

Original BMW Accessory. Installation Instructions.



Adaptive curve light retrofit

BMW 3 Series Saloon (E90)

BMW 3 Series Touring (E91)

These installation instructions are valid only for cars with SA 521 (rain-light sensor) and with SA 522 (xenon lights).

Retrofit kit No. 63 13 0 404 183
63 13 0 404 197

Installation time

The installation time is approx. 4 hours, but this may vary depending on the condition of the car and the equipment in it.

The car must be flash-upgraded with the latest I stage status before starting the conversion work. The required programming time depends on the production date of the car and the work that has already been carried out on it, which means that we cannot give a specific time for this work.

The time for the programming/encoding is not included in the installation time as it depends on the age 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.

In any event the target group for these installation instructions is specialist personnel trained on BMW cars with the appropriate specialist knowledge.

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

To avoid unnecessary extra work and/or costs, if any installation or function problems occur, after a brief troubleshooting session (approx. 0.5 hours), contact the following:

- 1. Either your national sales company or your regional office or**
- 2. The Support team via the Aftersales Assistance Portal (ASAP) using the optional technical parts support application.**

Quote the VIN and the part number of the retrofit kit and provide a detailed description of the problem.

Do not archive the hard copy of these installation instructions since daily updates are made by ASAP.

See ASAP for details of the pictograms.

Subject to technical modifications!

Installation information

Ensure that the cables/lines are not kinked or damaged as you install them in the car. The costs incurred as a result of this will not be reimbursed by BMW AG.

Additional cables/lines that you install must be secured with cable ties.

If the specified PIN chambers are already used, bridges, double crimps or twin-lead terminals must be used.

All the figures show LHD cars, proceed in exactly the same way on RHD cars.

After the installation work the retrofit must be programmed / coded using SSS (software service station) via the **CIP** path.

Ordering instructions

The following parts are not supplied in the retrofit kit and must be ordered separately (see EPC for part number and details).

- Footwell module **E**
- Light control **F**

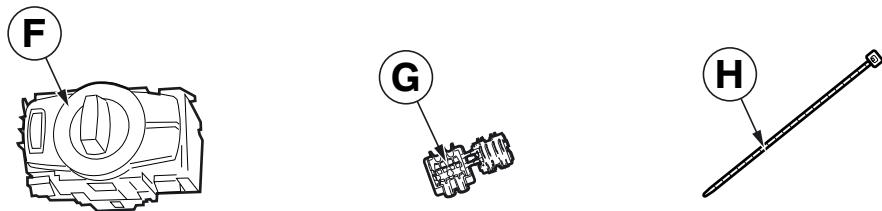
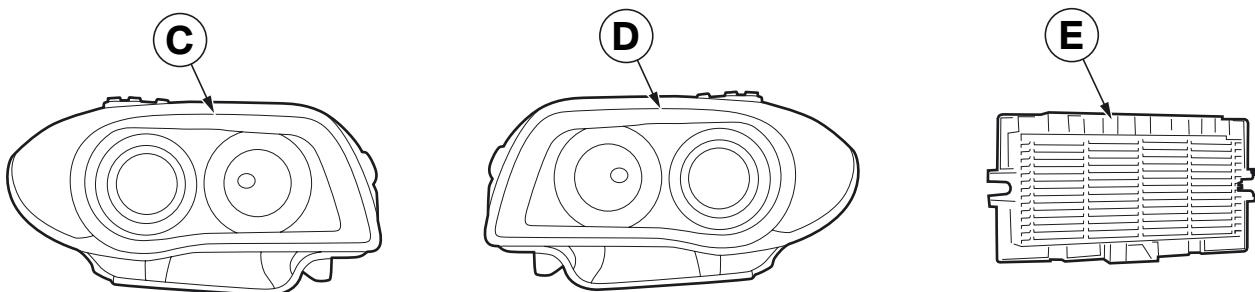
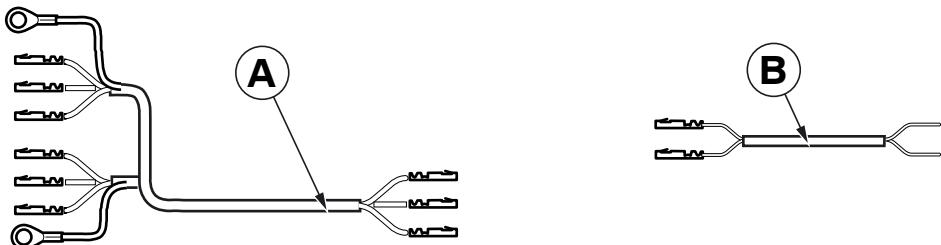
Special tools required

00 9 317, Installation wedges

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1. Parts list



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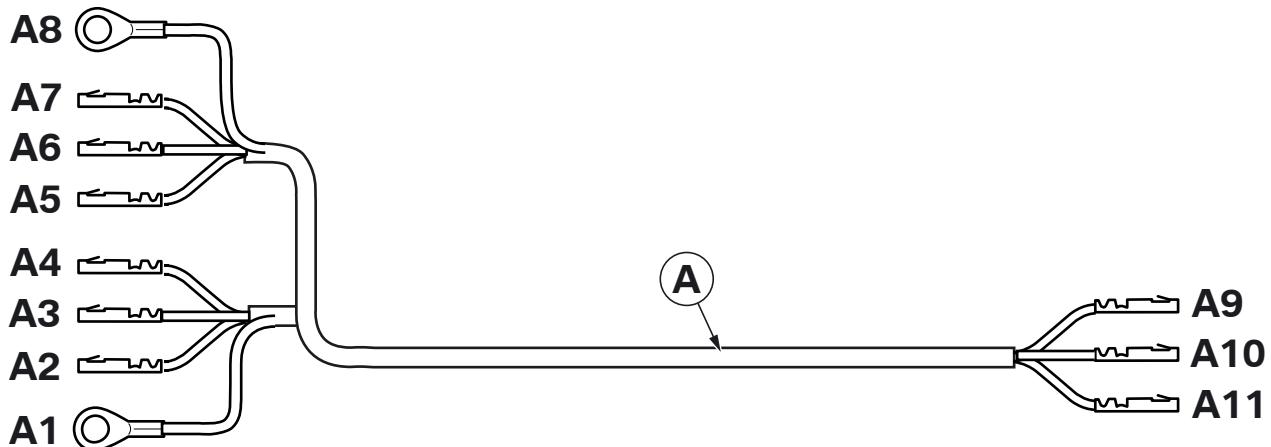
Legend

- A ALC wiring harness
- B Connection cable
- C Right headlight
- D Left headlight
- E Footwell module (not supplied with the retrofit kit)
- F Light control (not supplied with the retrofit kit)
- G Miniature connector (2x)
- H Cable tie 200 x 3.6 mm (12x)

2. Preparations

	TIS No.
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
The following components must be removed first of all	
Front bumper trim	51 11 156
Replace the two headlights with right headlight C and left headlight D	63 12 010
Glove compartment	51 16 360
Pedal trim	51 45 185
Side footwell trims on the left A pillar	51 43 070
Replace the light control with light control F	61 31 037
Replace the footwell module with footwell module E	61 35 115

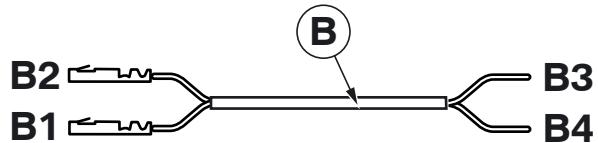
3. ALC wiring harness connection diagram



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Branch/ Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	ALC wiring harness	---	---	---	---
A1	Eyelet	Terminal 31	BR/SW 0,75 mm ²	To the joint connector behind the left headlight	X165
A2	Socket contact	SMC	GN/SW 0,5 mm ²	To left headlight D , 12-pin plug SW	X13420 PIN 9
A3	Socket contact	LIN_LEUC_L	WS/RT 0,35 mm ²	To left headlight D , 12-pin plug SW	X13420 PIN 10
A4	Socket contact	Terminal 31	BR/SW 0,75 mm ²	To left headlight D , 12-pin plug SW	X13420 PIN 11
A5	Socket contact	SMC	GN/SW 0,5 mm ²	To right headlight C , 12-pin plug SW	X13421 PIN 9
A6	Socket contact	LIN_LEUC_R	WS/GE 0,35 mm ²	To right headlight C , 12-pin plug SW	X13421 PIN 10
A7	Socket contact	Terminal 31	BR/SW 0,75 mm ²	To right headlight C , 12-pin plug SW	X13421 PIN 11
A8	Eyelet	Terminal 31	BR/SW 0,75 mm ²	To the joint connector behind the right headlight	X166
A9	Socket contact	LIN_LEUC_R	WS/GE 0,35 mm ²	To footwell module E , SW 51-pin plug	X14260 PIN 24
A10	Socket contact	LIN_LEUC_L	WS/RT 0,35 mm ²	To footwell module E , SW 51-pin plug	X14260 PIN 25
A11	Socket contact	SMC	GN/SW 0,35 mm ²	To footwell module E , SW 51-pin plug	X14260 PIN 42

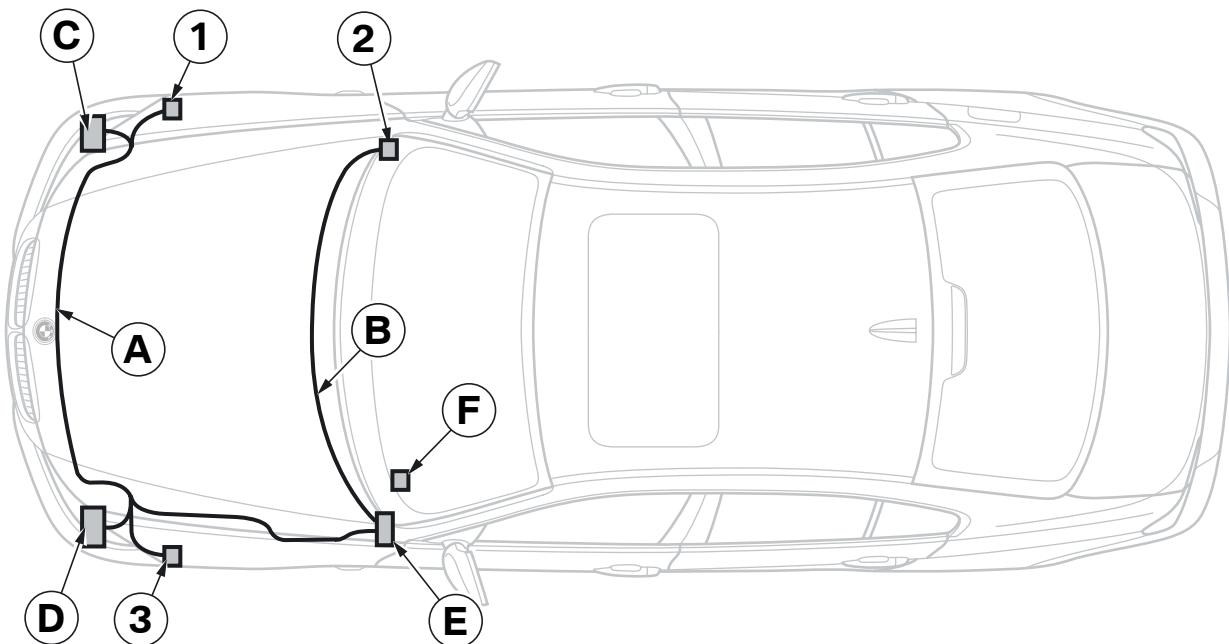
4. Connection cable connection diagram



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Branch/ Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
B	Connection cable	---	---	---	---
B1	Socket contact	PT-CAN_H	BL/RT 0.35 mm ²	To footwell module E , SW 51-pin plug	X14260 PIN 44
B2	Socket contact	PT-CAN_L	RT 0.35 mm ²	To footwell module E , SW 51-pin plug	X14260 PIN 43
B3	Cable open	PT-CAN_H	BL/RT 0.35 mm ²	To the junction box, BL 54-pin plug, using a miniature connector G to the BL/RT cable	X14271 PIN 1
B4	Cable open	PT-CAN_L	RT 0.35 mm ²	To the junction box, BL 54-pin plug, using a miniature connector G to the RT cable	X14271 PIN 2

5. Installation and cabling diagram for E90 (LHD cars only)



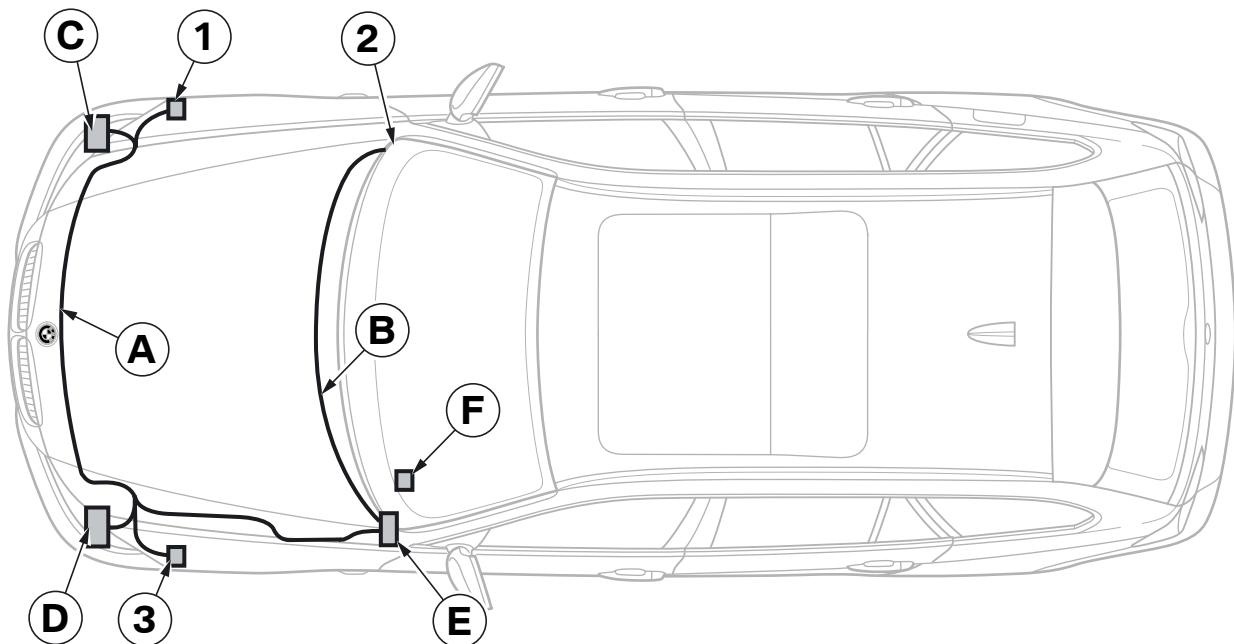
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Legend

- A ALC wiring harness
- B Connection cable
- C Right headlight, plug **X13421**
- D Left headlight, plug **X13420**
- E Footwell module plug **X14260**
- F Light control

- 1 Joint connector **X166**
- 2 Junction box, plug **X14271**
- 3 Joint connector **X165**

6. Installation and cabling diagram for E91 (LHD cars only)



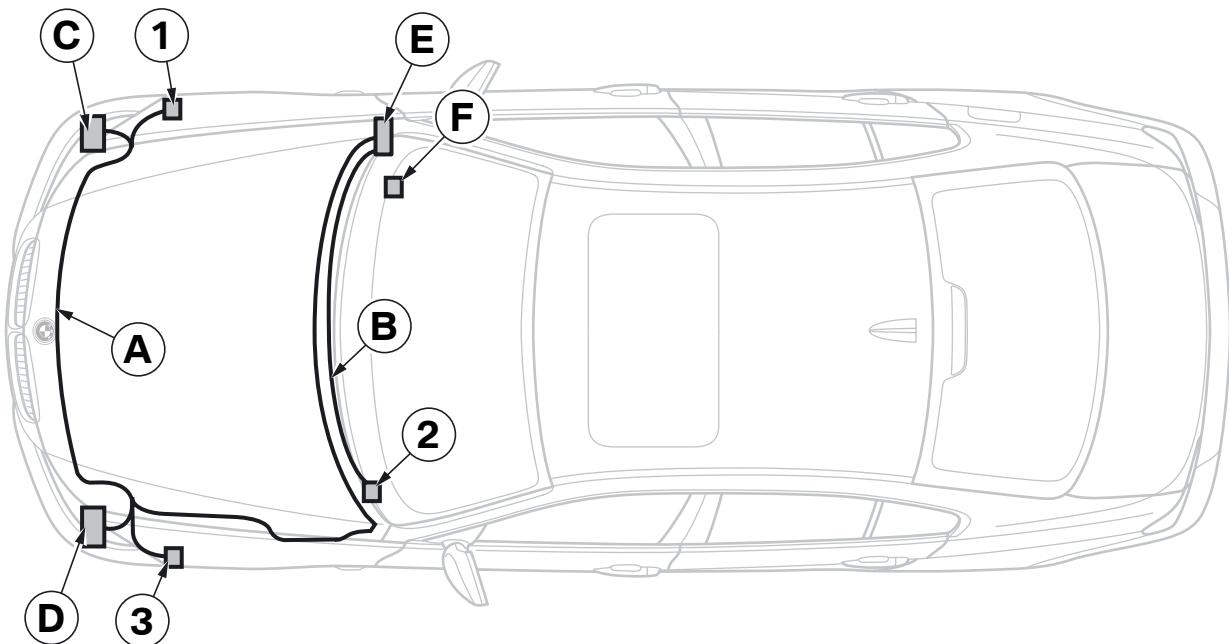
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Legend

- A ALC wiring harness
- B Connection cable
- C Right headlight, plug **X13421**
- D Left headlight, plug **X13420**
- E Footwell module plug **X14260**
- F Light control

- 1 Joint connector **X166**
- 2 Junction box, plug **X14271**
- 3 Joint connector **X165**

7. Installation and cabling diagram for E90 (RHD cars only)



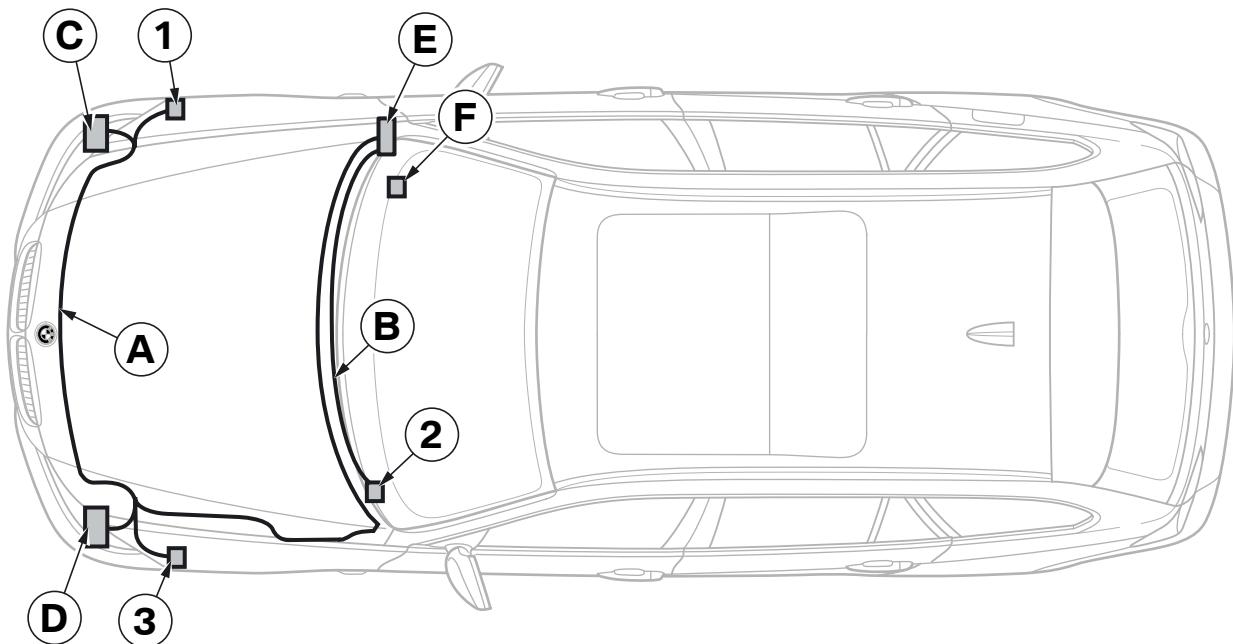
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Legend

- A ALC wiring harness
- B Connection cable
- C Right headlight, plug **X13420**
- D Left headlight, plug **X13420**
- E Footwell module plug **X14260**
- F Light control

- 1 Joint connector **X166**
- 2 Junction box, plug **X14271**
- 3 Joint connector **X165**

8. Installation and cabling diagram for E91 (RHD cars only)



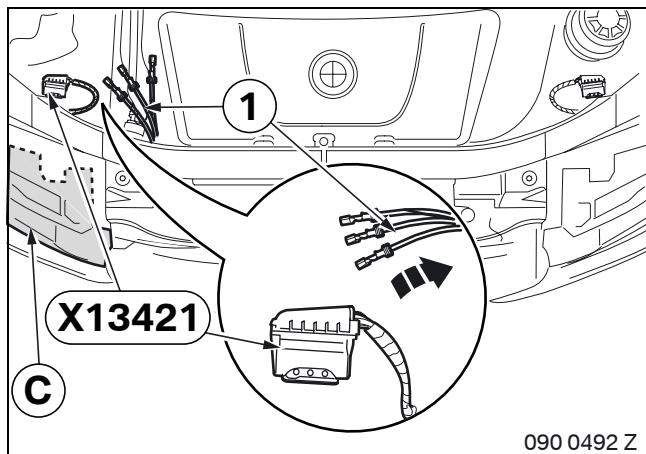
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Legend

- A ALC wiring harness
- B Connection cable
- C Right headlight, plug **X13420**
- D Left headlight, plug **X13420**
- E Footwell module plug **X14260**
- F Light control

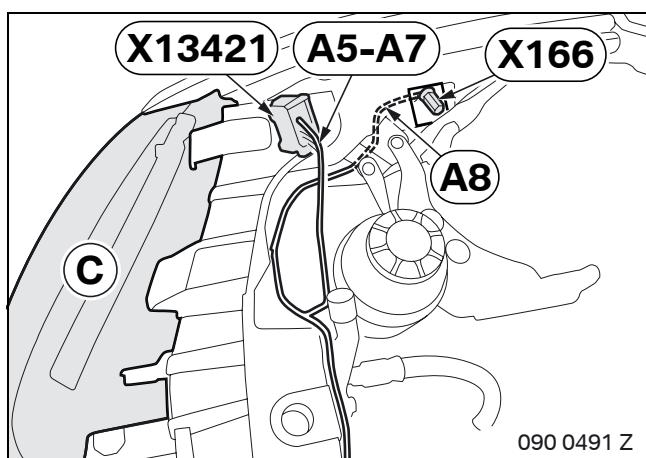
- 1 Joint connector **X166**
- 2 Junction box, plug **X14271**
- 3 Joint connector **X165**

9. To install and connect the wiring harnesses



Disconnect the following cables (1) from plug **X13421** (12-pin SW) on the right headlight **C**, insulate them individually and tie them back:

- GE/BR cable from PIN 9
- BL/SW cable from PIN 10
- BL/BR cable from PIN 11

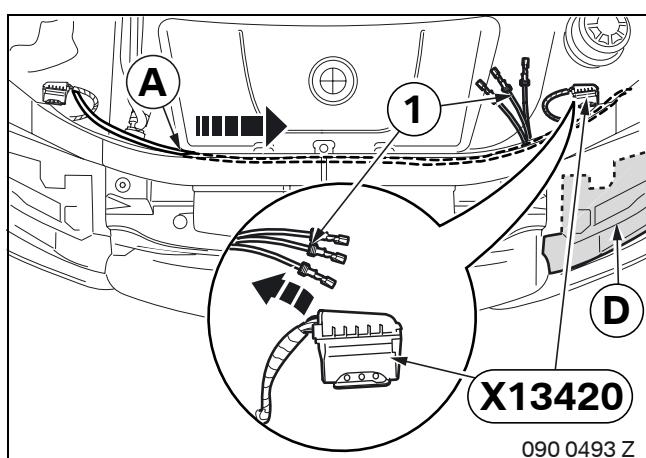


Connect branches **A5 – A7** as follows to plug **X13421** (12-pin SW) from right headlight **C**:

- Branch **A5**, GN/SW cable, to PIN 9
- Branch **A6**, WS/GE cable, to PIN 10
- Branch **A7**, BL/SW cable, to PIN 11

Connect plug **X13421** to the right headlight **C**.

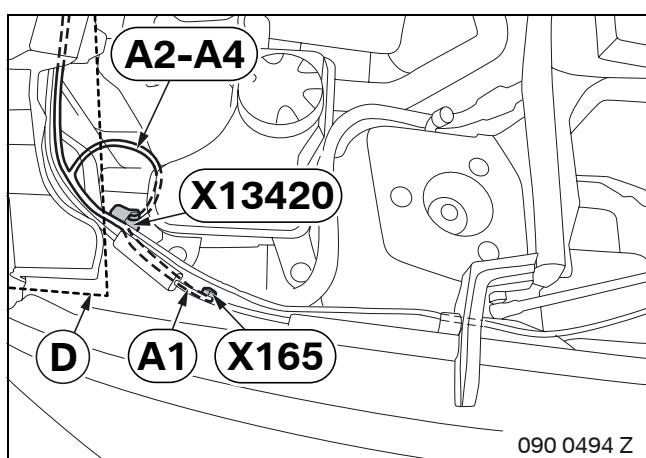
Secure branch **A8**, BR/SW cable, to joint connector **X166**.



Route ALC wiring harness **A** to the left-hand side of the car.

Disconnect the following cables (1) from plug **X13420** (12-pin SW) on the left headlight **D**, insulate them individually and tie them back:

- GE/BR cable from PIN 9
- BL/RT cable from PIN 10
- BL/BR cable from PIN 11



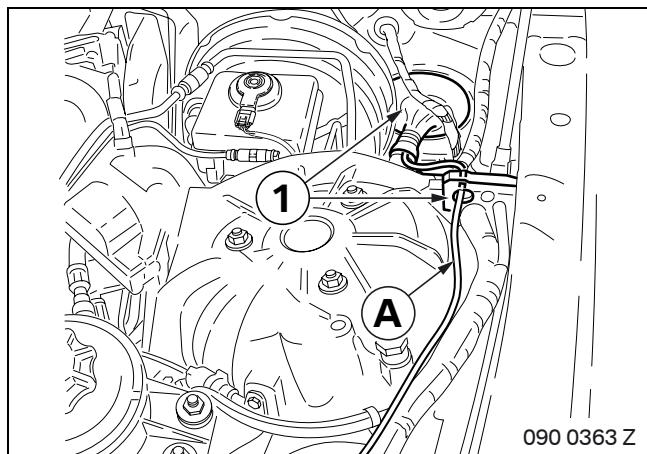
Connect branches **A2 – A4** as follows to plug **X13420** (12-pin SW):

- Branch **A2**, GN/SW cable, to PIN 9
- Branch **A3**, WS/RT cable, to PIN 10
- Branch **A4**, BL/SW cable, to PIN 11

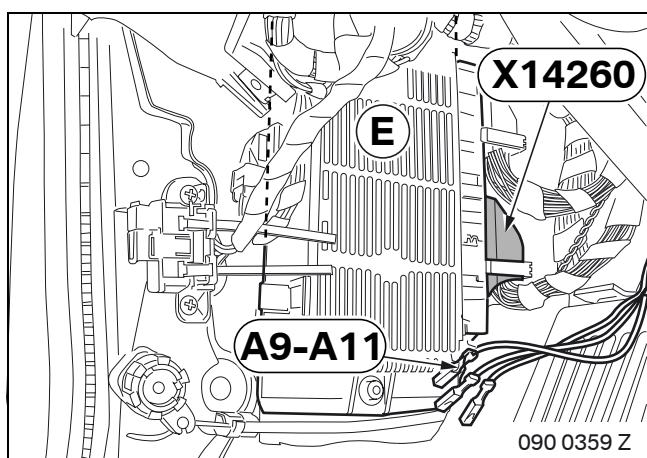
Connect plug **X13420** to the left headlight **D**.

Secure branch **A1**, BR/SW cable, to joint connector **X165**.

9. To install and connect the wiring harnesses

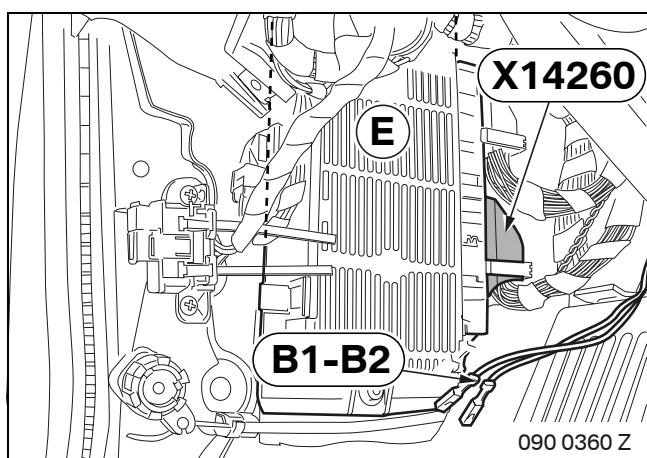


Route ALC wiring harness **A** through the grommets 1) into the interior.



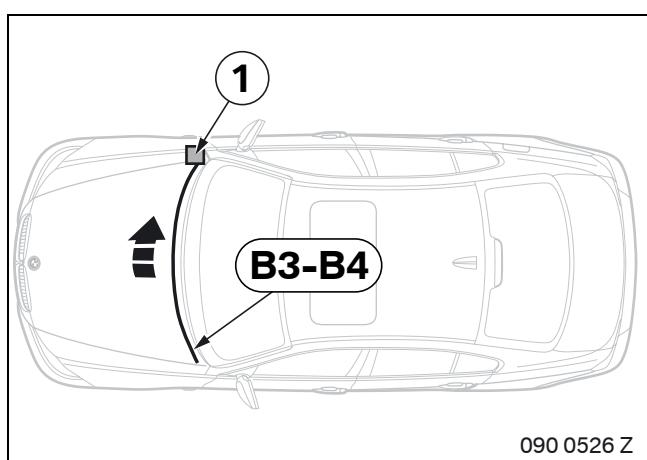
Connect branches **A9 - A11** as follows to plug **X14260** (51-pin SW) in the footwell module **E**:

- Branch **A9**, WS/GE cable, to PIN 24
- Branch **A10**, WS/RT cable, to PIN 25
- Branch **A11**, GN/SW cable, to PIN 42



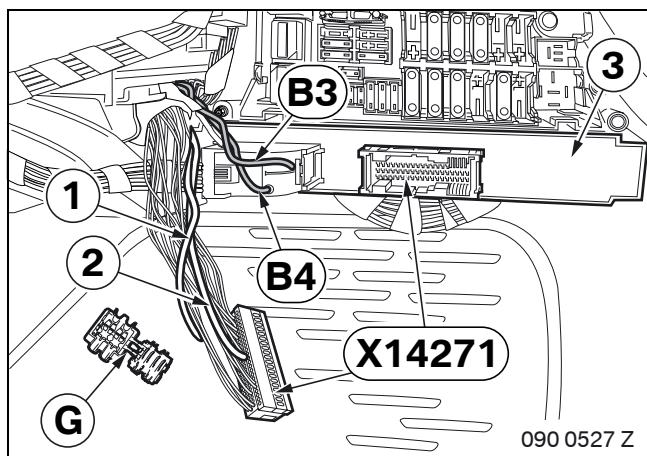
Connect branches **B1 - B2** as follows to plug **X14260** (51-pin SW) in the footwell module **E**:

- Branch **B1**, BL/RT cable, to PIN 44
- Branch **B2**, RT cable, to PIN 43



Route branches **B3 - B4** to the footwell on the passenger side (1).

9. To install and connect the wiring harnesses



Connect branches **B3 - B4** as follows to plug **X14271** (54-pin BL) on the junction box (2) using miniature connectors **G**:

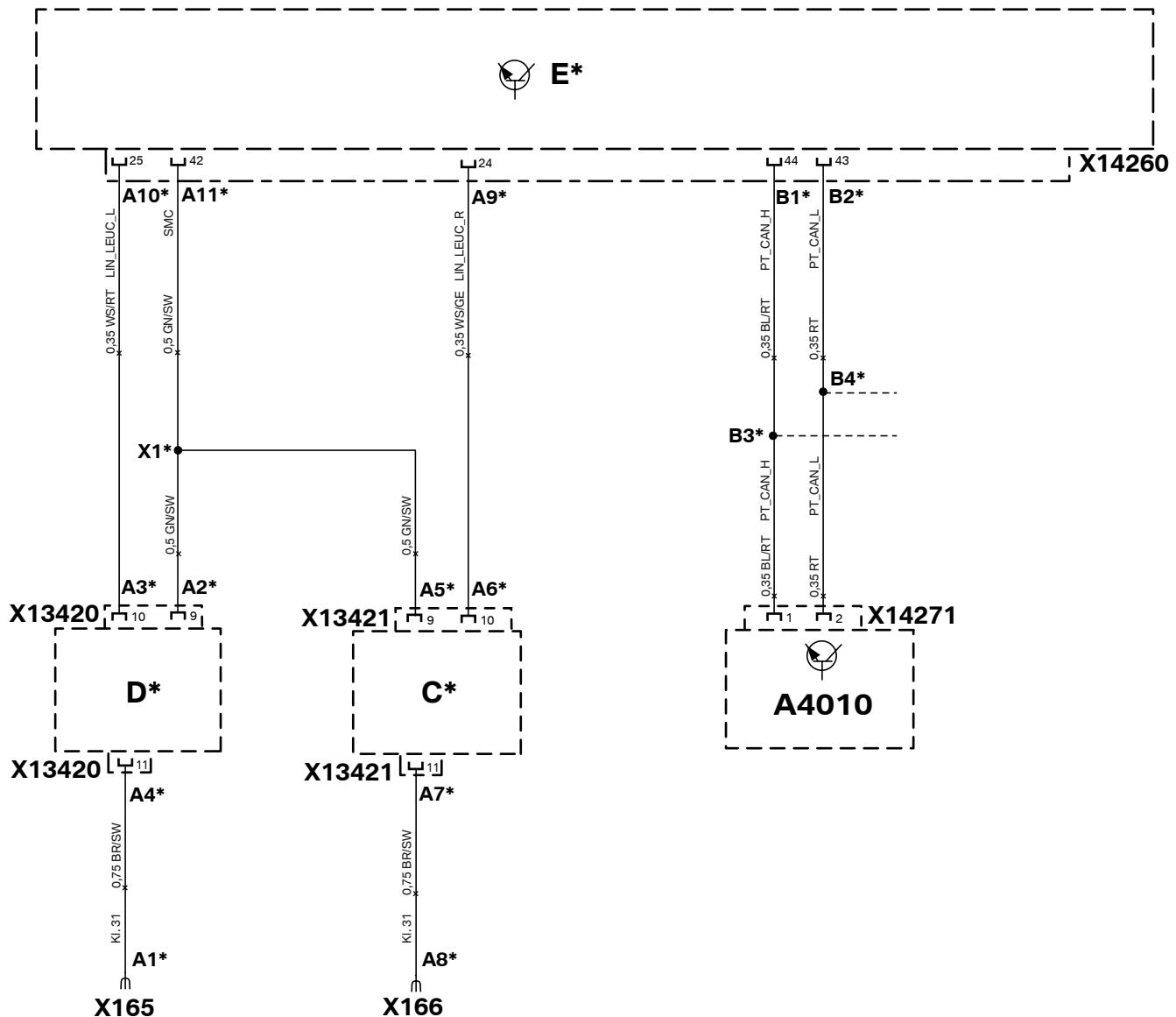
- Branch **B3**, BL/RT cable, to the same-coloured cable (1) on PIN 1
- Branch **B4**, RT cable, to the same-coloured cable (2) on PIN 2

10. Concluding work and coding

This retrofit system requires coding.

- Connect the battery
- Encode the retrofit with SSS (software service station) via the **CIP** path
- Conduct a brief test
- Conduct a function test
- Re-assemble the car
- Test the default headlight setting and adjust if necessary

11. Circuit diagram



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11. Circuit diagram

Legend

A4010 Junction box

C* Right headlight (**E127**)

D* Left headlight (**E126**)

E* Footwell module (**A4011**)

X1* SMC connector

X165 Terminal 31 joint connector

X166 Terminal 31 joint connector

X13420 12-pin plug SW

X13421 12-pin plug SW

X14260 51-pin plug SW

X14271 54-pin BL plug

All the designations marked with an asterisk (*) apply only to these installation instructions or this circuit diagram.

Cable colours

BL Blue

BR Brown

GE Yellow

GN Green

GR Grey

RT Red

SW Black

WS White