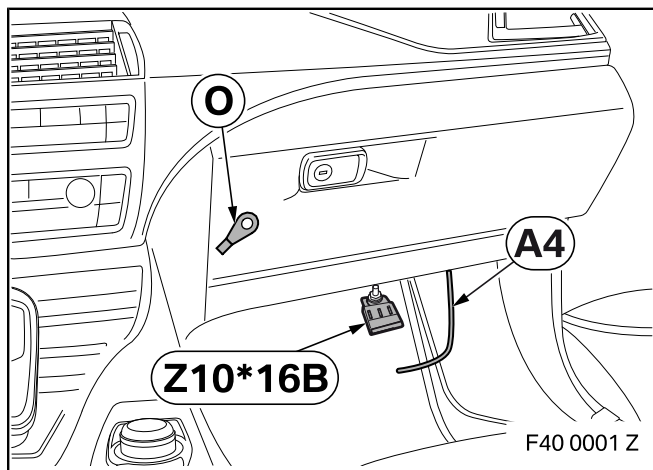


Insert fuse **G** in slot **F102** of the fuse holder (1).



Connect branch **A3**, RED cable, with crimped socket contact **N** to PIN 29 of plug **A465*1B** on LIN module **A361**.

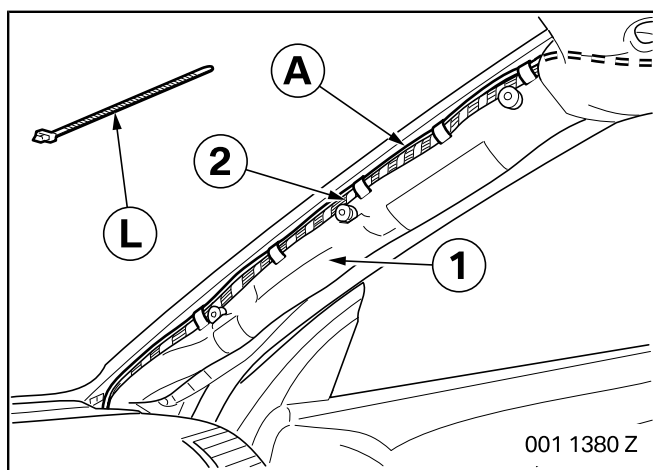
32. Retrofit wiring harness connection for F40, F44 cars



Route branch **A4** to the installation point of ground support point **Z10*16B**.

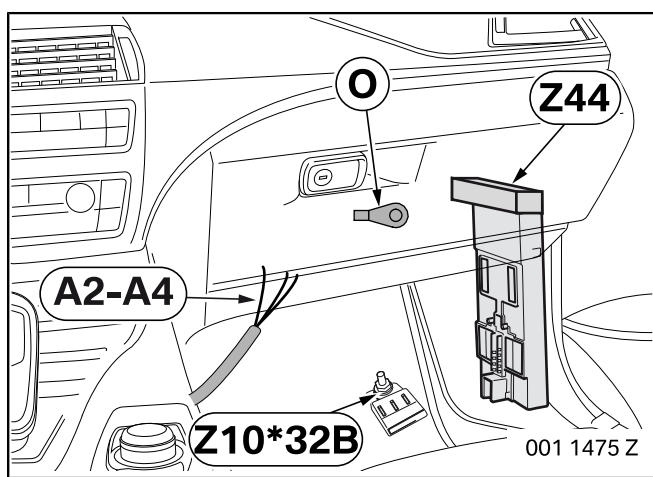
Secure branch **A4** with crimped eyelet **O** to ground support point **Z10*16B**.

33. Retrofit wiring harness connection for G1x, G3x cars built before 07/18



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

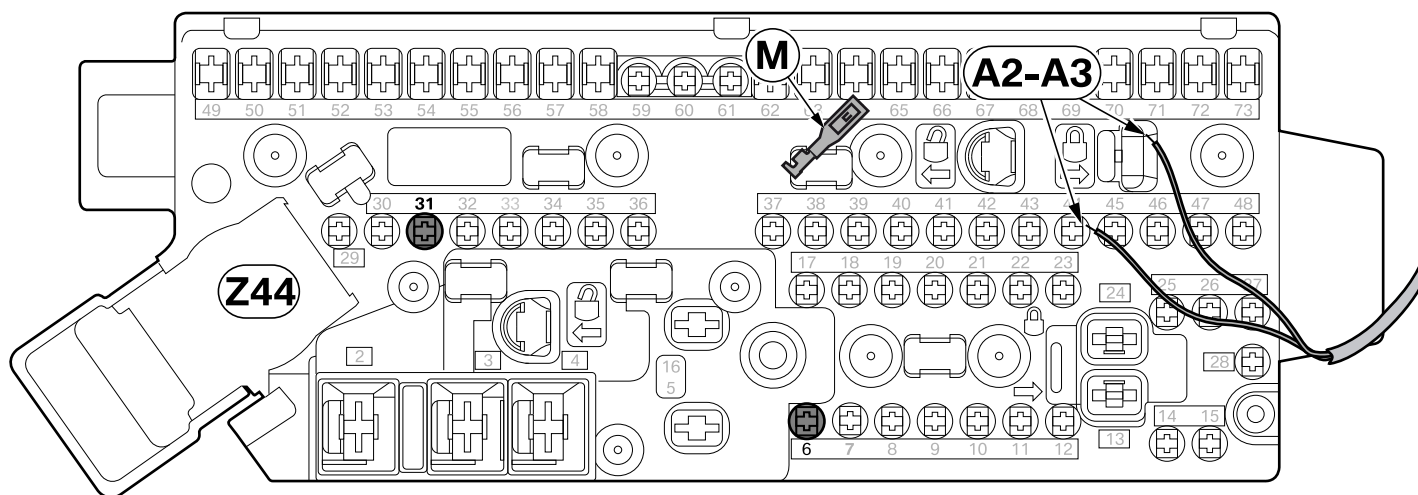
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branches **A2-A3** to the location of power distributor **Z44**.

Route branch **A4** to the installation point of ground support point **Z10*32B**.

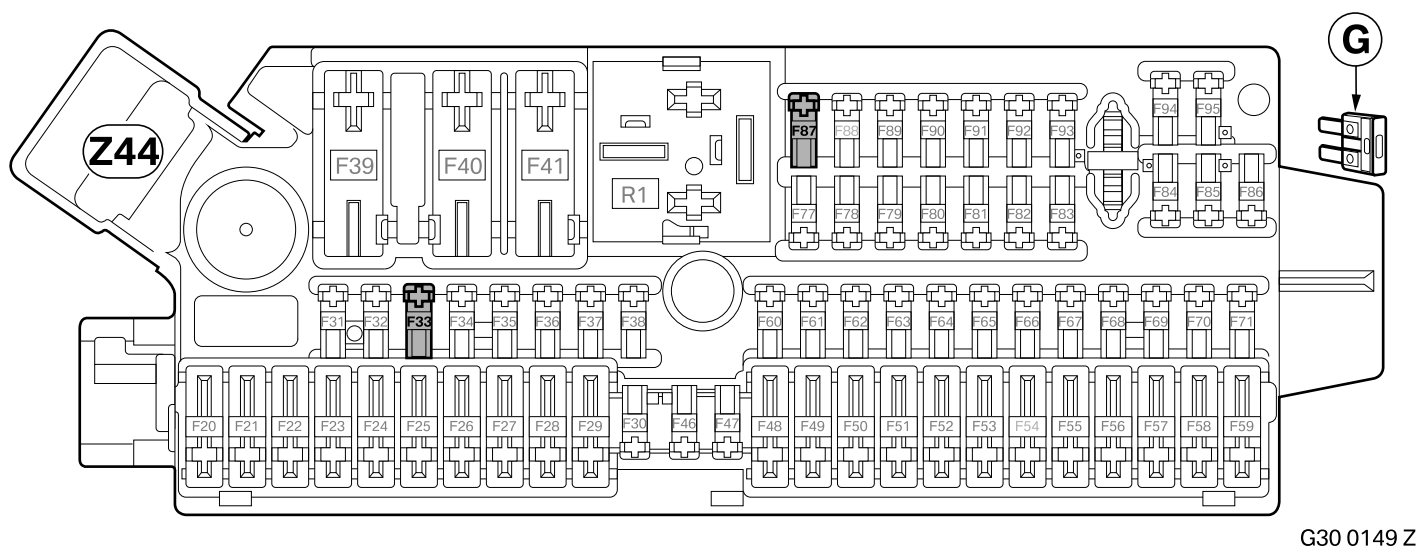
Secure branch **A4** to ground support point **Z10*32B** using crimped eyelet **O**.



Connect branches **A2-A3** as follows to power distributor **Z44**:

- Branch **A2**, YELLOW cable, with crimped socket contact **M** to PIN 31
- Branch **A3**, RED cable, with crimped socket contact **M** to PIN 6

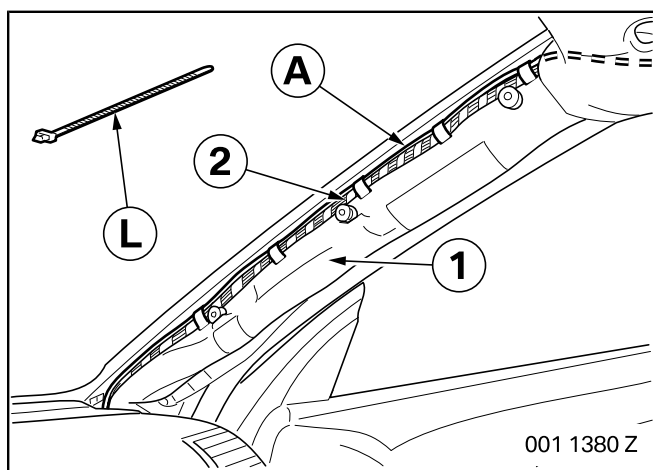
33. Retrofit wiring harness connection for G1x, G3x cars built before 07/18



G30 0149 Z

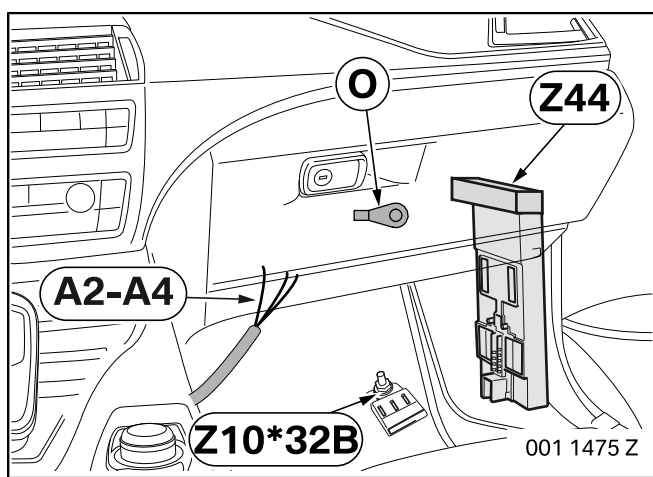
Insert fuse **G** into slot **F33** and **F87** in fuse box **Z44**.

34. Retrofit wiring harness connection for F90, F91, F92, F93, G1x, G3x cars built after 07/18



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **H** to ensure that the function of the airbag (1) is not adversely affected. ◀

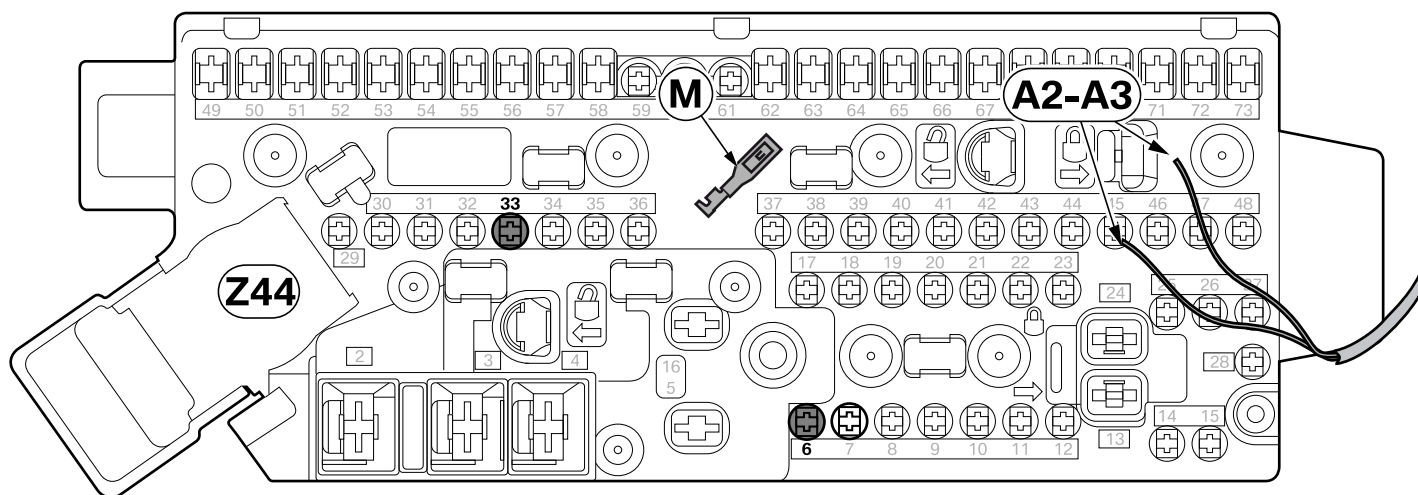
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branches **A2-A3** to the location of power distributor **Z44**.

Route branch **A4** to the location of ground support point **Z10*32B**.

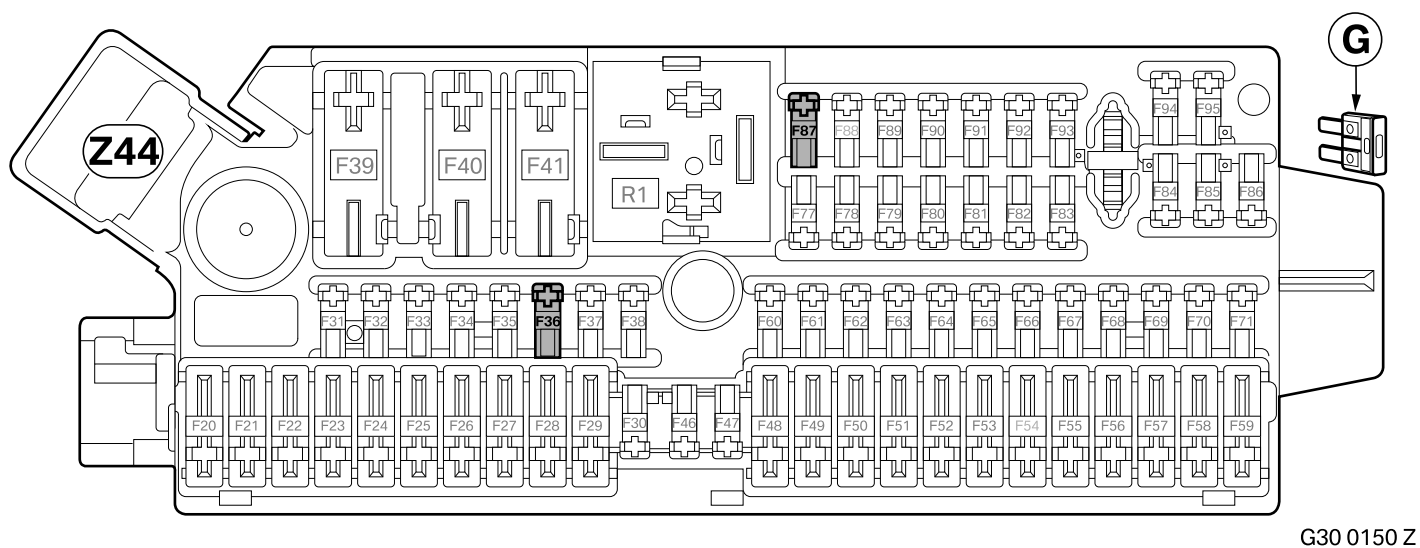
Secure branch **A4** to ground support point **Z10*32B** using crimped eyelet **O**.



Connect branches **A2-A3** as follows to power distributor **Z44**:

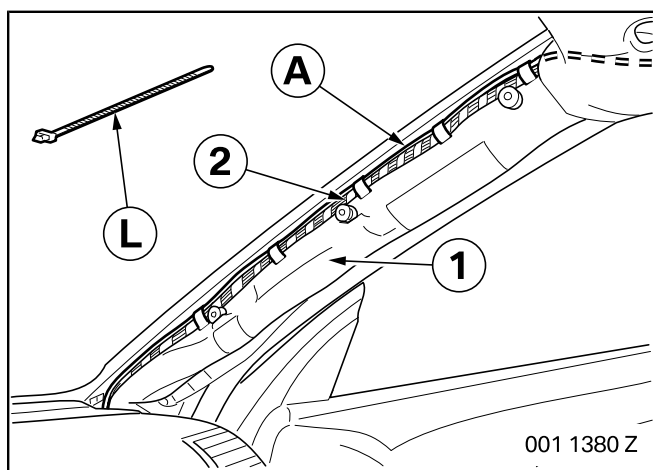
- Connect branch **A2**, YELLOW cable, using crimped socket contact **M**, to PIN 33
- Connect branch **A3**, RED cable, using crimped socket contact **M**, to PIN 6

34. Retrofit wiring harness connection for F90, F91, F92, F93, G1x, G3x cars built after 07/18



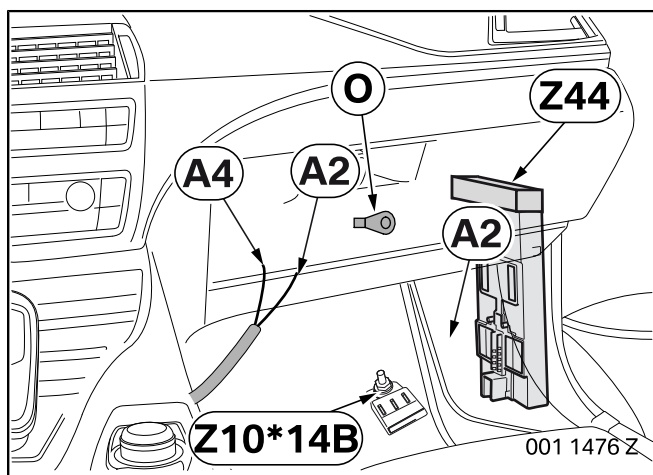
Insert fuse **G** into slot **F35** and **F87** in fuse box **Z44**.

35. Retrofit wiring harness connection for F97, F98, G01, G02



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

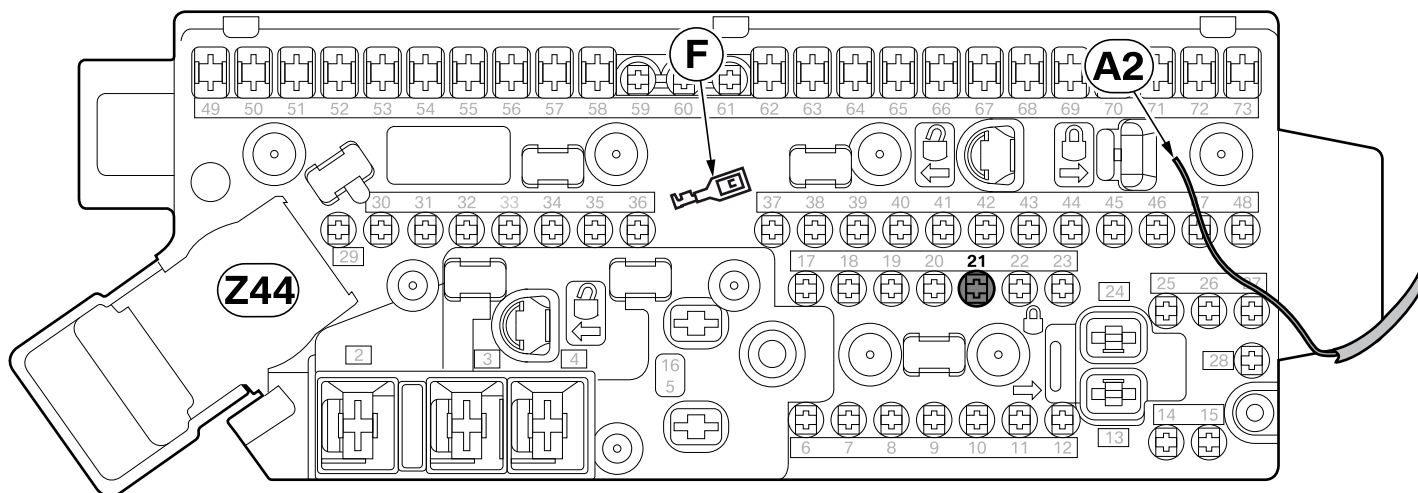
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branch **A2** to the installation point of power distributor **Z44**.

Route branch **A4** to the installation point of ground support point **Z10*14B**.

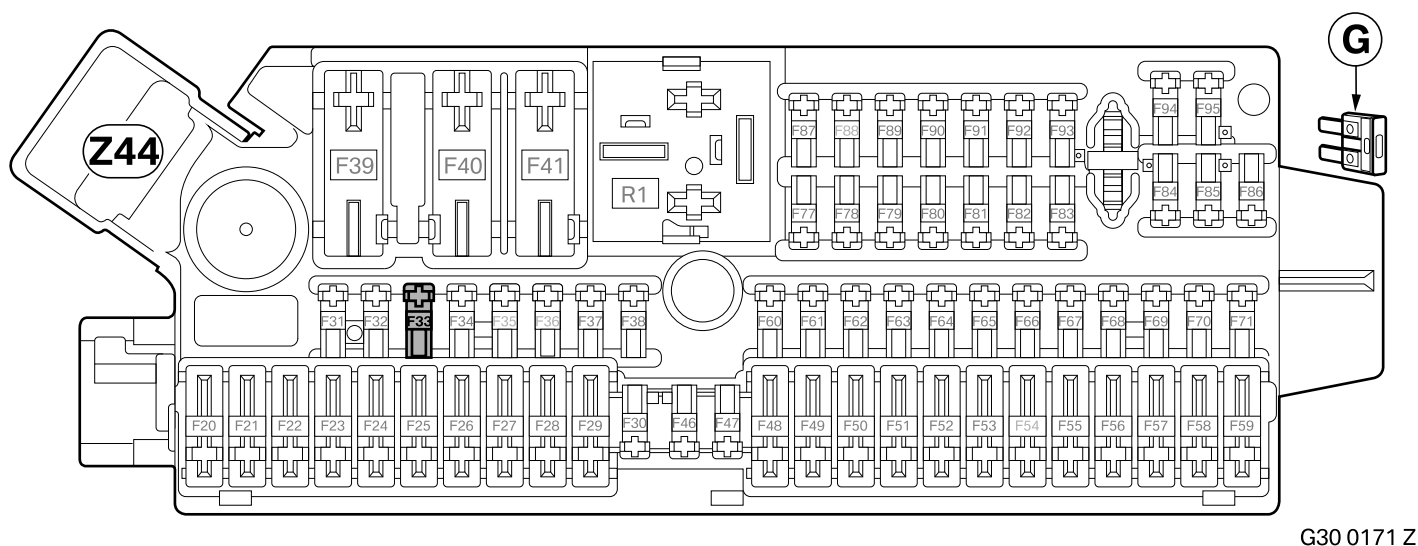
Secure branch **A4** to ground support point **Z10*14B** using crimped eyelet **O**.



Connect branch **A2**, cable colour YELLOW, as follows to power distributor **Z44**:

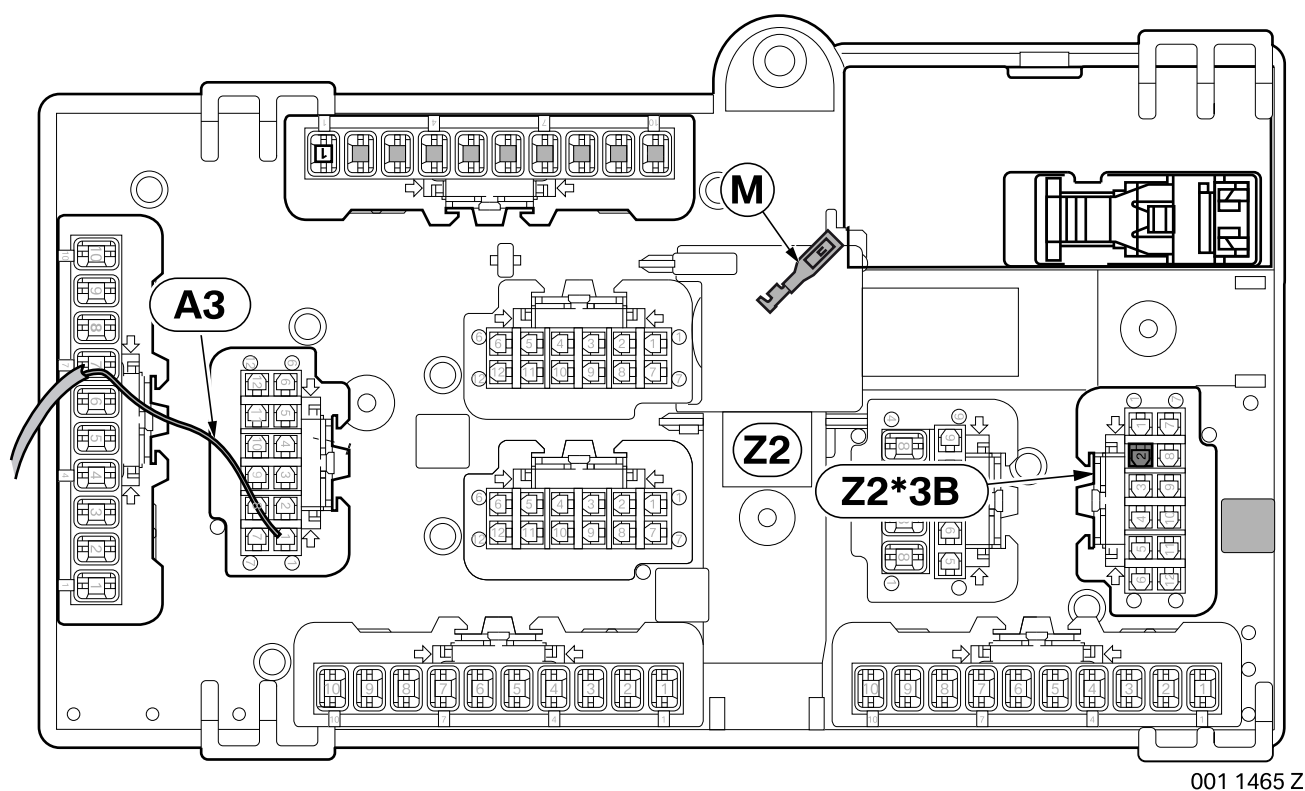
- Branch **A2** with crimped socket contact **M** to PIN 21

35. Retrofit wiring harness connection for F97, F98, G01, G02



G30 0171 Z

Insert fuse **G** into slot **F33** in fuse box **Z44**.

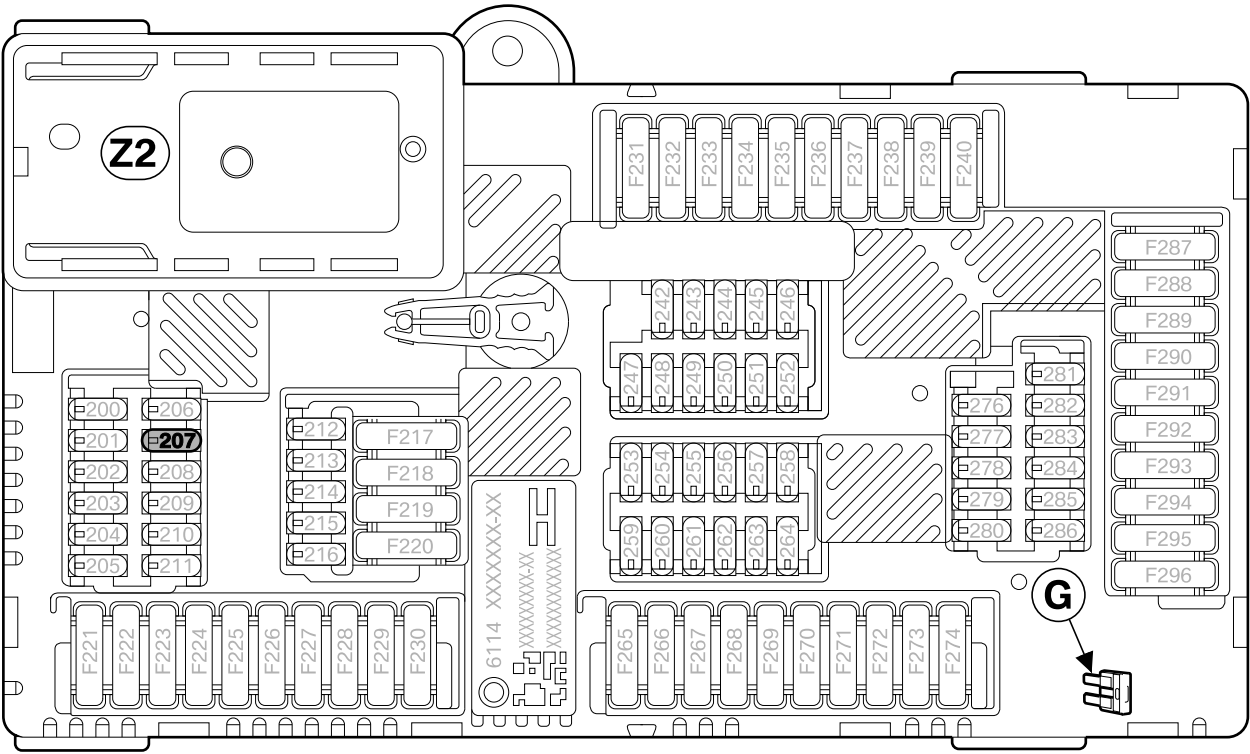


001 1465 Z

Extend branch **A3**, cable colour RED, using conventional workshop equipment and route to installation location **Z2**.

Crimp socket contact **M** to the extended branch **A3** and connect it to PIN 2 in fuse box **Z2*3B**.

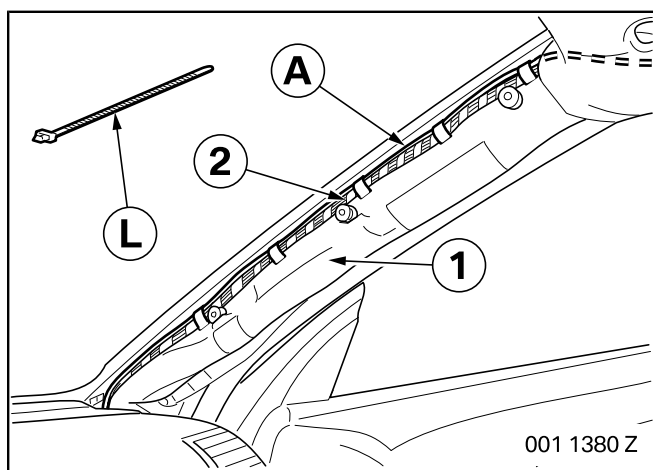
35. Retrofit wiring harness connection for F97, F98, G01, G02



G30 0148 Z

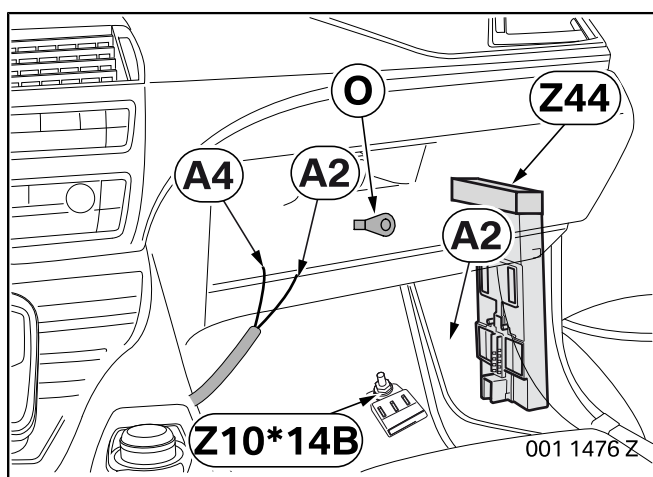
Insert fuse **G** into slot **F207** in fuse box **Z2**.

36. Retrofit wiring harness connection for F95, F96, G05, G06, G07



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

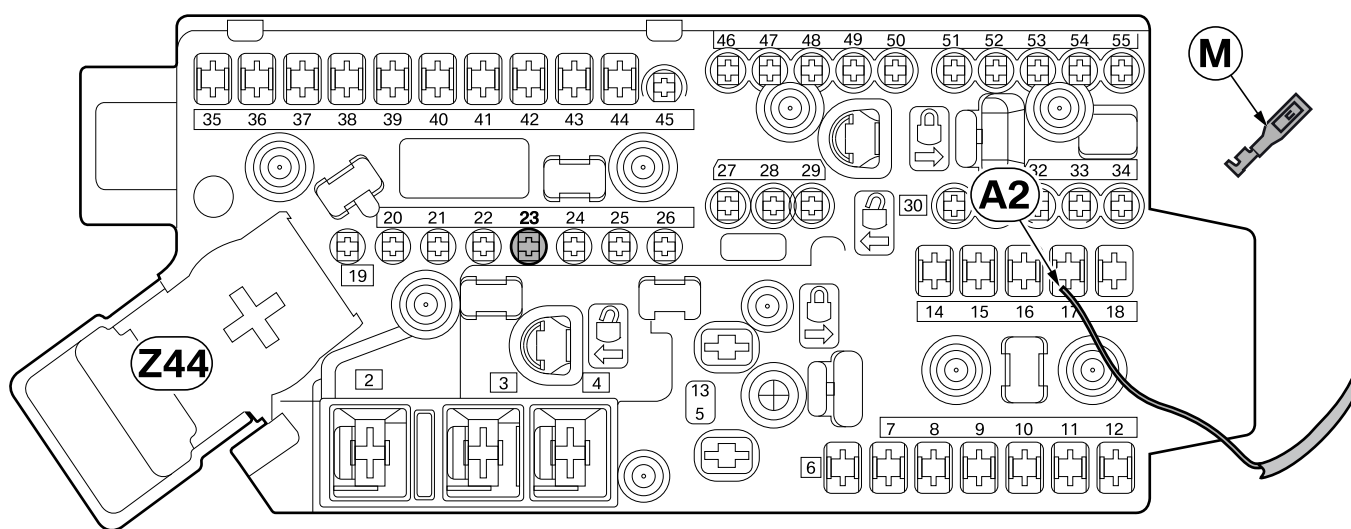
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branch **A2** to the installation point of power distributor **Z44**.

Route branch **A4** to the installation point of ground support point **Z10*14B**.

Secure branch **A4** to ground support point **Z10*14B** using crimped eyelet **O**.

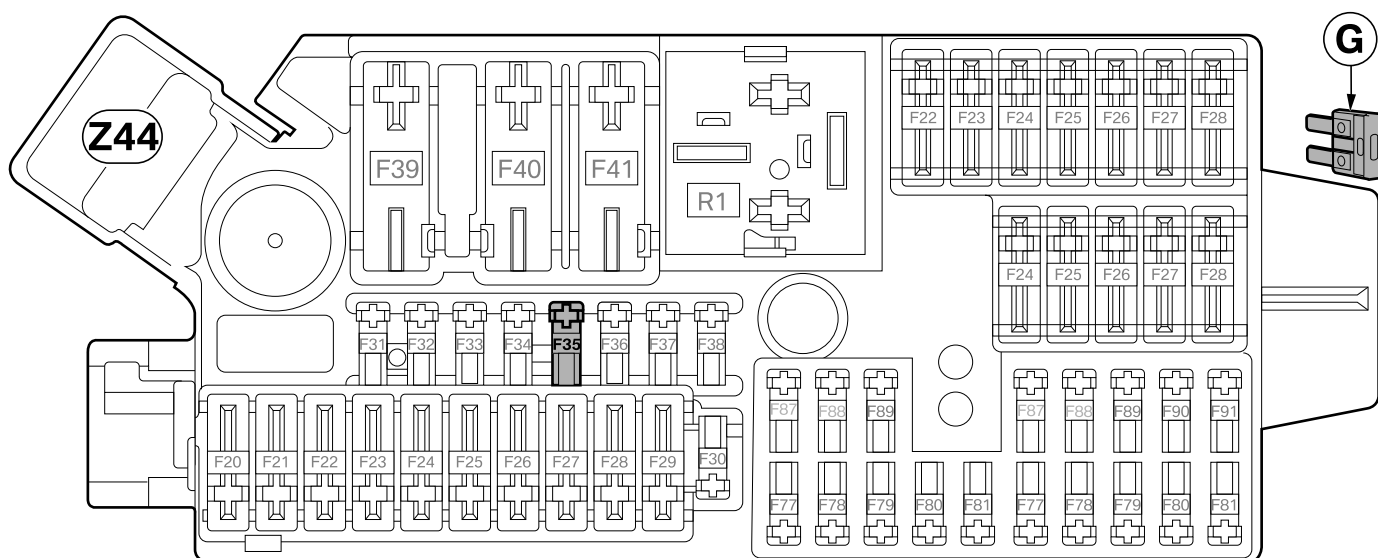


G05 0069 Z

Connect branch **A2**, cable colour YELLOW, as follows to power distributor **Z44**:

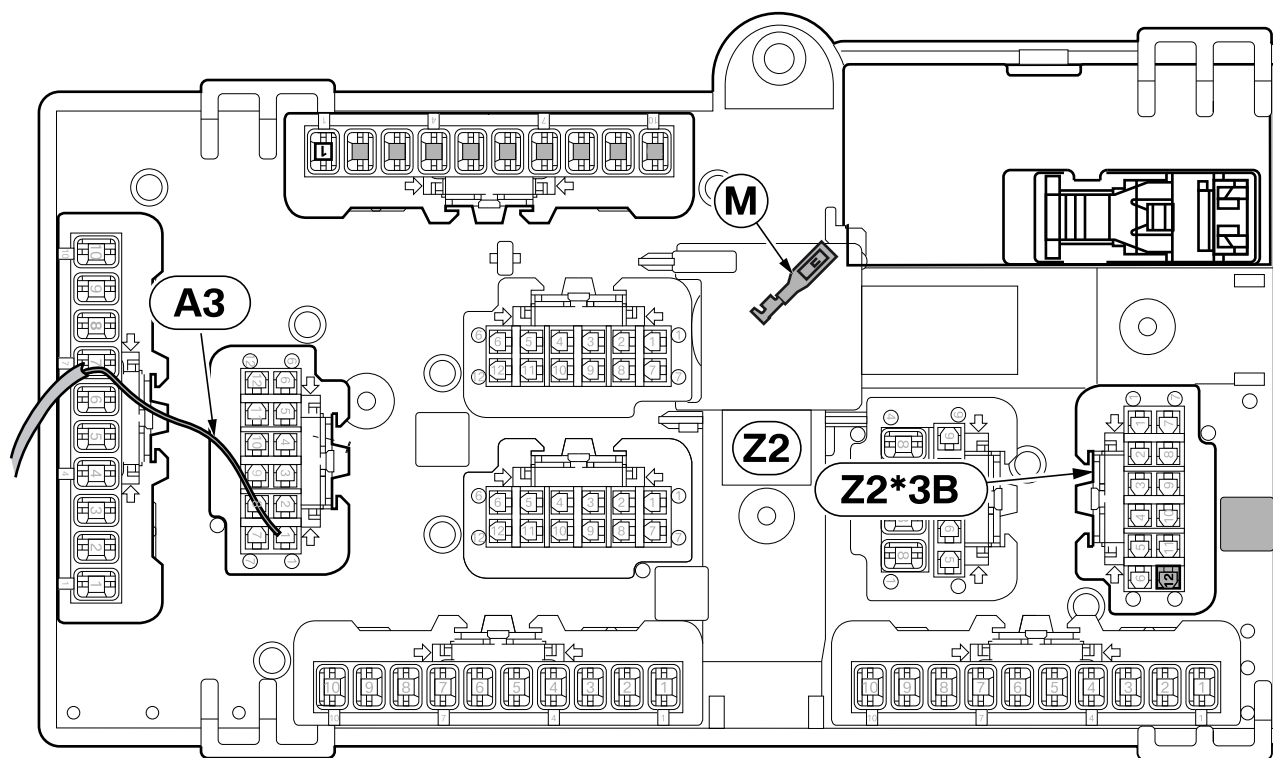
- Branch **A2** with crimped socket contact **M** to PIN 23

36. Retrofit wiring harness connection for F95, F96, G05, G06, G07



G05 0070 Z

Insert fuse **G** into slot **F35** in fuse box **Z44**.

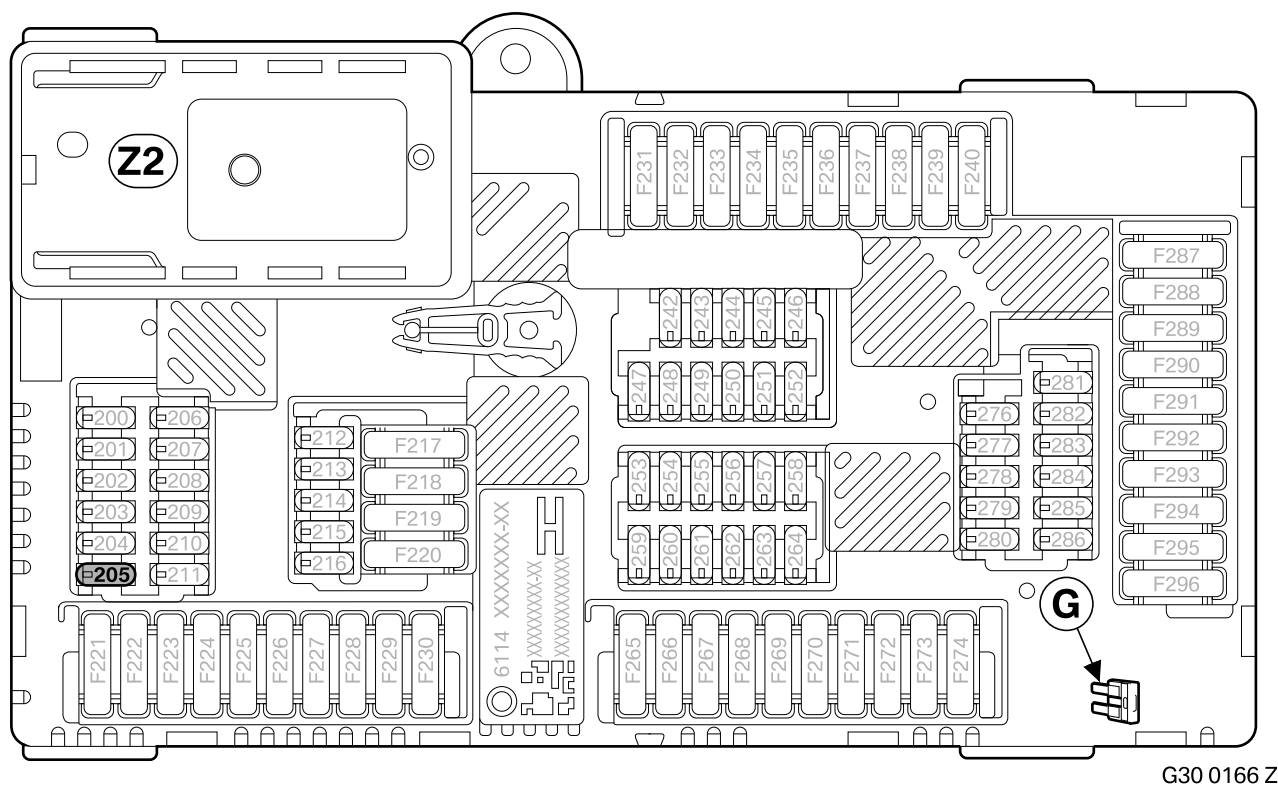


001 1510 Z

Extend branch **A3**, cable colour RED, using conventional workshop equipment and route to installation location **Z2**.

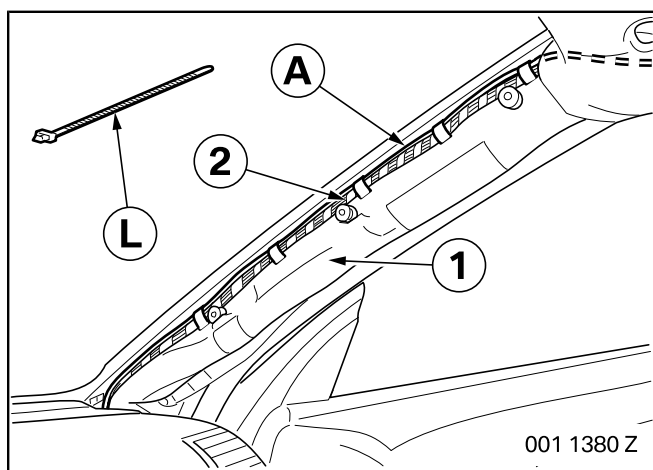
Crimp socket contact **M** to the extended branch **A3** and connect it to PIN 12 in fuse box **Z2*3B**.

36. Retrofit wiring harness connection for F95, F96, G05, G06, G07



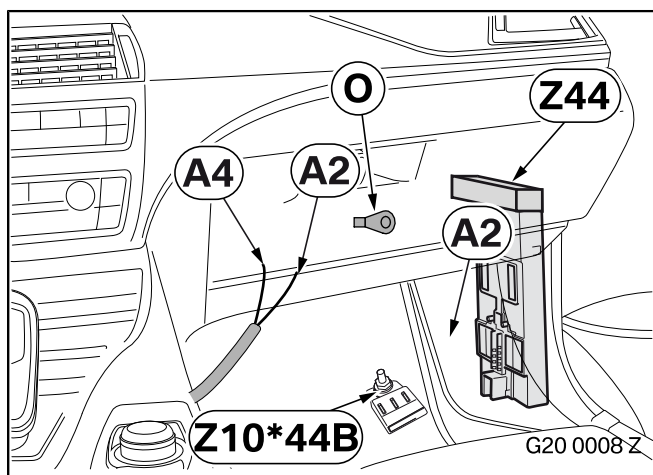
Insert fuse **G** into slot **F205** in fuse box **Z2**.

37. Retrofit wiring harness connection diagram for G2x, G42, G80, G82 and G83



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

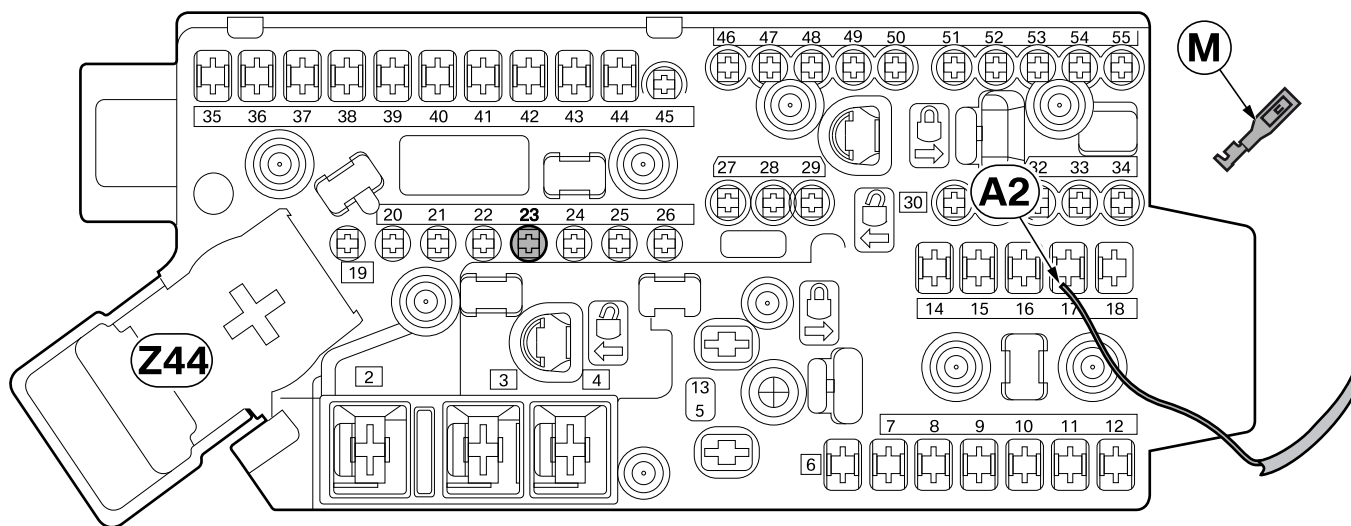
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branch **A2** to the installation point of power distributor **Z44**.

Route branch **A4** to the installation point of ground support point **Z10*44B**.

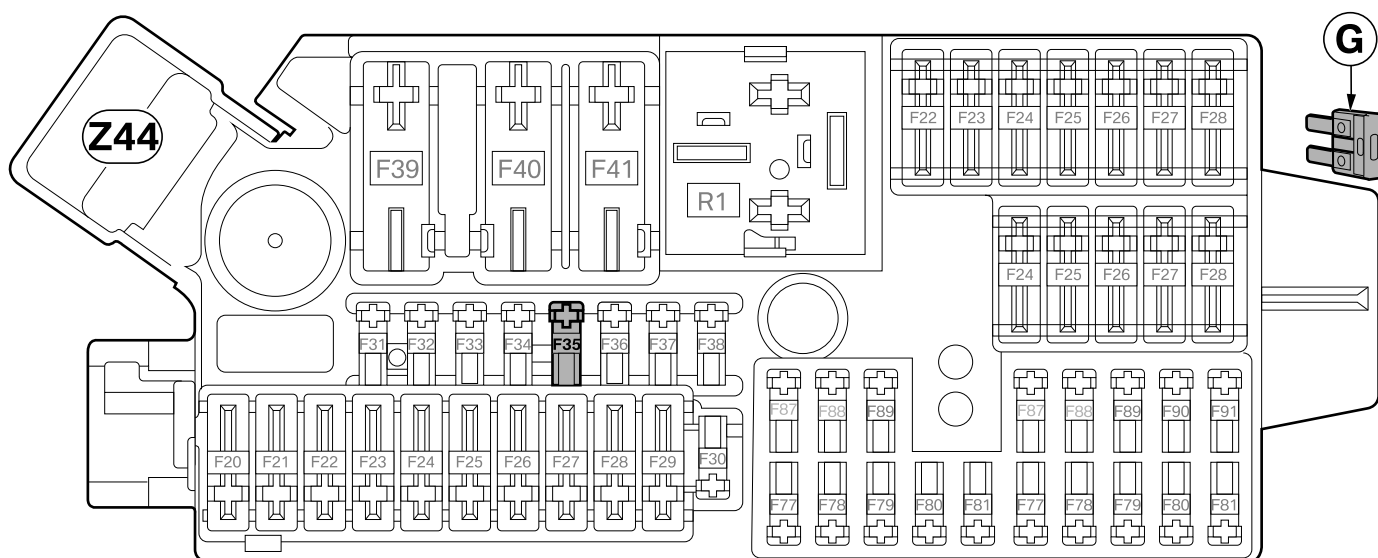
Secure branch **A4** to ground support point **Z10*44B** using crimped eyelet **O**.



Connect branch **A2**, cable colour YELLOW, as follows to power distributor **Z44**:

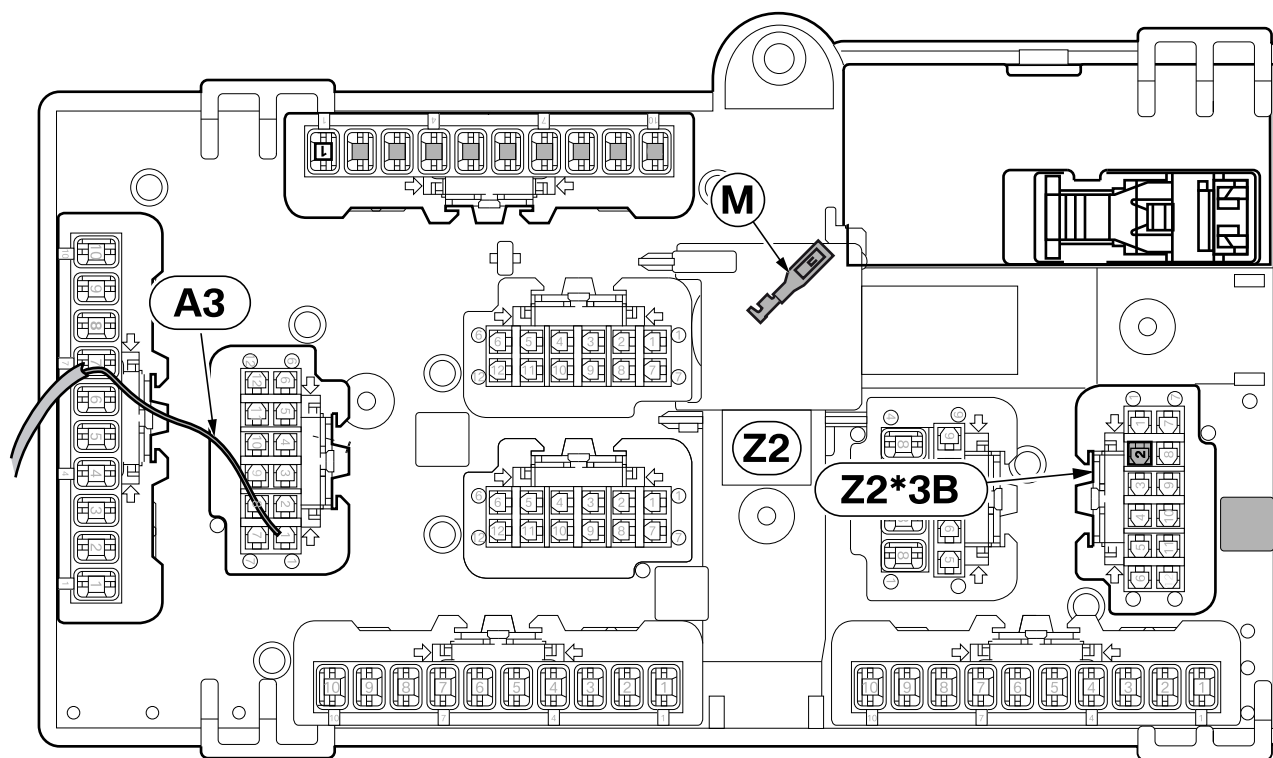
- Branch **A2** with crimped socket contact **M** to PIN 23

37. Retrofit wiring harness connection diagram for G2x, G42, G80, G82 and G83



G05 0070 Z

Insert fuse **G** into slot **F35** in fuse box **Z44**.

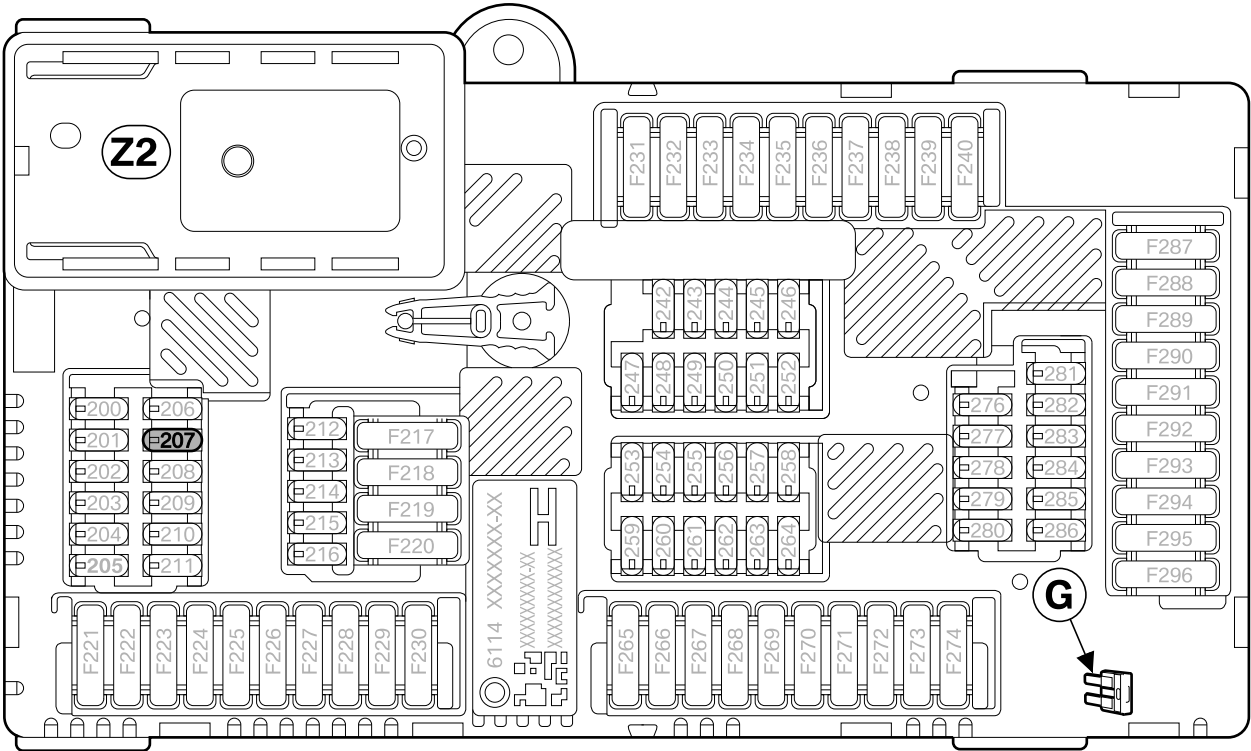


G20 0011 Z

Extend branch **A3**, cable colour RED, using conventional workshop equipment and route to installation location **Z2**.

Crimp socket contact **M** to the extended branch **A3** and connect it to PIN 2 in fuse box **Z2*3B**.

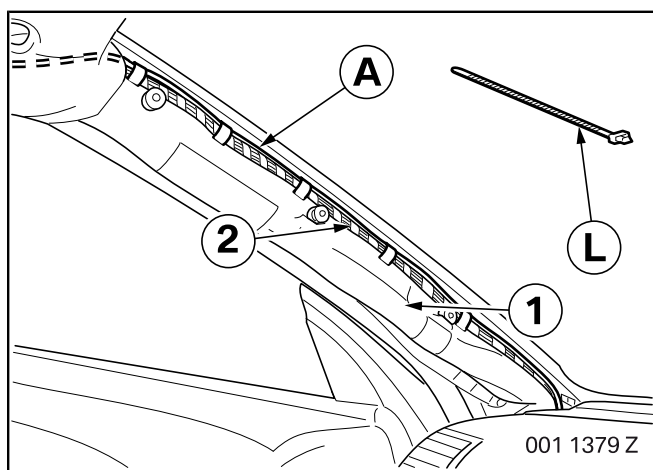
37. Retrofit wiring harness connection diagram for G2x, G42, G80, G82 and G83



G20 0010 Z

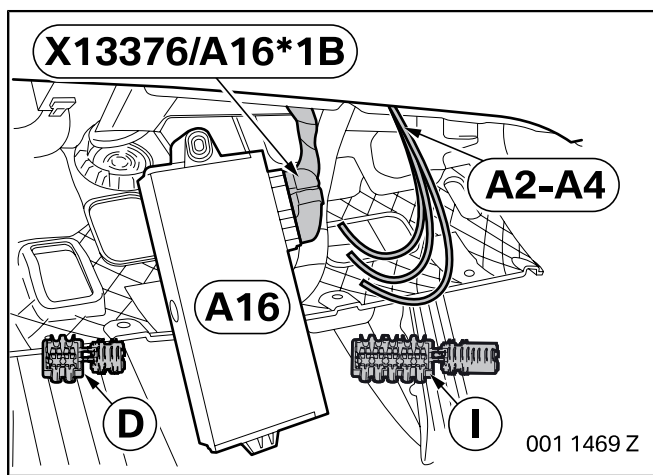
Insert fuse **G** into slot **F207** in fuse box **Z2**.

38. Retrofit wiring harness connection for R series cars



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

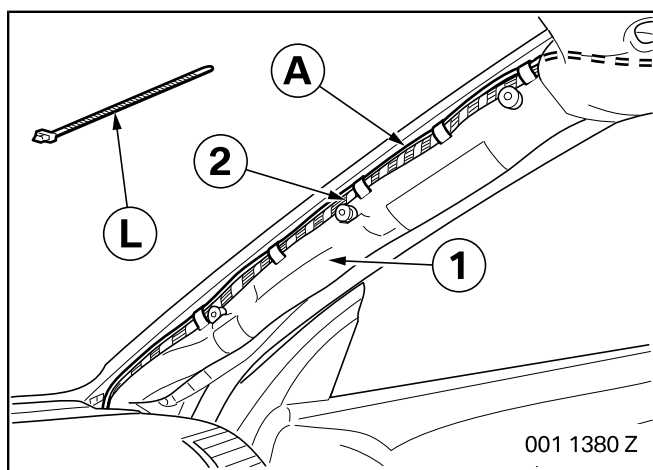
Route retrofit wiring harness **A** along the left A pillar into the footwell.



Connect branches **A2-A4** as follows to CAS control unit **A16**, plug **X13376/A16*1B**:

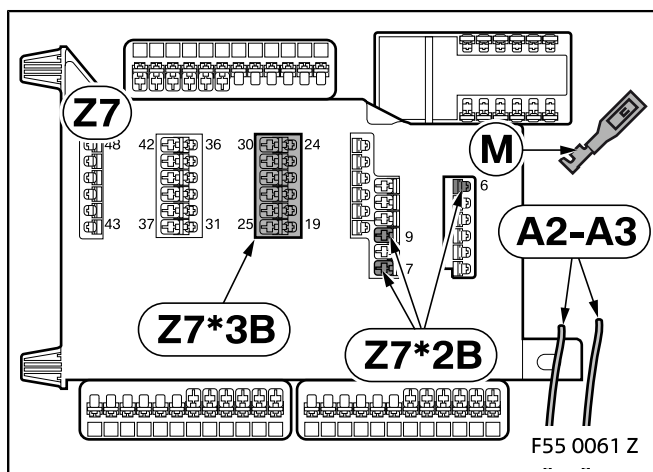
- Branch **A2**, YELLOW cable, using miniature connector **I** to the cable from PIN 34
- Branch **A3**, RED cable, using miniature connector **D** to the cable from PIN 14
- Branch **A4**, BLACK cable, using miniature connector **D** to the cable from PIN 12

39. Retrofit wiring harness connection for F55, F56 and F57 cars



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

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

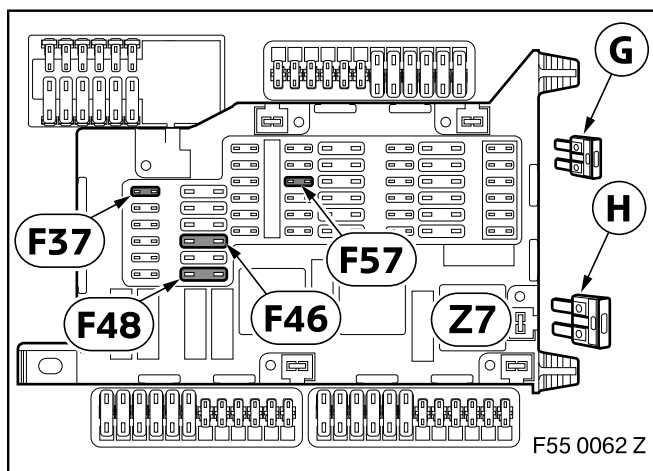


◀ PIN of branch **A2** depends on the empty slot. ◀

Route branches **A2-A3** to the installation point of power distributor **Z7**.

Connect branches **A2-A3** as follows to power distributor **Z7**:

- Connect branch **A2**, YELLOW cable, with crimped socket contact **M** to PIN 6, PIN 7 or PIN 9 of plug **Z7*2B**
- Connect branch **A3**, RED cable, with crimped socket contact **M** to PIN 22 of plug **Z7*3B**

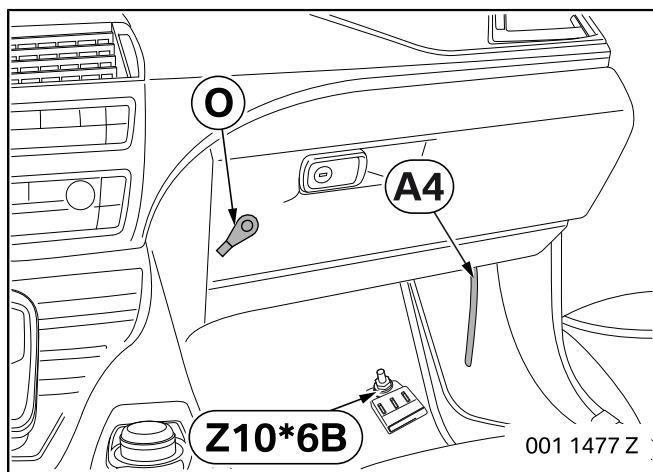


◀ The slot for fuses **H** and **G** depends on the PIN for branch **A2**: ◀

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

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

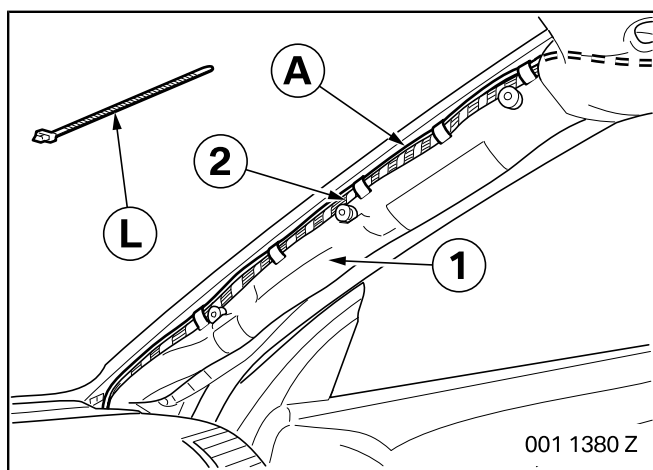
Insert fuse **H** into slot **F46** or **F48** in fuse box **Z7**.



Route branch **A4** to the installation point of ground support point **Z10*6B**.

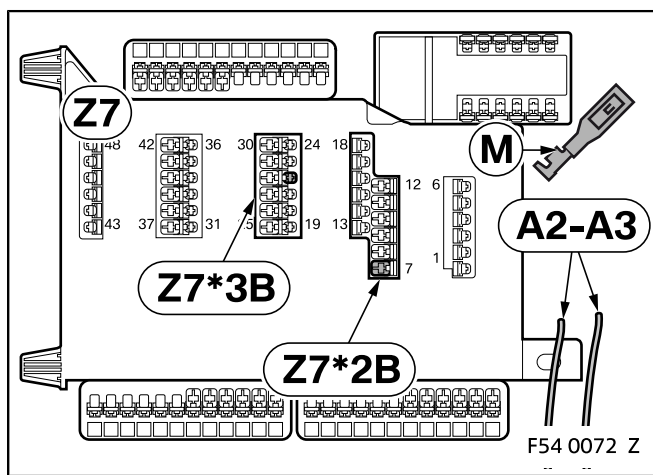
Screw branch **A4** with crimped eyelet **O** onto ground support point **Z10*6B**.

40. Retrofit wiring harness connection for F54, F60 and F60 PHEV cars built before 07/17



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

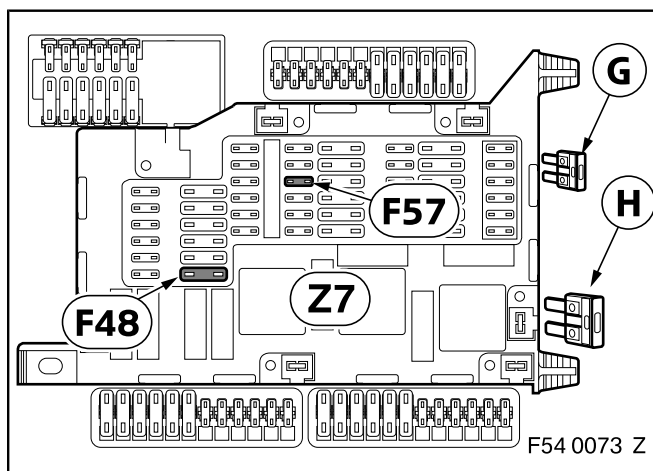
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Route branches **A2-A3** to the installation point of power distributor **Z7**.

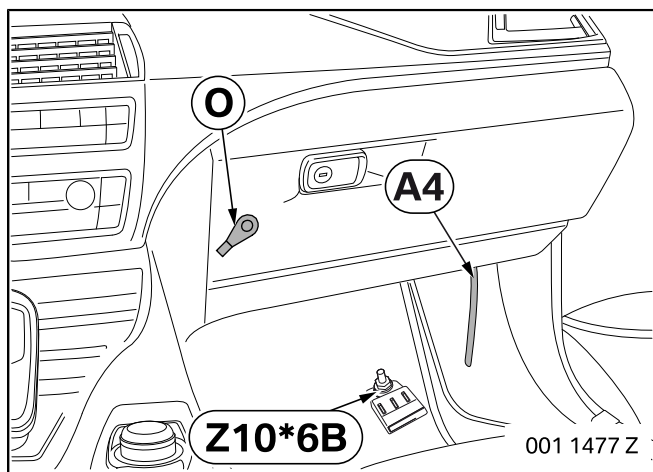
Connect branches **A2-A3** as follows to power distributor **Z7**:

- Connect branch **A2**, YELLOW cable, with crimped socket contact **M** to PIN 7 of plug **Z7*2B**
- Connect branch **A3**, RED cable, with crimped socket contact **M** to PIN 22 of plug **Z7*3B**



Insert fuse **H** into slot **F48** of fuse box **Z7**.

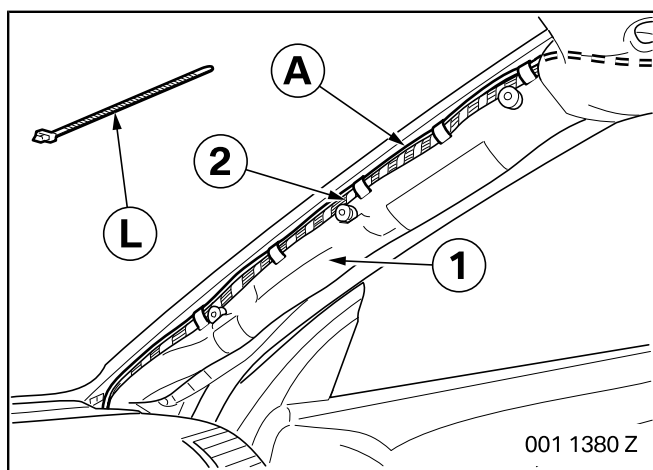
Insert fuse **G** into slot **F57** in fuse box **Z7**.



Route branch **A4** to the installation point of ground support point **Z10*6B**.

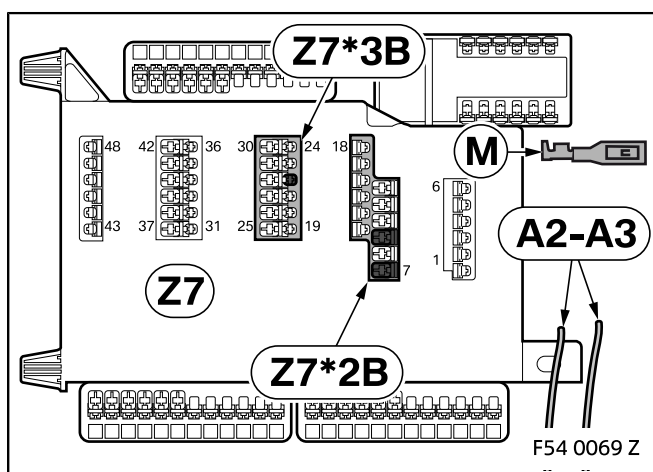
Secure branch **A4** with crimped ring eyelet **O** to ground support point **Z10*6B**.

41. Retrofit wiring harness connection for F54, F60 and F60 PHEV cars built after 07/17



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

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

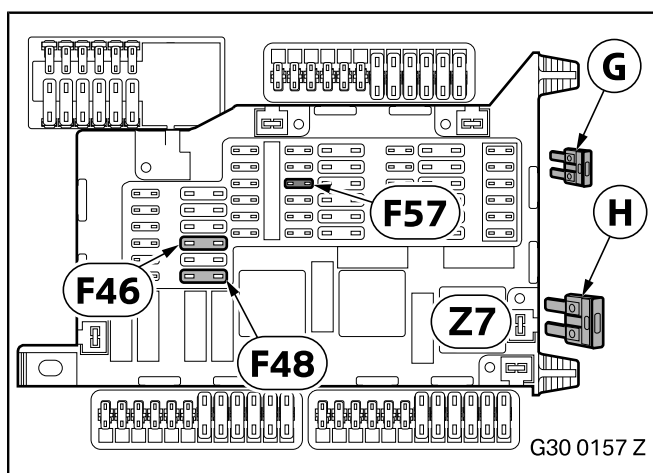


◀ PIN of branch **A2** depends on the empty slot. ◀

Route branches **A2-A3** to the installation point of power distributor **Z7**.

Connect branches **A2-A3** as follows to power distributor **Z7**:

- Connect branch **A2**, YELLOW cable, with crimped socket contact **M** to PIN 7 or PIN 9 of plug **Z7*2B**
- Connect branch **A3**, RED cable, with crimped socket contact **M** to PIN 22 of plug **Z7*3B**

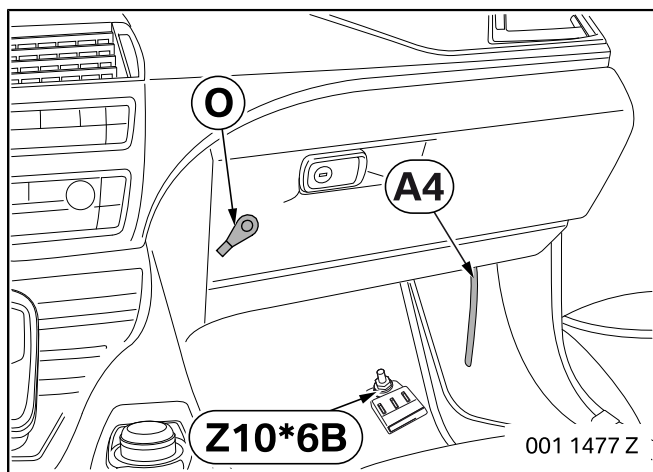


◀ The slot for fuse **H** depends on the PIN for branch **A2**

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

Insert fuse **H** into slot **F46** or **F48** in fuse box **Z7**.

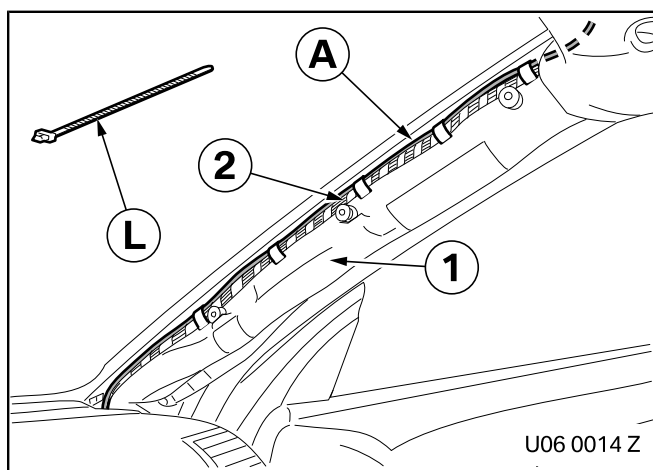
Insert fuse **G** into slot **F57** in fuse box **Z7**.



Route branch **A4** to the installation point of ground support point **Z10*6B**.

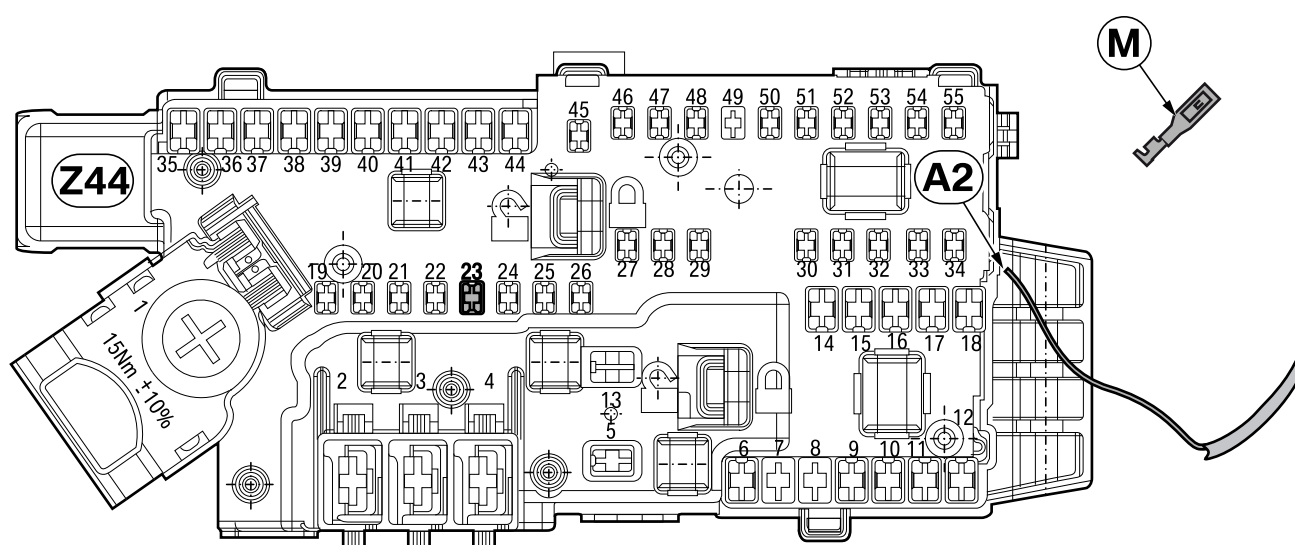
Secure branch **A4** with crimped ring eyelet **O** to ground support point **Z10*6B**.

42. Retrofit wiring harness connection diagram for U06 and U06 PHEV cars



! Secure wiring harness **A** to the standard wiring harness (2) with cable tie **L** to ensure that the function of the airbag (1) is not adversely affected. ◀

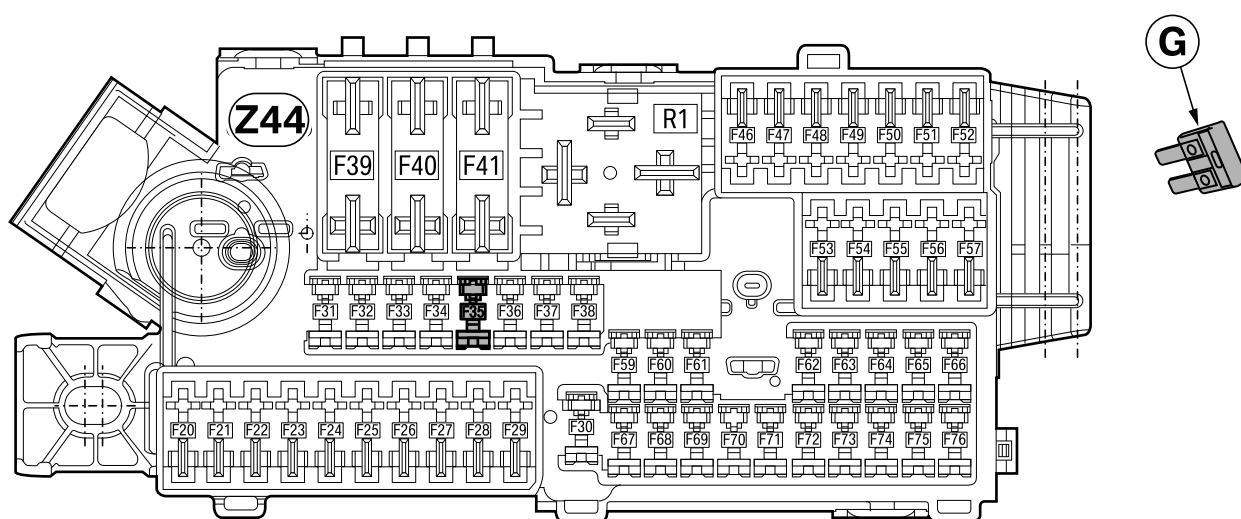
Route retrofit wiring harness **A** along the right A pillar into the footwell.



Connect branch **A2**, cable colour YELLOW, as follows to power distributor **Z44**:

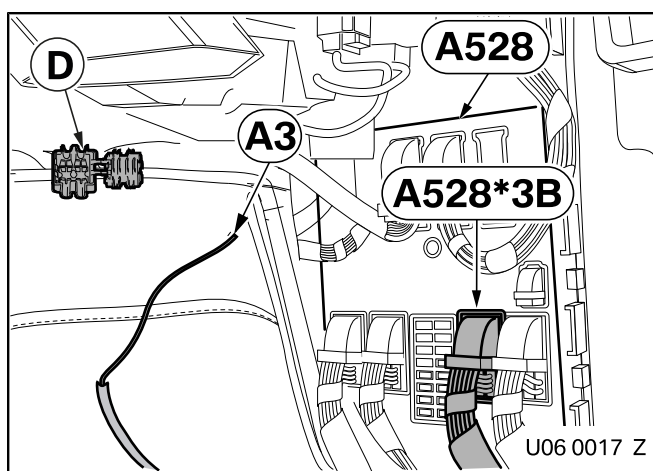
- Branch **A2** with crimped socket contact **M** to PIN 23

42. Retrofit wiring harness connection diagram for U06 and U06 PHEV cars



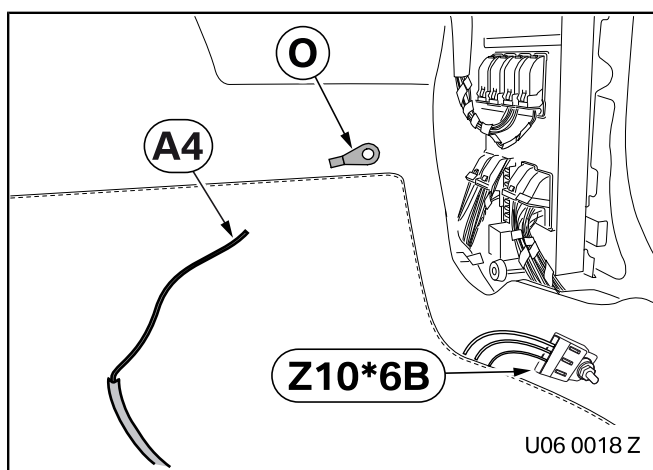
U06 0016 Z

Insert fuse **G** into slot **F35** in fuse box **Z44**.



Route branch **A3**, RED cable, to the location of BCP **A528**.

Connect branch **A3** to the cable from PIN 1, GREEN/BLUE cable, from plug **A528*3B** using 2-way miniature connector **D**.

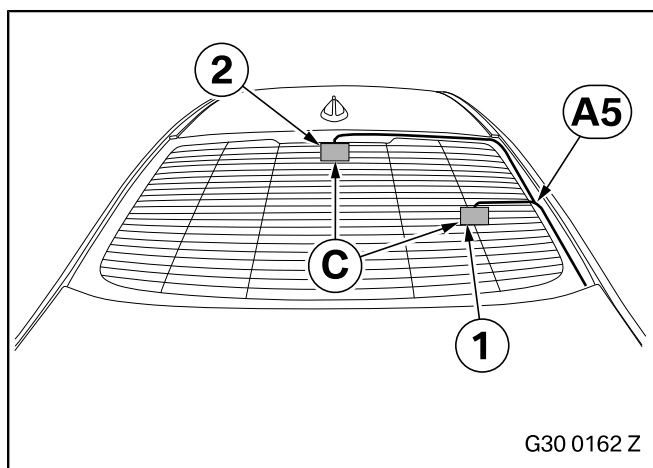



Route branch **A4**, BLACK cable, to the location of earth connector **Z10*6B**.

Secure branch **A4** to earth connector **Z10*6B** using crimped eyelet **O**.

43. Connection and installation of the rear window camera in cars with a fixed rear window (not for convertibles or F54)

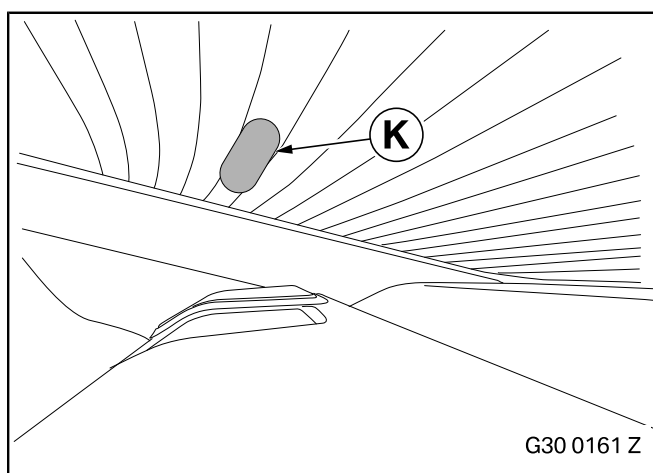
 The bonding surfaces must be clean and free of grease. Apply at room temperature only (minimum 20 °C). ◀



 The rear window camera **C** must not restrict the driver's field of vision. Ideally the rear window camera **C** should be positioned in the area blocked by the headrests. ◀

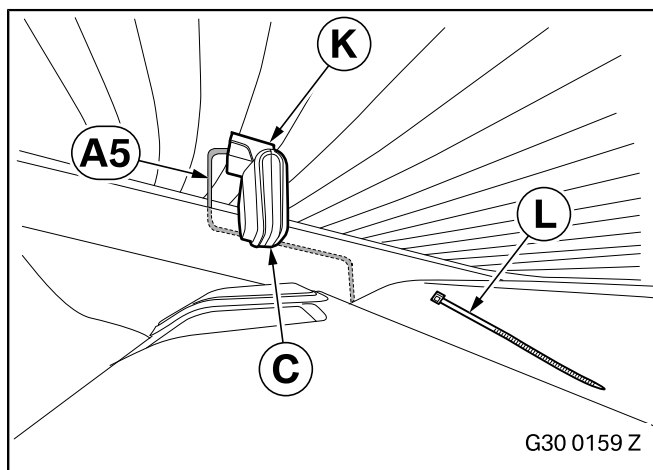
The suggested location (1) for the rear window camera **C** is at the bottom right.

An optional location (2) for the rear window camera **C** in cars without SA 415/SA 416 (roller blind for rear window/sun protection roller blinds) is the top centre.



Suggested location (1)

Apply the tape **K** at the location for the rear window camera on the rear window without air bubbles.

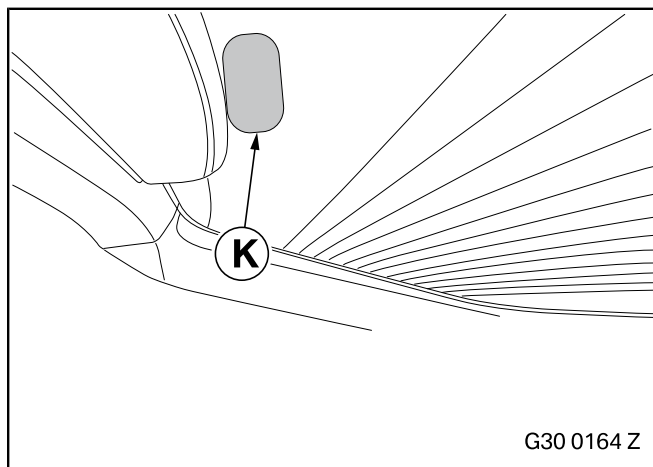


Affix the rear window camera **C** accurately on tape **K**.

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

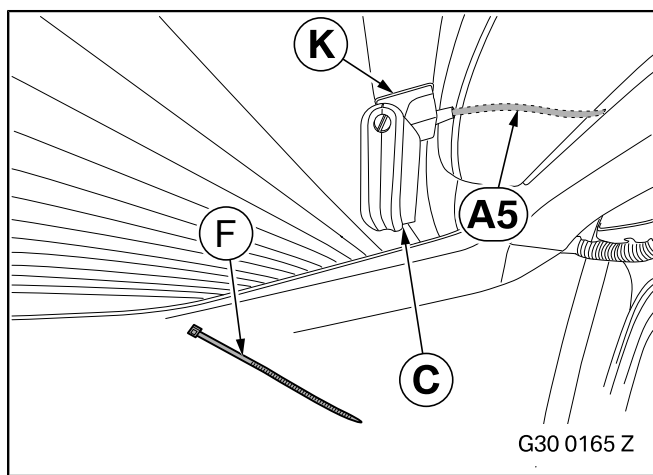
 Secure the cable from **A5** behind the trim using cable tie **L**. ◀

43. Connection and installation of the rear window camera in cars with a fixed rear window (not for convertibles or F54)



Optional location (2) only for cars without SA 415 / SA 416 (roller blind for rear window/sun protection roller blinds)

Apply the tape **K** at the location for the rear window camera on the rear window without air bubbles.



▢ The rear window camera **C** must not restrict the driver's field of vision. ◀

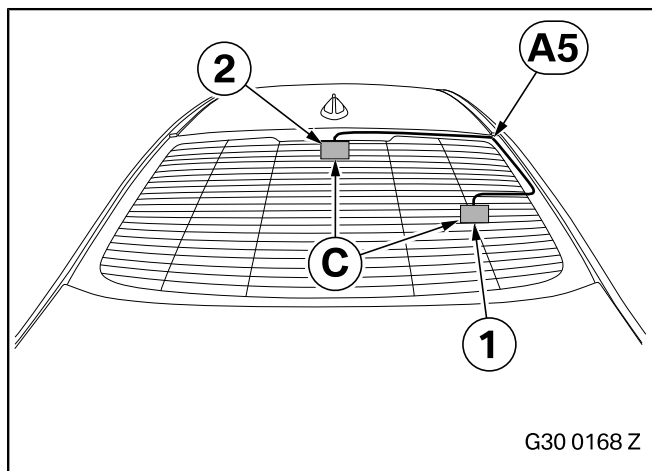
Affix the rear window camera **C** accurately on tape **K**.

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

▢ Secure the cable from branch **A5** behind the trim using cable tie **L**. ◀

44. Connection and installation of the rear window camera in cars with a glued rear window in the tailgate (not for convertibles or F54)

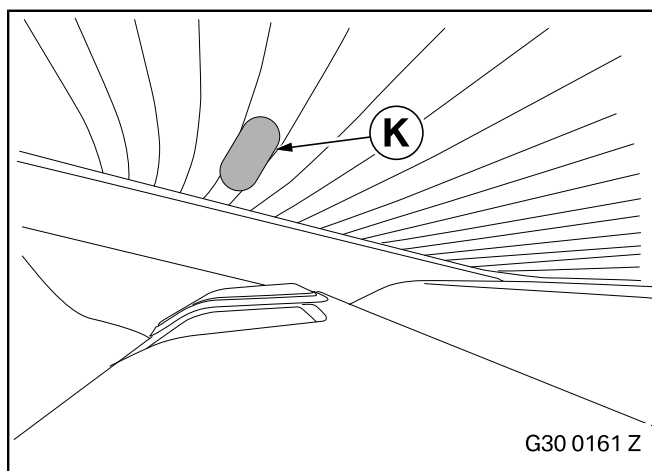
▶ The bonding surfaces must be clean and free of grease. Apply at room temperature only (minimum 20 °C). ◀



▶ The rear window camera **C** must not restrict the driver's field of vision. Ideally the rear window camera **C** should be positioned in the area blocked by the headrests. ◀

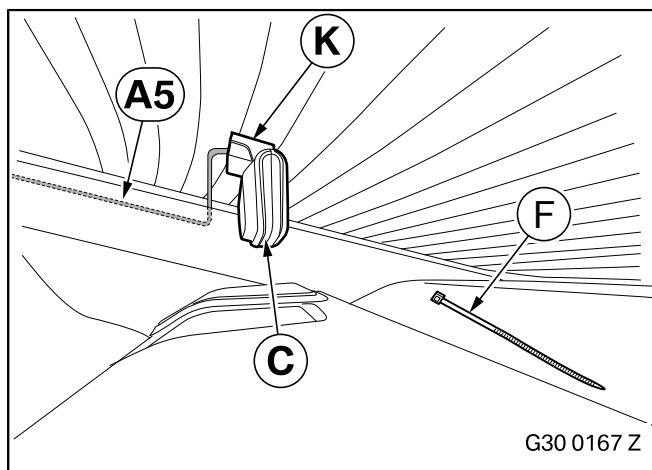
The suggested location (1) for the rear window camera **C** is at the bottom right.

An optional location (2) for the rear window camera **C** is the top centre.



Suggested location (1)

Apply the tape **K** at the location for the rear window camera on the rear window without air bubbles.

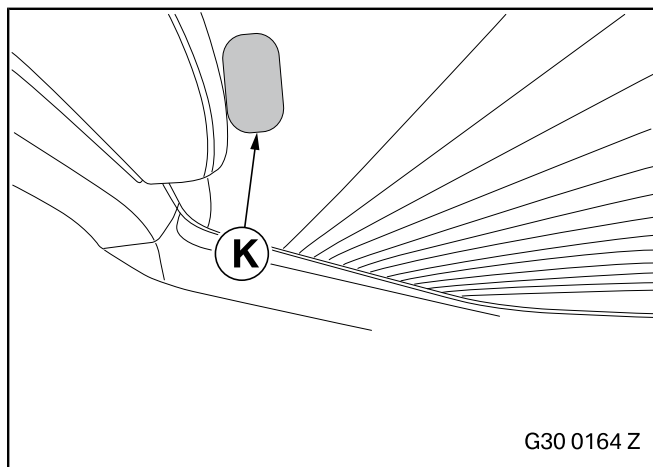


Affix the rear window camera **C** accurately on tape **K**.

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

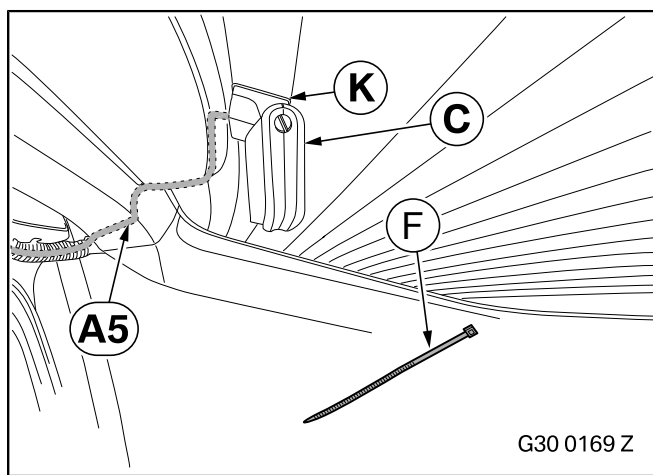
▶ Secure the cable from branch **A5** behind the trim using cable ties **L** only when the tailgate is fully open. ◀

44. Connection and installation of the rear window camera in cars with a glued rear window in the tailgate (not for convertibles or F54)



Optional location of the rear window camera (2)

Apply the tape **K** at the location for the rear window camera on the rear window without air bubbles.



Affix the rear window camera **C** accurately on tape **K**.

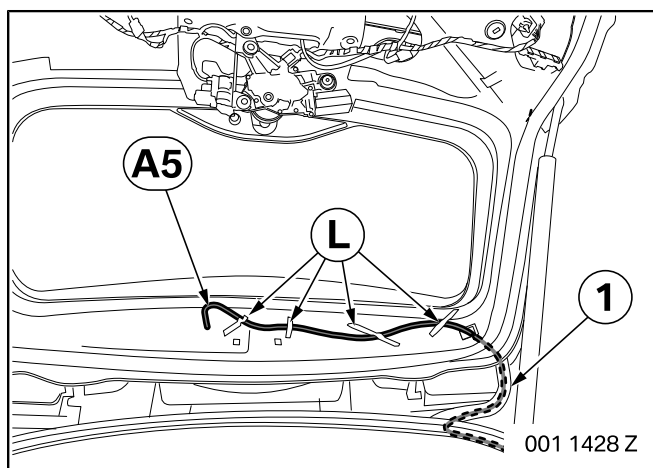
☐ The rear window camera **C** must not restrict the driver's field of vision. ◀

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

☐ Secure the cable from branch **A5** behind the trim using cable tie **L** only when the rear window is fully open. ◀

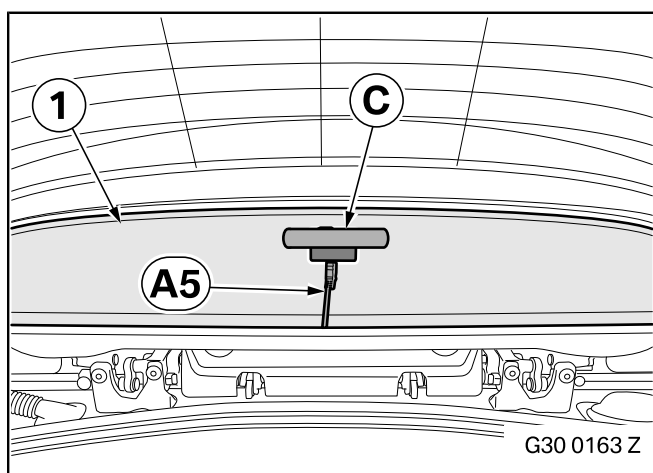
45. Connection and installation of the rear window camera in cars with a moving rear window in the tailgate (not for convertibles or F54)

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



Route branch **A5** as shown along the standard wiring harness, through the rubber grommet (1), to the installation location of the rear window camera **C** and secure it with standard workshop equipment.

▶ Secure the cable from branch **A5** behind the trim using cable ties **L** only when the tailgate is fully open. ◀



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

The tape **K** must not be used. ◀

Install the boot lid trim (1).

Affix the rear window camera **C** to the centre of the trim (1).

Connect branch **A5** to rear window camera **C**.

46. 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:

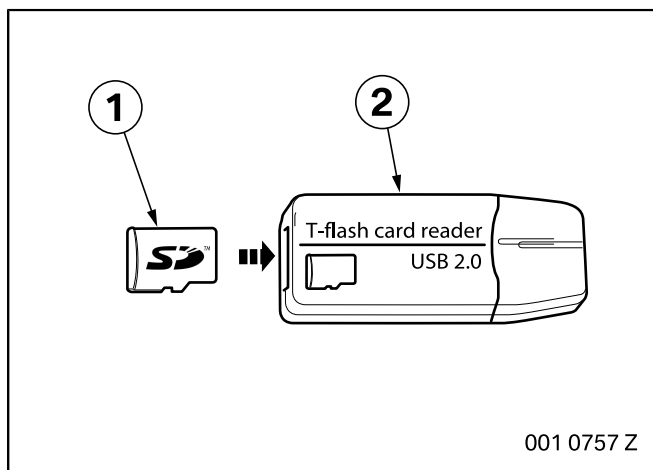
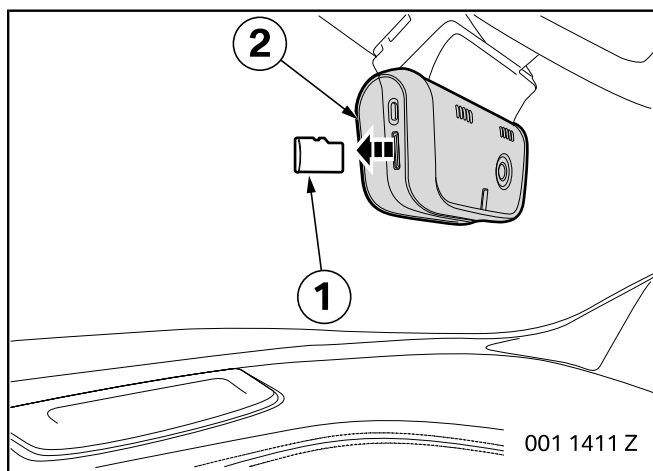
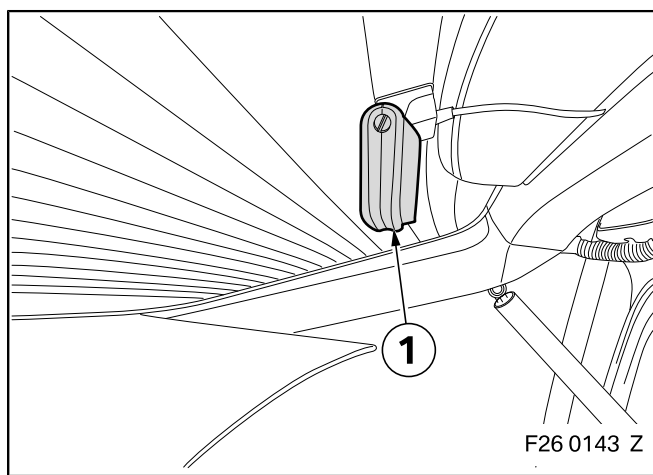
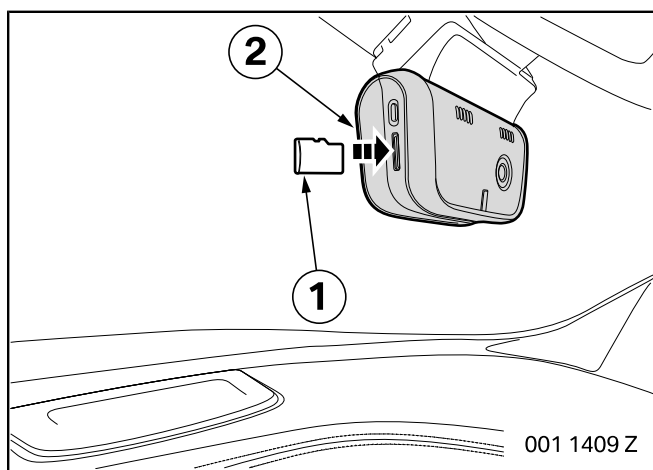
- Micro SD card **R**
- Micro SD card to USB adapter **S**
- Customer information/owner's manual and, if available, supplementary declaration of conformity

Firmware update



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

47. Customer information



Commissioning

⚠ The micro SD card (1) may only be inserted into and removed from the front camera (2) when it is switched off/disconnected 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

⚠ Risk of accident!
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 removed from the front camera (2) when it is switched off since otherwise data could be damaged and malfunctions may occur. ◀

Push the micro SD card (1) gently into the front camera (2) until the micro SD card (1) is released.

Then pull 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.

47. Customer information

Switch on the ignition

Model	Built in or after	Number of presses of the Start-Stop button (in quick succession)
1 Series	2004	Press once
1 Series	2019	Press three times
2 Series	2013	Press once
2 Series	2020	Press three times
3 Series	2005	Press once
3 Series	2018	Press three times
4 Series	2013	Press once
4 Series	2020	Press three times
5 Series	2009	Press once
5 Series	2017	Press three times
6 Series	2011	Press once
6 Series GT	2017	Press three times
7 Series	2008	Press once
7 Series	2015	Press three times
8 Series	2018	Press three times
X1	2009	Press once
X2	2018	Press once
X3	2011	Press once
X3	2017	Press three times
X4	2014	Press once
X4	2018	Press three times
X5	2013	Press once
X5	2018	Press three times
X6	2014	Press once
X6	2019	Press three times
X7	2019	Press three times
Z4	2009	Press once
Z4	2018	Press three times
All other new BMW derivatives	2018	Press three times
All MINI models	2014	Press once