

# Original BMW Accessories.

## Installation Instructions.



### Rear View Camera Retrofit.

**BMW 2 Series (F45)**

**BMW 2 Series (F46)**

**BMW X1 (F48)**

#### Retrofit kit number

66 21 2 447 605      Rear view camera retrofit kit

#### Installation time

The installation time is **approx. 3.0 hours**. This may vary depending on the condition of the car and its equipment package.

On cars without the bus interface already installed, the installation time increases by **approx. 0.5 hours**.

The installation time shown does not include any time spent on programming/coding.

The calculation of the total costs for the programming time must be factored into the calculation of retrofitting costs (no invoicing via warranty).

#### 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 function problems, restrict troubleshooting to approx. 0.5 hours for mechanical work and 1.0 hour for electrical work.**

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

Quote the following information:

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

Do not archive the hard copy of these installation instructions, since daily updates are provided via ASAP.

#### Pictograms



Denotes instructions that draw your attention to dangers.



Denotes instructions that draw your attention to special features.



Denotes the end of the instruction or other text.

### **Installation information**

Ensure that the cables and/or lines are not kinked or damaged as you install them in the car. Costs arising from 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 similarly on RHD cars.

After the installation work, the retrofit must be programmed/coded via the – **Conversions** – path.

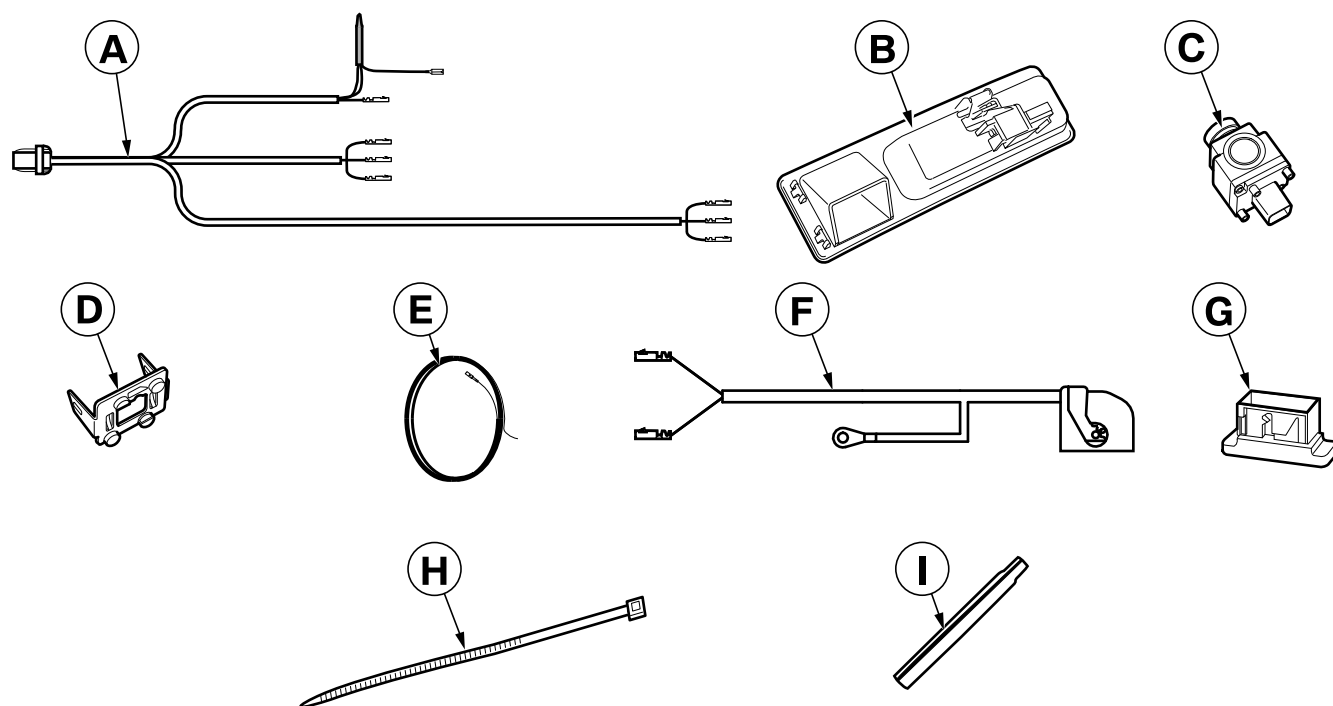
### **Special tools required**

Details of the special tools required can be found in the relevant ISTA repair manual.

Table of contents

Section	Page
1. Parts list for retrofit kit .....	4
2. Preparatory work .....	5
3. Retrofit wiring harness connection diagram .....	6
4. Installing the rear view camera and routing and connecting the retrofit wiring harnesses .....	7
5. Concluding work and coding .....	11
6. Wiring diagram .....	12

## 1. Parts list for retrofit kit



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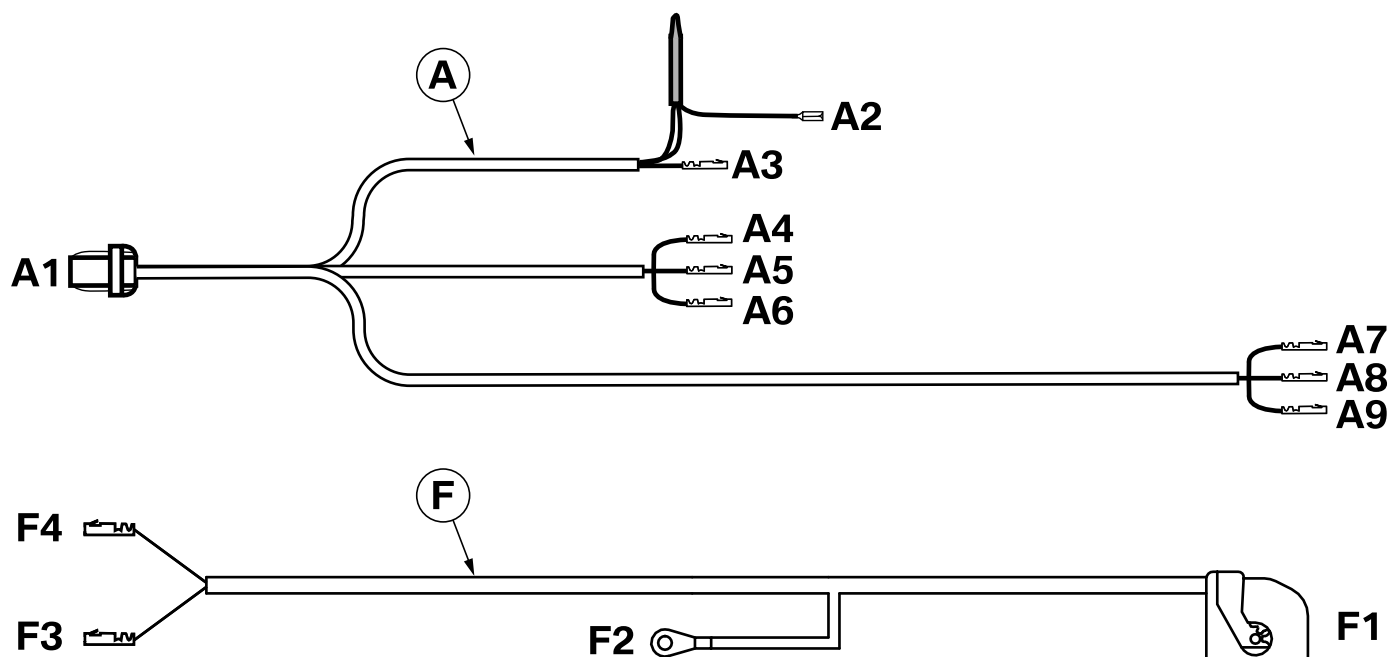
### Legend

- A** Retrofit wiring harness (rear view camera)
- B** Tailgate button
- C** Rear view camera
- D** Cover
- E** Adapter cable
- F** Retrofit wiring harness (bus interface)
- G** Bus interface
- H** Cable ties (10 x)
- I** Cable lug

## 2. Preparatory work

	ISTA 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 dealing with wiring harnesses and cables	61 00 ...
<b>The following components must be removed first of all</b>	
Luggage compartment wheel arch trim, right	51 47 161
Tailgate trim	51 49 000
Front right sill cover strip	51 47 000
Rear right door sill cover strip	51 47 030
Glove box	51 16 366
Trim for door pillar at the bottom right	51 43 150
Trim for bottom right A pillar	51 43 070
Head unit high	65 12 315
Tailgate button (no longer required)	51 24 147

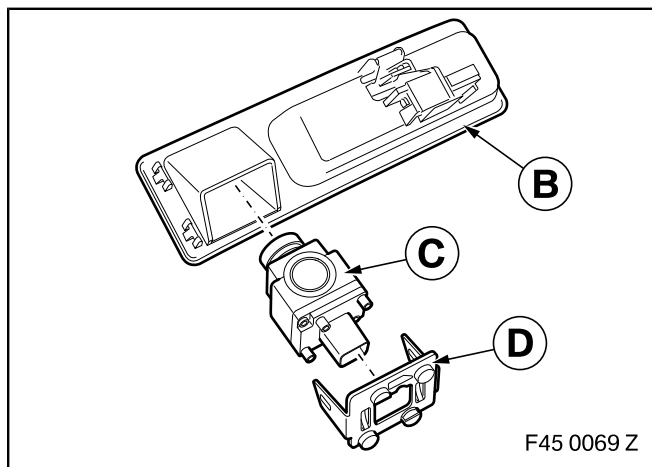
### 3. Retrofit wiring harness connection diagram



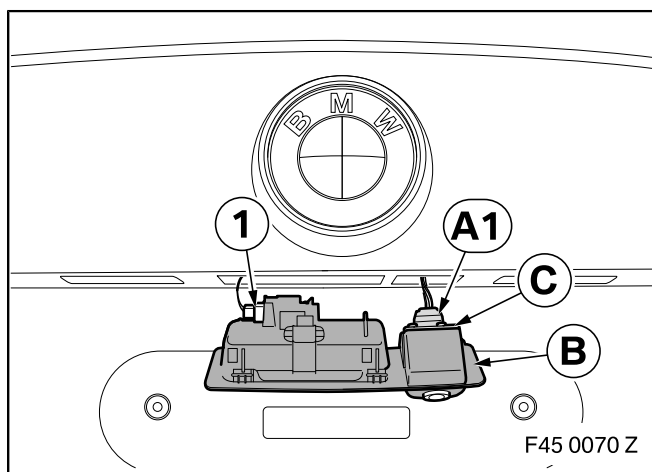
F45 0068 Z

Item	Designation	Signal	Cable colour/ Cross-section	Connection location in the car	Abbreviation/ Slot
A	Retrofit wiring harness (rear view camera)	---	---	---	---
A1	BL 8-pin socket casing	---	---	To rear view camera <b>C</b>	---
A2	Double flat spring contact	31L	BR 0.35 mm <sup>2</sup>	To ground support point, right-hand rear luggage compartment	Z10*7B
A3	Socket contact	15N	GN 0.35 mm <sup>2</sup>	To the cable from PDC control unit <b>B41</b>	B41*1B PIN 9
A4	Socket contact	K_CAN3_H	GN 0.17 mm <sup>2</sup>	To bus interface <b>R3/G</b>	R3*1B PIN 22
A5	Socket contact	K_CAN3_L	WS 0.17 mm <sup>2</sup>	To bus interface <b>R3/G</b>	R3*1B PIN 9
A6	Socket contact	---	---	Insulate and tie back	---
A7	Socket contact	FBAS +	GN 0.17 mm <sup>2</sup>	To head unit <b>A42</b>	A42*1B PIN 21
A8	Socket contact	FBAS -	WS 0.17 mm <sup>2</sup>	To head unit <b>A42</b>	A42*1B PIN 24
A9	Socket contact	Shield	Shield 0.17 mm <sup>2</sup>	To head unit <b>A42</b>	A42*1B PIN 23
F	Retrofit wiring harness (bus interface)	---	---	---	---
F1	SW 26-pin socket casing	---	---	To bus interface <b>G</b>	---
F2	M6 ring eyelet	31L	BR 0.35 mm <sup>2</sup>	To ground support point, right-hand rear luggage compartment	Z10*7B
F3	Socket contact	K_CAN3_H	OR 0.17 mm <sup>2</sup>	To BDC <b>A258</b>	A258*8B PIN 44
F4	Socket contact	K_CAN3_L	BRGE 0.17 mm <sup>2</sup>	To BDC <b>A258</b>	A258*8B PIN 43

#### 4. Installing the rear view camera and routing and connecting the retrofit wiring harnesses



Install rear view camera **C** with cover **D** according to ISTA 66 53 020 into tailgate button **B**.

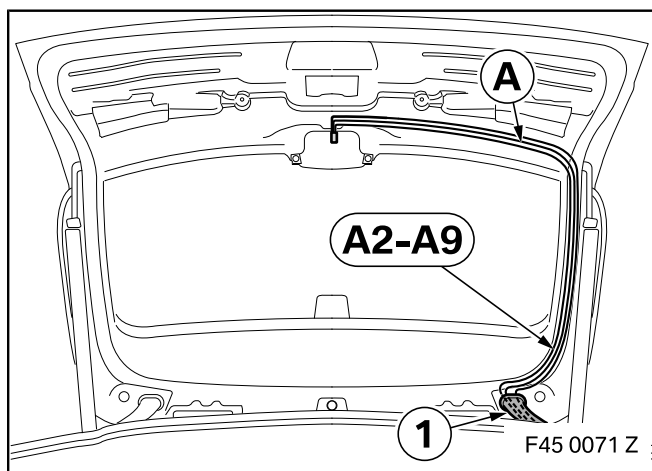


Ensure that all cables and plug connections are routed so that they do not rattle. ◀

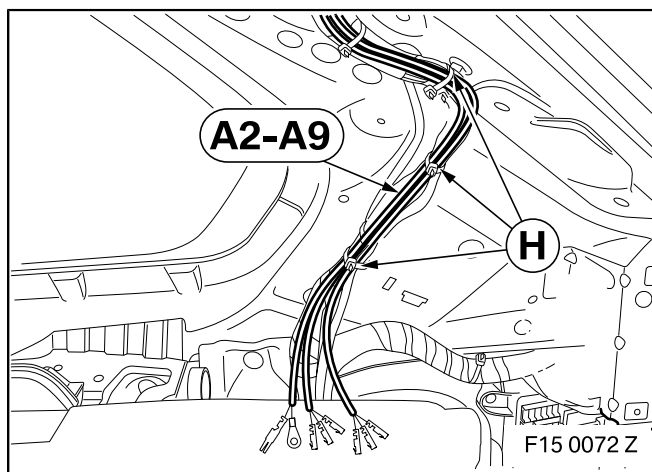
Connect branch **A1**, BL 8-pin socket housing, to rear view camera **C**.

Connect branch (1), SW 2-pin socket housing to tailgate button **B**.

Install tailgate button **B** in the tailgate.

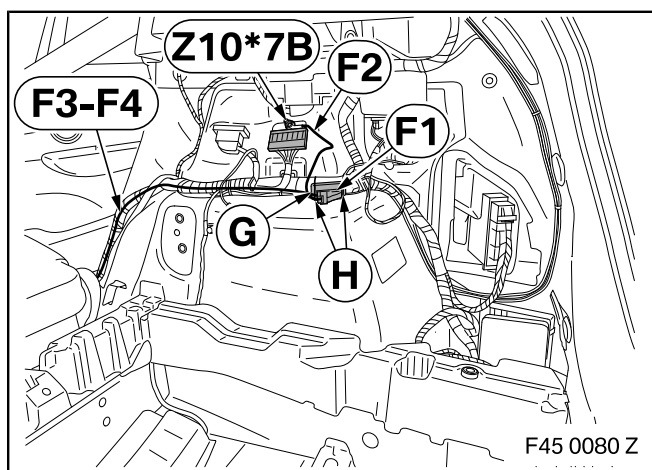


Route branches **A2-A9** of retrofit wiring harness **A** through the rubber grommet (1) into the interior of the car.



Route branches **A2-A9** along the D pillar to right-hand luggage compartment and secure using cable ties **H** to the standard wiring harness.

#### 4. Installing the rear view camera and routing and connecting the retrofit wiring harnesses



##### For cars without bus interface R3 already installed only

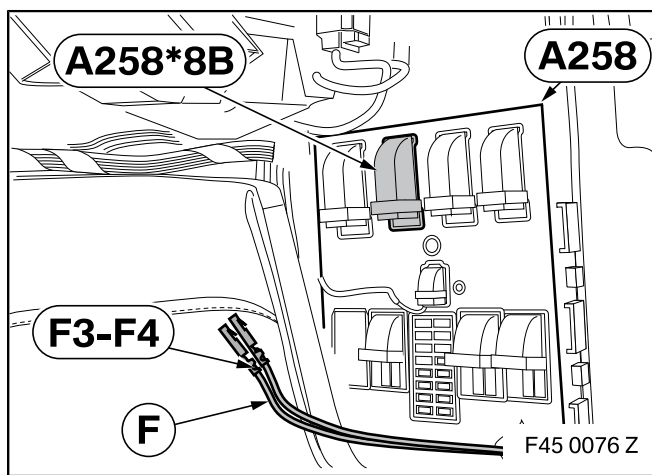
Secure bus interface **G** as shown with cable ties **H** to the standard wiring harness.

Connect retrofit wiring harness **F** as follows:

- Connect branch **F1**, SW 26-pin socket housing, to bus interface **G**
- Screw branch **F2**, ring eyelet, onto ground support point **Z10\*7B**
- Route branch **F3-F4** to the installation point of the BDC **A258**

Connect branches **F3-F4** of retrofit wiring harness **F** as follows to plug **A258\*8B**, SW 54-pin socket housing of BDC **A258**:

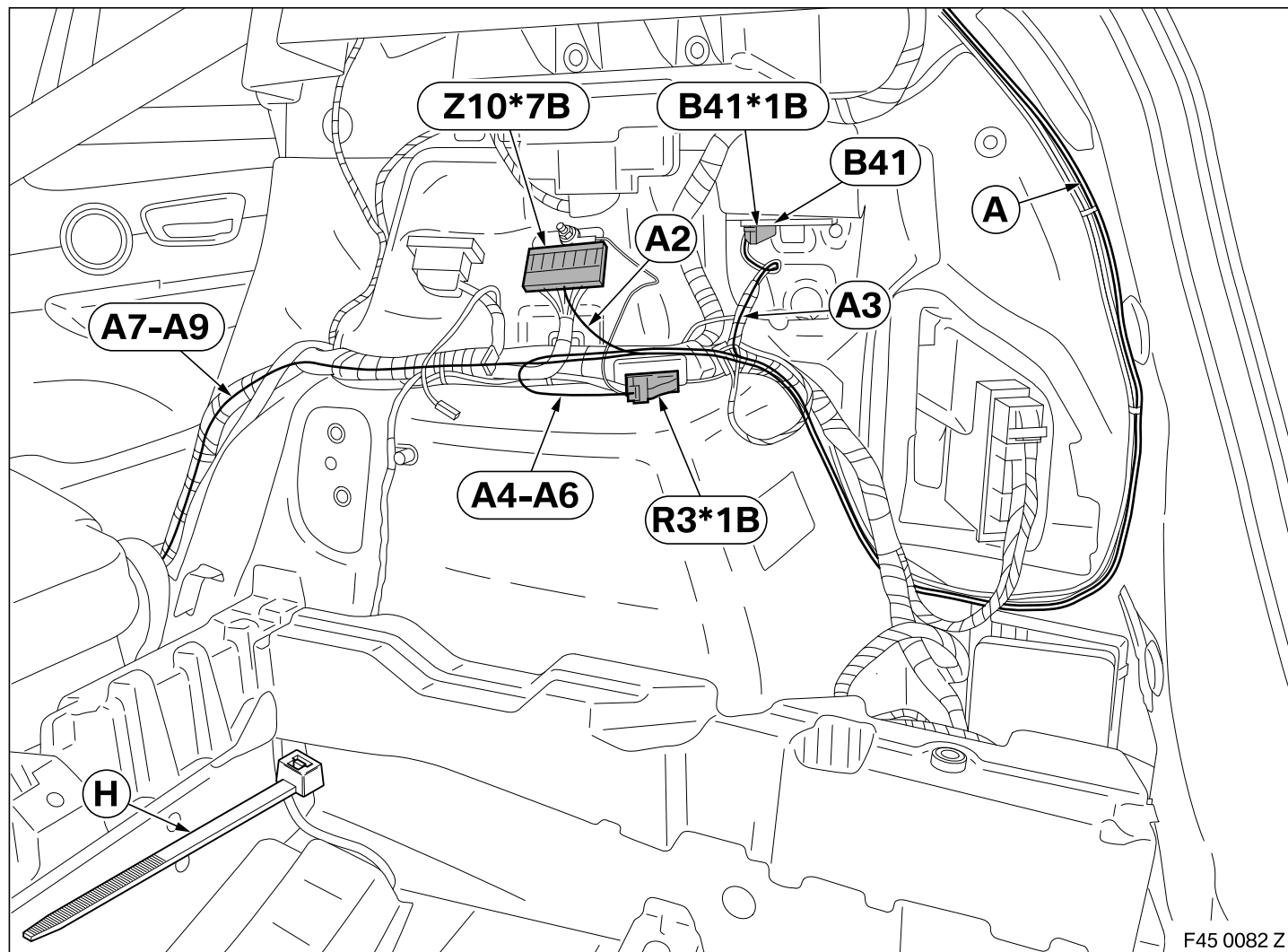
- Branch **F3**, OR cable, to PIN 44
- Branch **F4**, BR/GE cable, to PIN 43





#### 4. Installing the rear view camera and routing and connecting the retrofit wiring harnesses

##### All cars



Connect branch **A2**, BR cable, to the comb connector of ground support point **Z10\*7B**.

Route branch **A3**, GN cable, to plug **B41\*1B**, SW 18-pin socket housing of PDC control unit **B41**.

Connect branches **A4-A5** as follows to plug **R3\*1B**, SW 26-pin socket housing:

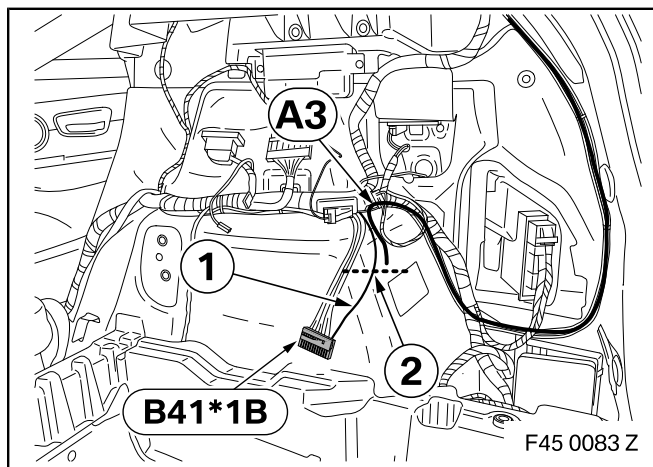
- Branch **A4**, GN cable, to PIN 22
- Branch **A5**, WS cable, to PIN 9

Isolate branch **A6**, SW cable, and tie back (it is no longer required).

Route branches **A7-A9** to the installation site of the head unit.

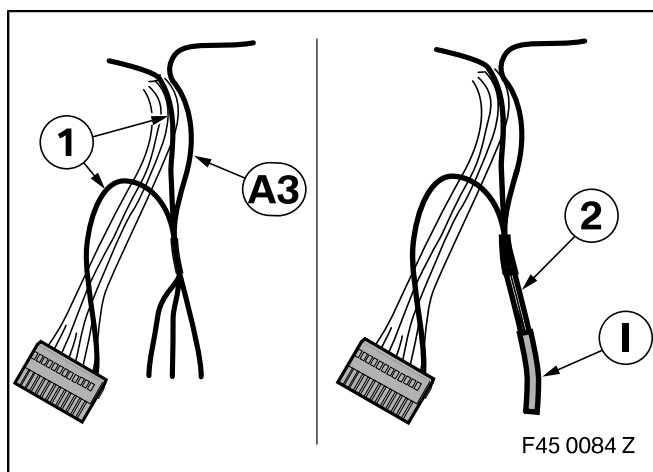
Secure retrofit wiring harness **A** to the standard vehicle wiring harness using cable ties **H**.

#### 4. Installing the rear view camera and routing and connecting the retrofit wiring harnesses



Disconnect cable (1), GN cable, from PIN 9 of plug **B41\*1B** at the separating position (2) shown.

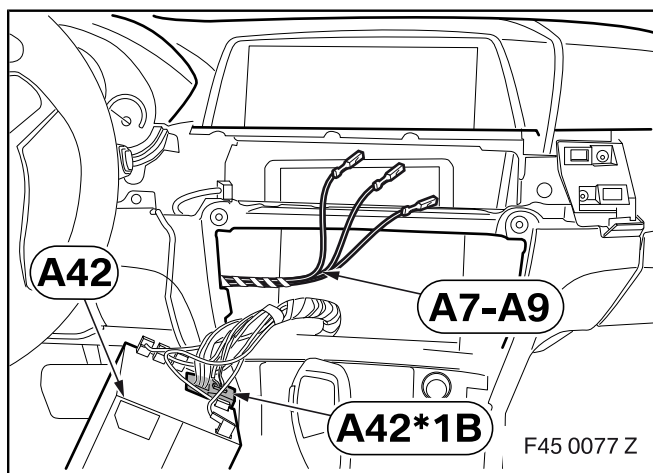
Route branch **A3**, GN cable, to the separating position (2).



▢ If the cables are not long enough, extend the cables with adapter cable **E**. ◀

Insulate cables (1) and branch **A3**.

Solder the ends of the cables (2) together and insulate with cable lug **I**.



Connect branches **A7-A9** as follows to plug **A42\*1B**, SW 40-pin socket housing, on head unit **A42**:

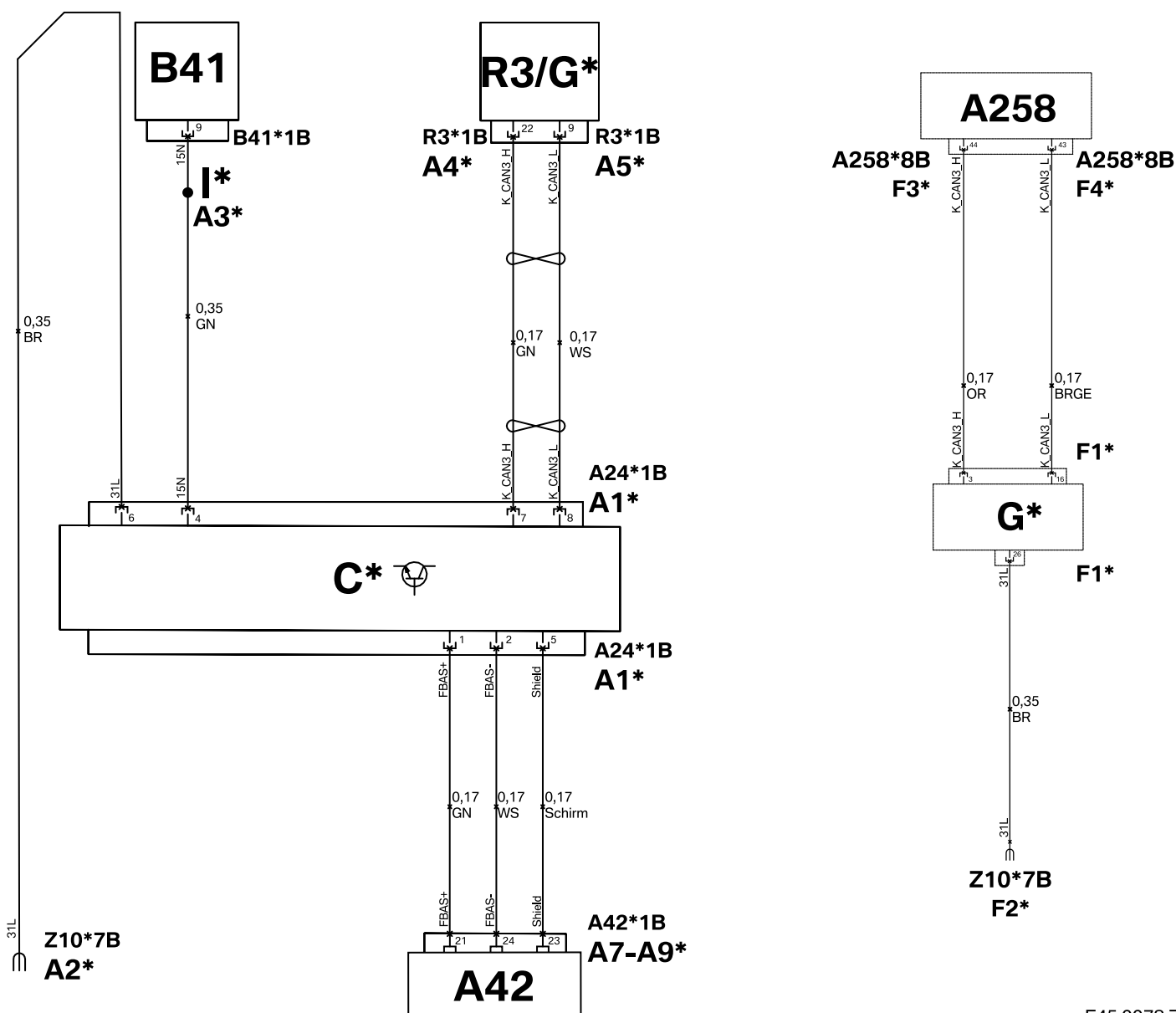
- Branch **A7**, GN cable, to PIN 21
- Branch **A8**, WS cable, to PIN 24
- Branch **A9**, shield, to PIN 23

## 5. Concluding work and coding

The retrofit system requires programming/coding.

- Connect the battery
- Connect the battery charger to the car
- Connect the car to the ISTA workshop system
- Call up the ISTA/P car programming facility
- If using ISTA/P, please note the instructions provided in the ISTA/P application documentation
- Select the "Rear view camera" retrofit via the - **Conversions** - path and work through the created action plan
- If necessary, carry out a car test using the ISTA system and note or work through any entered error memory
- Conduct a function test
- Re-assemble the car in a logical manner

## 6. Wiring diagram



F45 0078 Z

### Legend

- A1\*** Connect the BL 8-pin socket casing to rear view camera **C\***
- A2\*** Connect the double flat spring contact to the comb connector of ground support point **Z10\*7B**
- A3\*** Solder the socket contact with the cable from plug **B41\*1B**
- A4\*** Connect the socket contact to plug **R3\*1B** of bus interface **R3**
- A5\*** Connect the socket contact to plug **R3\*1B** of bus interface **R3**
- A6\*** Socket contact, insulate and tie back
- A7\*** Connect the socket contact to plug **A42\*1B** of head unit **A42**
- A8\*** Connect the socket contact to plug **A42\*1B** of head unit **A42**
- A9\*** Connect the socket contact to plug **A42\*1B** of head unit **A42**
- F1\*** Connect the SW 26-pin socket casing to bus interface **G\***
- F2\*** Screw the M6 ring eyelet onto rear right ground support point **Z10\*7B**
- F3\*** Connect the socket contact to plug **A258\*8B** of BDC **A258**
- F4\*** Connect the socket contact to plug **A258\*8B** of BDC **A258**

## 6. Wiring diagram

**C\*** Rear view camera  
**G\*** Bus interface  
**I\*** Cable lug

**A42** Head unit  
**A258** BDC  
**B41** PDC control unit  
**R3** Bus interface

**A258\*8B** SW 54-pin socket casing to BDC **A258**  
**A24\*1B** BL 8-pin socket casing to rear view camera **C**  
**A42\*1B** SW 40-pin socket casing to head unit **A42**  
**B41\*1B** SW 18-pin socket casing to PDC control unit **B41**  
**R3\*1B** SW 26-pin socket casing to bus interface **R3**  
**Z10\*7B** Ground support point, right-hand rear luggage compartment

All of the designations marked with \* apply only to these installation instructions or this wiring diagram.

### Cable colours

BL	Blue	GR	Grey	RT	Red
BO	Bordeaux (Burgundy)	L-GN	Light green	SW	Black
BR	Brown	NT	Natural	TR	Transparent
GE	Yellow	OR	Orange	VI	Violet
GN	Green	RO	Pink	WS	White