

# Original BMW Accessory. Installation Instructions.



## Xenon light retrofit with automatic headlight adjustment control BMW 3 Series Saloon (E90) BMW 3 Series Touring (E91)

**Retrofit kit No.**           63 13 0 395 396  
                                  63 13 0 404 195

### Installation time

The installation time is approx. 5.0 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

This retrofit kit may only be used in conjunction with a headlight cleaning system (SA 502).

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.

Pictograms



Denotes instructions that draw your attention to special features.

◀ denotes the end of the instruction or other text.

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**

### **List of special equipment**

The following special equipment must be taken into consideration when installing the retrofit kit:

**SA 502** Headlight cleaning system

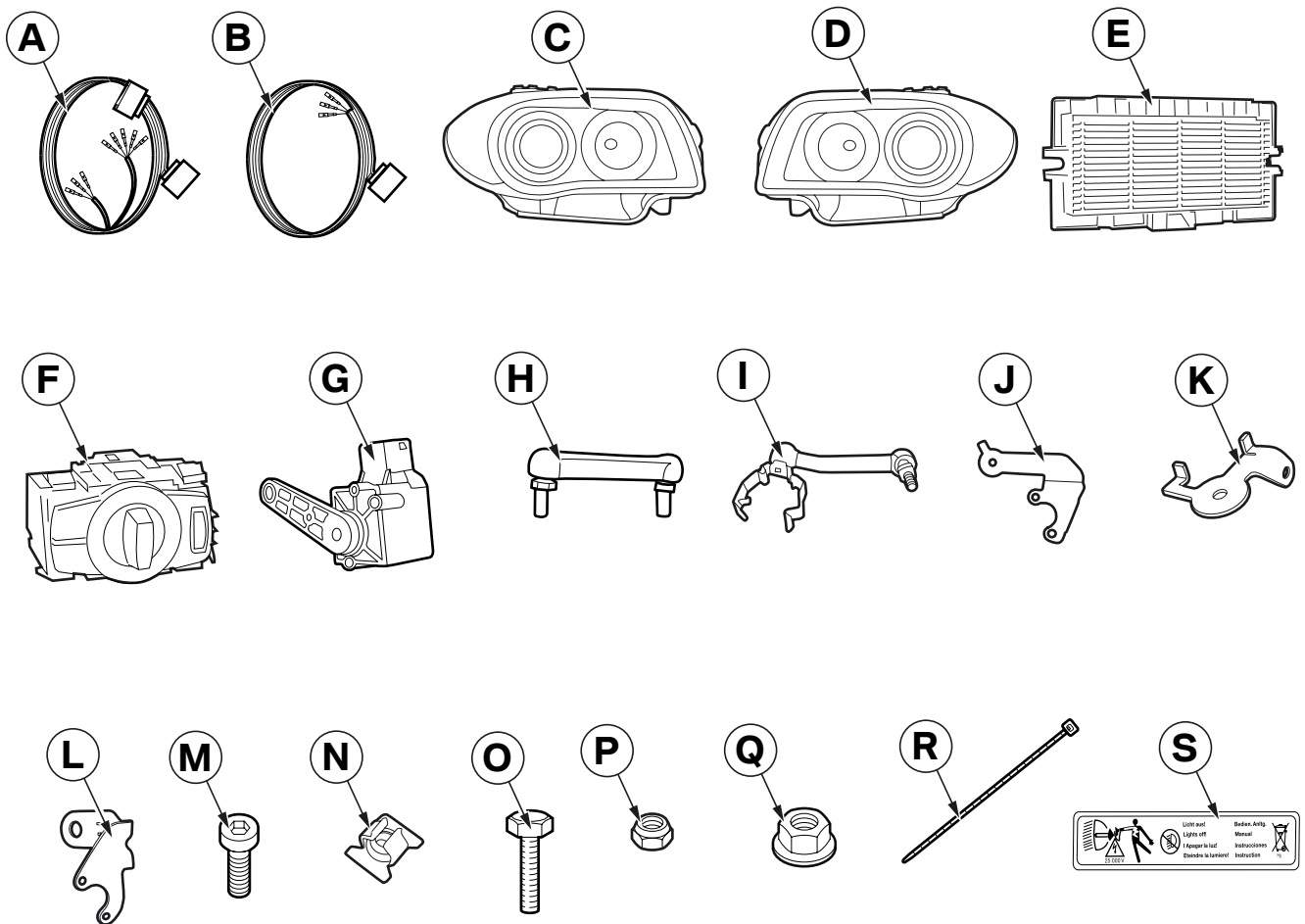
### **Special tools required**

00 9 317, Installation wedges

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## 1. Parts list

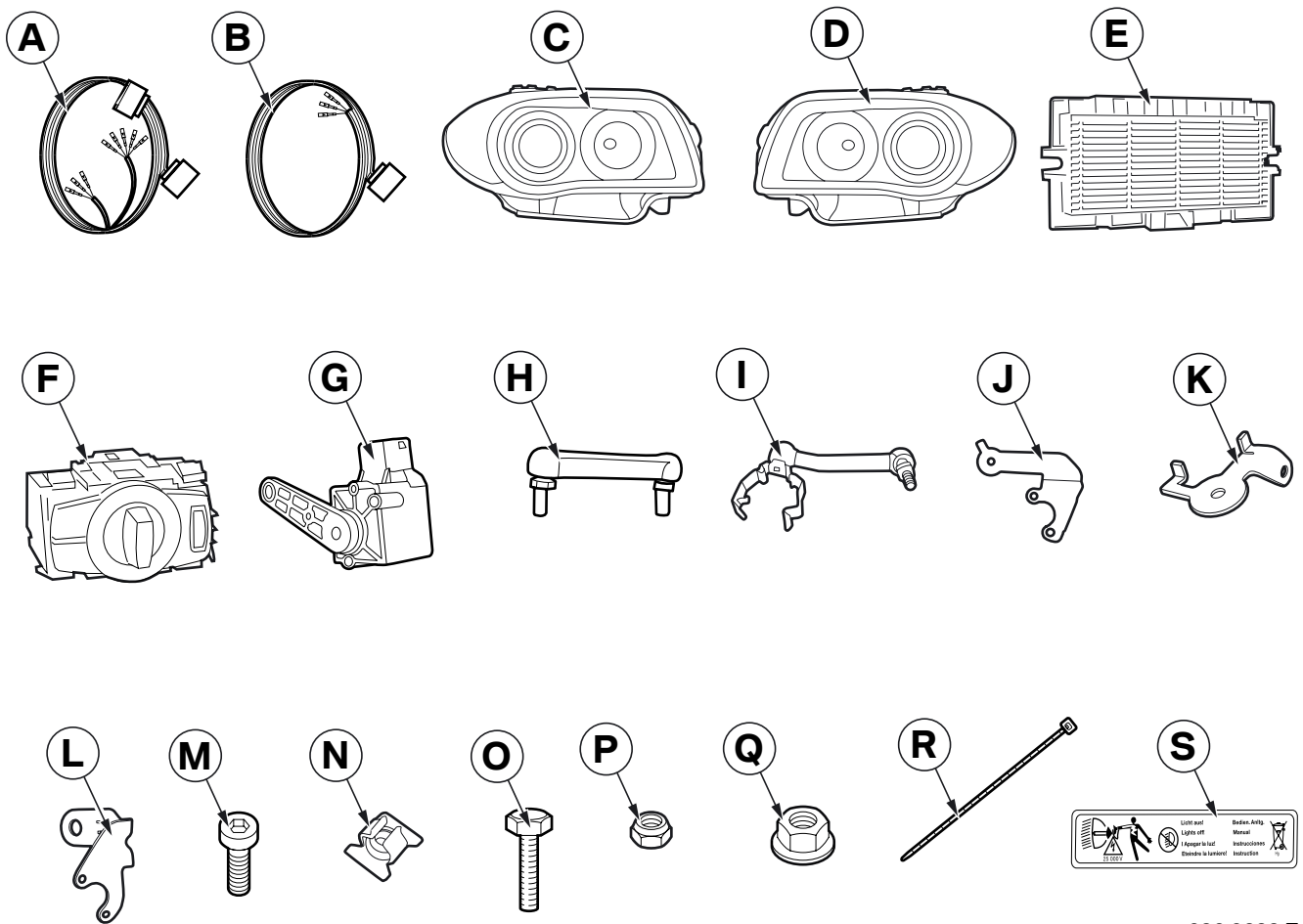


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### Legend

- A Wiring harness
- B Rear level sensor wiring harness
- 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 Level sensor (2x)
- H Rear control rod
- I Front control rod

## 1. Parts list



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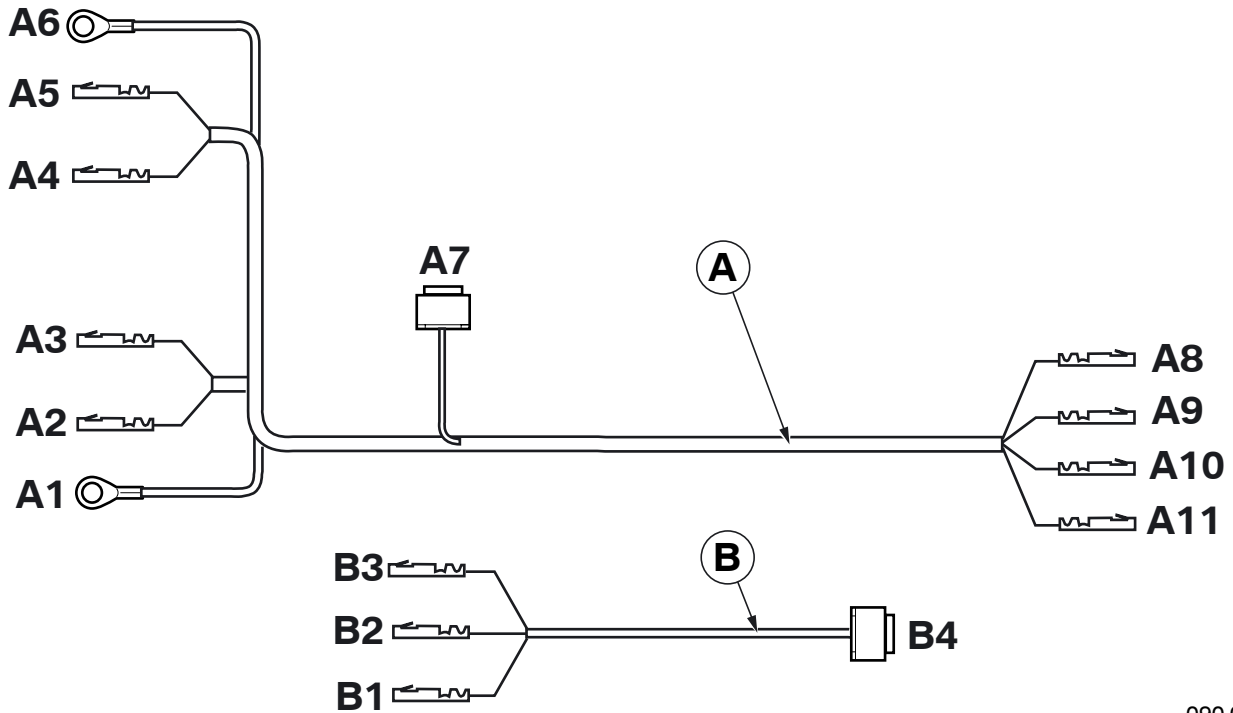
### Legend

- J Rear holder
- K Control rod holder
- L Front holder
- M Allen screw M5 x 10 (4x)
- N Expanding nut M6 (2x)
- O Hexagonal screw M6 x 16 mm (2x)
- P Hexagonal nut M6 (3x)
- Q Collar nut M12 x 1.5
- R Cable tie 200 x 3.6 mm (20x)
- S Warning sticker (2x)

## 2. Preparations

	TIS No.
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
<b>The following components must be removed first of all</b>	
Front bumper trim	51 11 156
Both headlights (no longer required)	63 12 001
Pedal trim	51 45 185
Side footwell trims on the left A pillar	51 43 070
Light control (no longer required)	61 31 037
Footwell module (no longer required)	61 35 115
Inside door sill strip, front left	51 47 000
Inside door sill strip, rear left	51 47 030
Rear seat bench	51 16 366
Backrest side section on left rear seat	52 26 008
Power unit bottom guard, front	51 47 490
Front left and rear left wheels	36 10 300
Rear left wheel arch cover	51 71 041

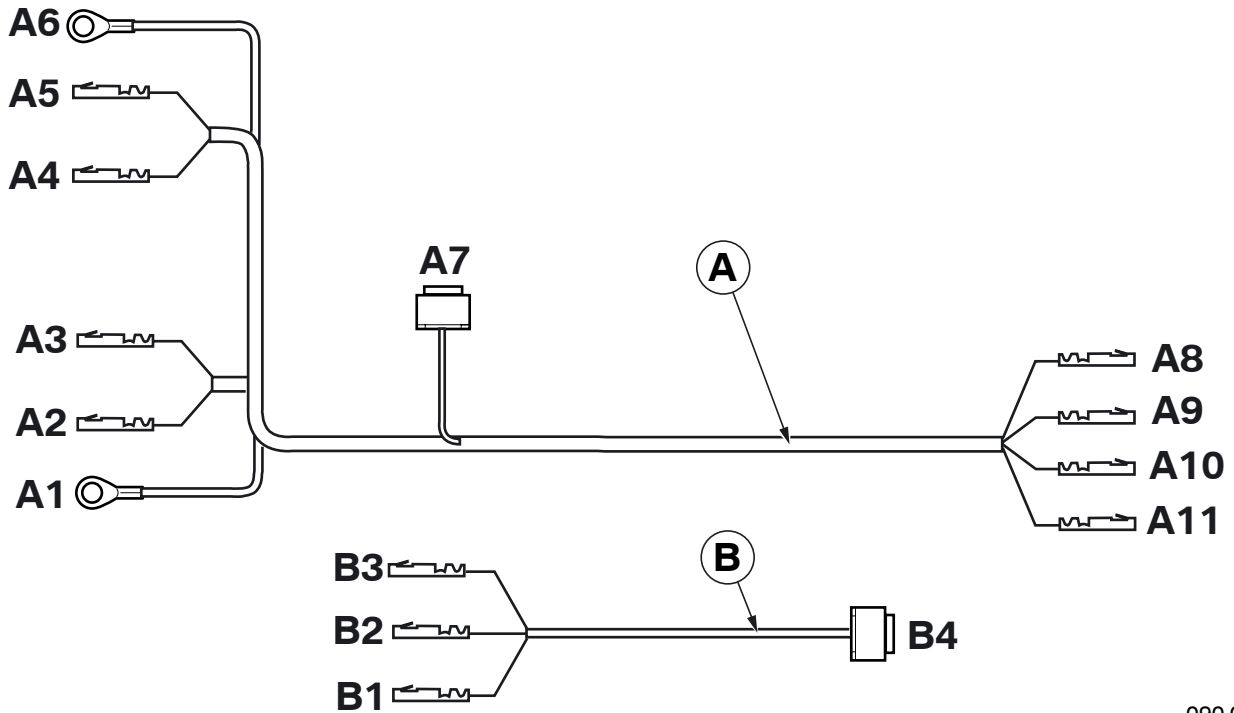
### 3. Connection diagram



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Branch/Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Wiring harness	---	---	---	---
A1	Eyelet	Terminal 31	BR 2.5 mm <sup>2</sup>	To joint connector behind the left headlight	X165
A2	Socket contact	Terminal 31	BR 2.5 mm <sup>2</sup>	To left headlight <b>D</b> , 12-pin plug SW	X13420 PIN 2
A3	Socket contact	Bi-xenon	BR/GE 0.35 mm <sup>2</sup>	To left headlight <b>D</b> , 12-pin plug SW	X13420 PIN 5
A4	Socket contact	Bi-xenon	BR/GE 0.35 mm <sup>2</sup>	To right headlight <b>C</b> , 12-pin plug SW	X13421 PIN 5
A5	Socket contact	Terminal 31	BR 2.5 mm <sup>2</sup>	To right headlight <b>C</b> , 12-pin plug SW	X13421 PIN 2
A6	Eyelet	Terminal 31	BR 2.5 mm <sup>2</sup>	To joint connector behind the right headlight	X166
A7	6-pin BR socket casing	---	---	To front level sensor <b>G</b>	X18032
A8	Socket contact	Bi-xenon	BR/GE 0.35 mm <sup>2</sup>	To footwell module <b>E</b> , 51-pin plug SW	X14260 PIN 41
A9	Socket contact	HSVL	GR/GN 0.35 mm <sup>2</sup>	To footwell module <b>E</b> , 51-pin plug SW	X14260 PIN 49
A10	Socket contact	HSVL-	GR/WS 0.35 mm <sup>2</sup>	To footwell module <b>E</b> , 51-pin plug SW	X14260 PIN 26
A11	Socket contact	HSVL+	GR/BR 0.35 mm <sup>2</sup>	To footwell module <b>E</b> , 51-pin plug SW	X14260 PIN 31

### 3. Connection diagram

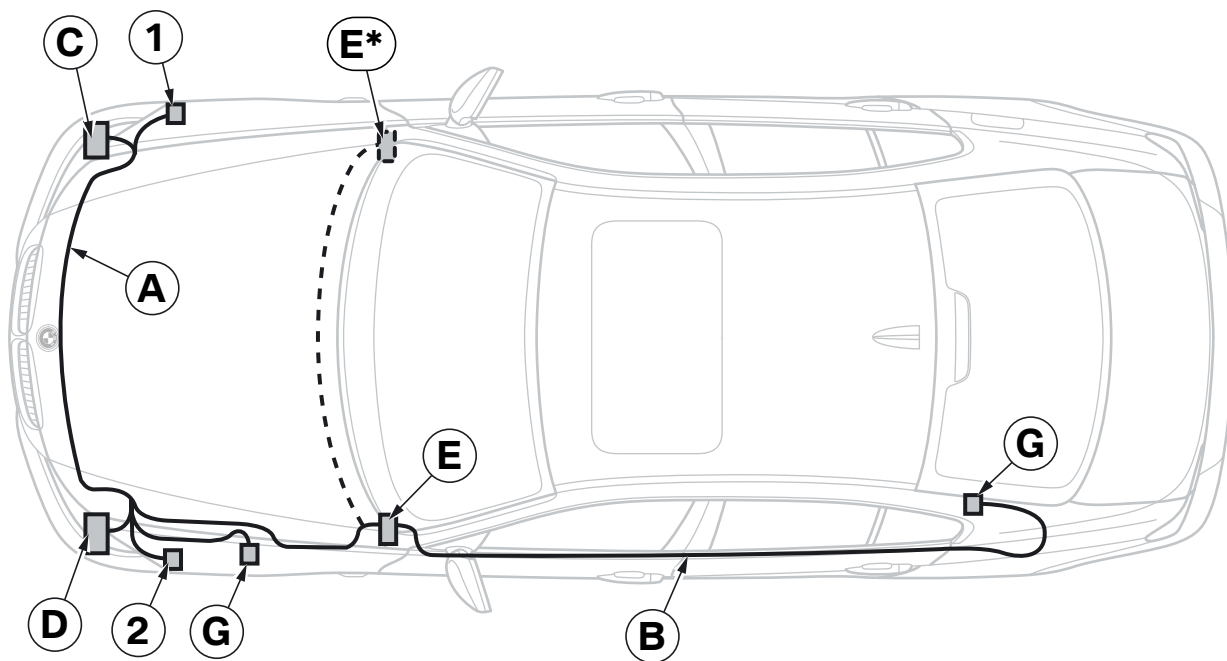


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Branch/Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
B	Rear level sensor wiring harness	---	---	---	---
B1	Socket contact	HSHR	SW/GN 0.35 mm <sup>2</sup>	To footwell module <b>E</b> , 51-pin plug SW	X14260 PIN 48
B2	Socket contact	HSHR-	SW/WS 0.35 mm <sup>2</sup>	To footwell module <b>E</b> , 51-pin plug SW	X14260 PIN 27
B3	Socket contact	HSHR+	SW/GR 0.35 mm <sup>2</sup>	To footwell module <b>E</b> , 51-pin plug SW	X14260 PIN 29
B4	6-pin BR socket casing	---	---	To rear level sensor <b>G</b>	X1450



#### 4. Installation and cabling diagram for E90

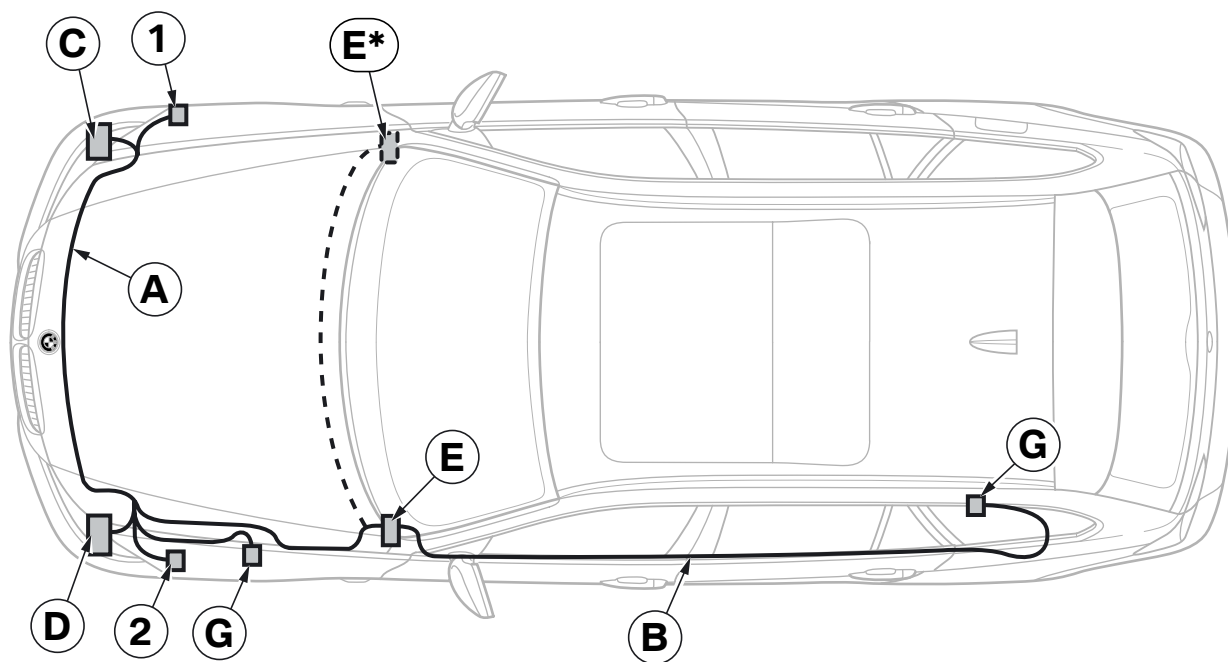


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#### Legend

- A Wiring harness
  - B Rear level sensor wiring harness
  - C Right headlight, plug **X13421**
  - D Left headlight, plug **X13420**
  - E **LHD cars only**  
Footwell module plug **X14260**
  - E\* **RHD cars only**  
Footwell module plug **X14260**
  - G Level sensors
- 
- 1 Joint connector **X166**
  - 2 Joint connector **X165**

## 5. Installation and cabling diagram for E91

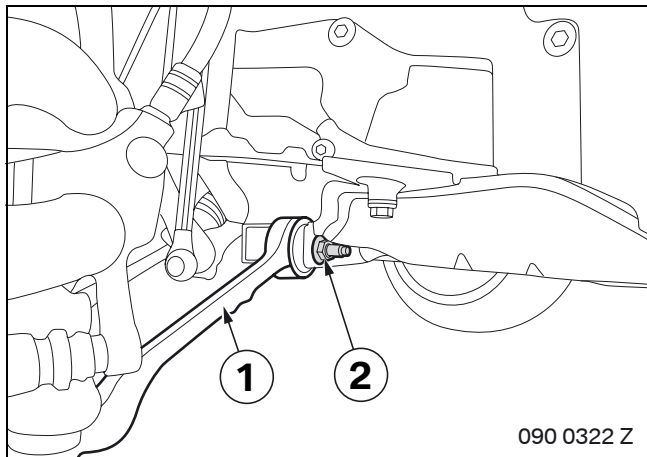


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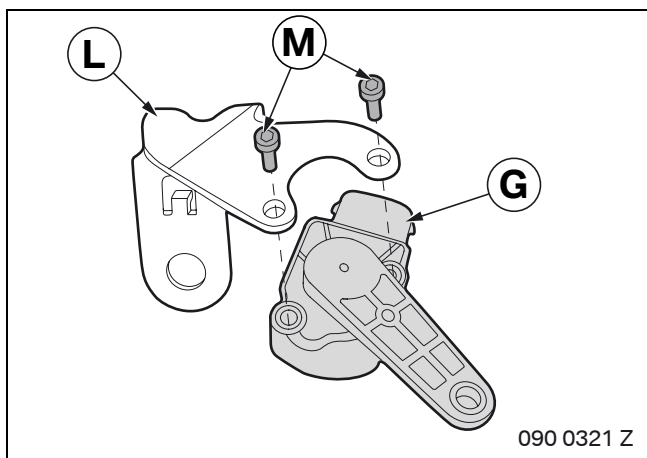
### Legend

- A Wiring harness
  - B Rear level sensor wiring harness
  - C Right headlight, plug **X13421**
  - D Left headlight, plug **X13420**
  - E **LHD cars only**  
Footwell module plug **X14260**
  - E\* **RHD cars only**  
Footwell module plug **X14260**
  - G Level sensors
- 
- 1 Joint connector **X166**
  - 2 Joint connector **X165**

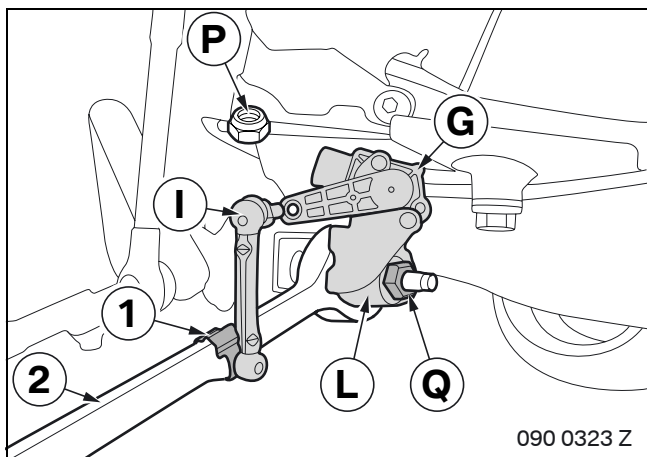
## 6. To install the front level sensor



Unscrew the collar nut (2) from the left control arm (1).



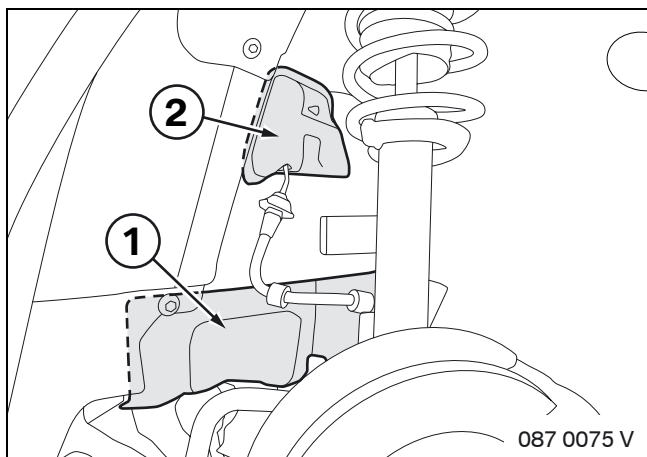
Secure the level sensor **G** to the front holder **L** using Allen screws **M**. Tightening torque 5 Nm.



Secure the front holder **L** with collar nut **Q**.  
Tightening torque 68 Nm  
(see TIS RA 31 12 000).

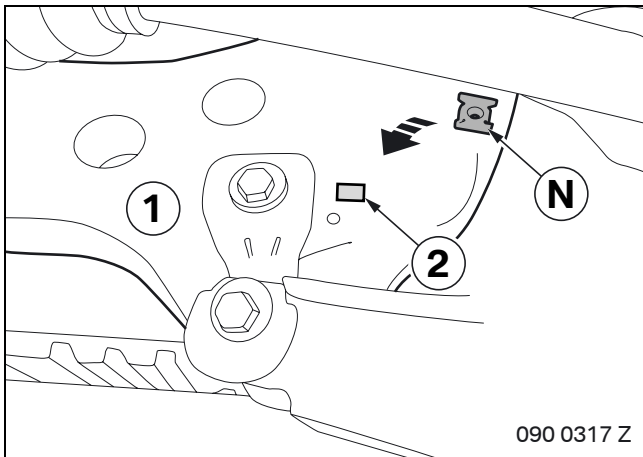
Place the clamp (1) for the front control rod **I** around the recess for the control arm (2) and lock it.

Secure the front control rod **I** to the level sensor **G** using a hexagonal nut **P**. Tightening torque 8 Nm.

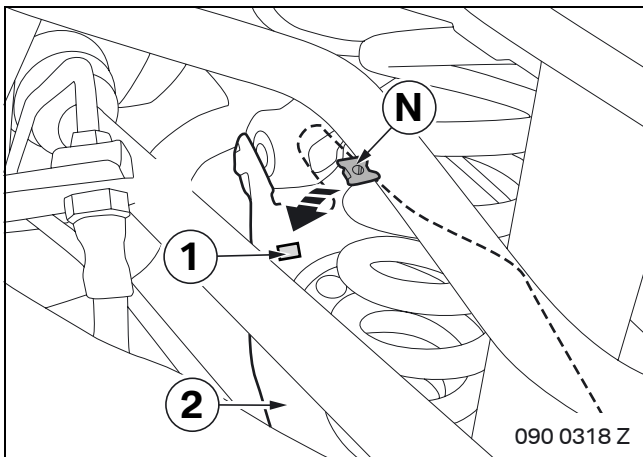


Remove covers (1) and (2) in the front left wheel arch.

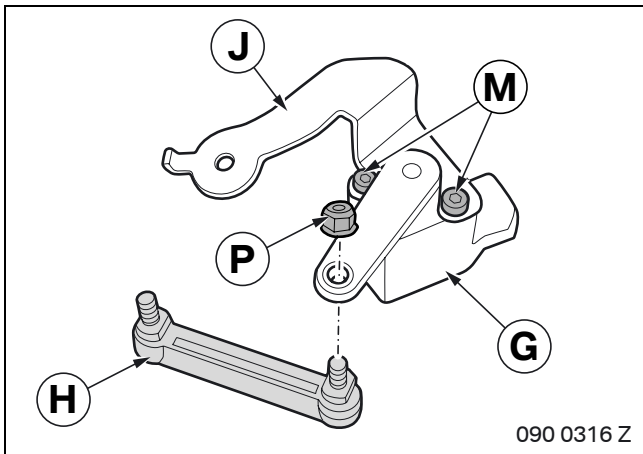
## 7. To install and connect the rear level sensor



Position the expanding nut **N** in the opening (2) on the front of the left axle mounting (1).

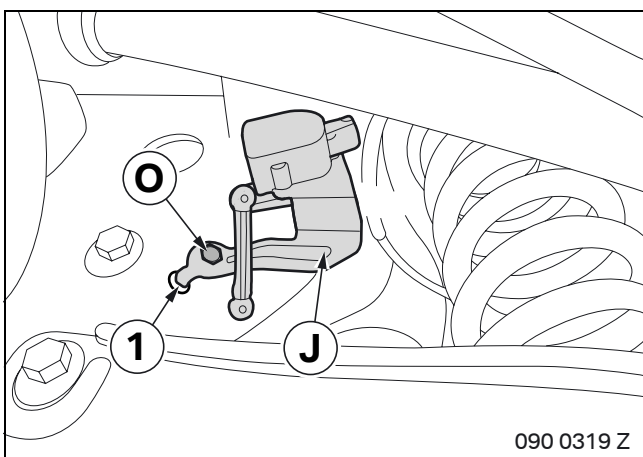


Position the expanding nut **N** in the opening (1) on the left camber control arm (2).



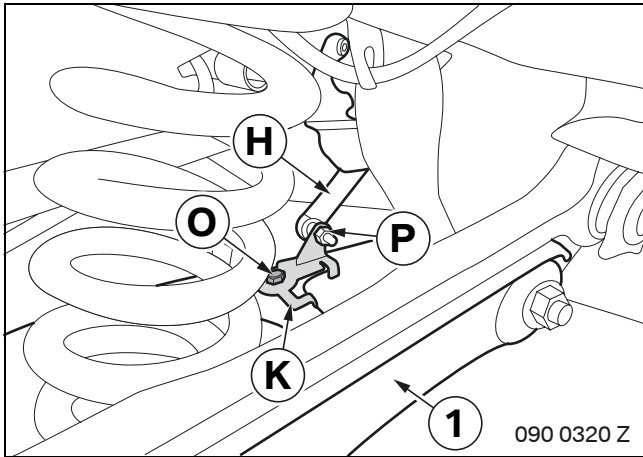
Secure the level sensor **G** as shown to the rear holder **J** using Allen screws **M**. Tightening torque 5 Nm.

Secure the rear control rod **H** to the level sensor **G** using a hexagonal nut **P**. Tightening torque 8 Nm.



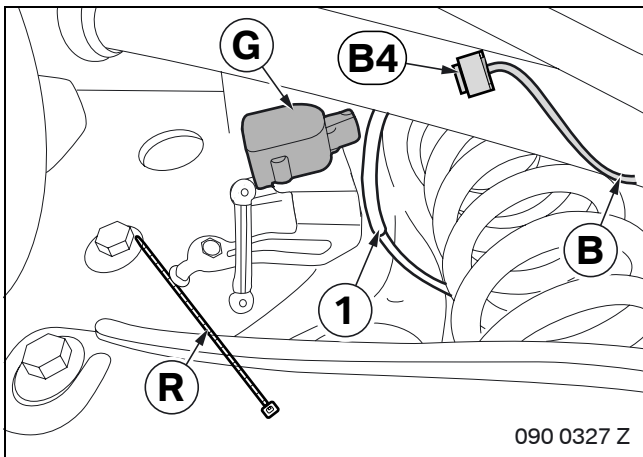
Place the rear holder **J** in the hole (1) and secure it with a hexagonal screw **O**. Tightening torque 8 Nm.

7. To install and connect the rear level sensor




Secure the control rod holder **K** to the camber control arm (1) using a hexagonal screw **O**. Tightening torque 8 Nm.

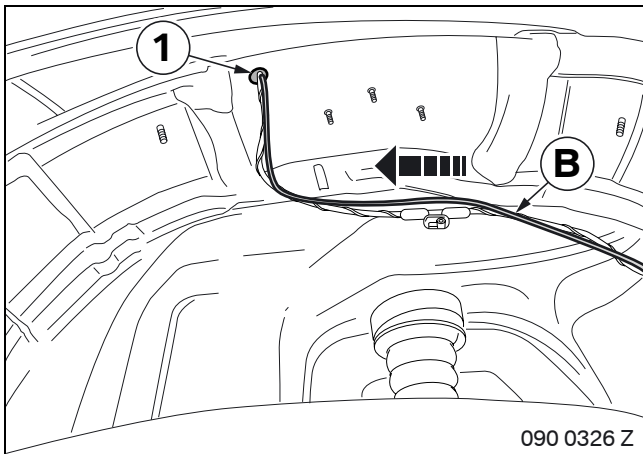
Secure the control rod **H** to the control rod holder **K** using a hexagonal nut **P**. Tightening torque 8 Nm.



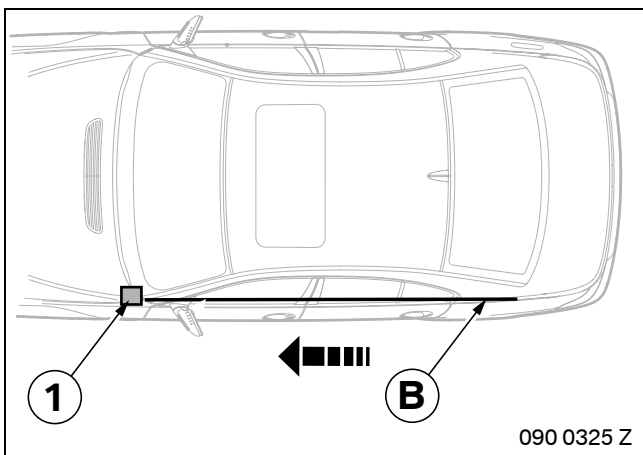
Connect branch **B4** to level sensor **G**.

 The rear level sensor wiring harness **B** must not get caught in the moving parts of the suspension. ◀

Route the rear level sensor wiring harness **B** along the ABS sensor cable (1) into the wheel arch and secure it with cable ties **R**.



Route the rear level sensor wiring harness **B** along the ABS sensor cable and through the grommet (1) into the interior.



Route the rear level sensor wiring harness **B** along the standard wiring harness into the footwell on the driver's side (1).

## 8. To install and connect the wiring harness

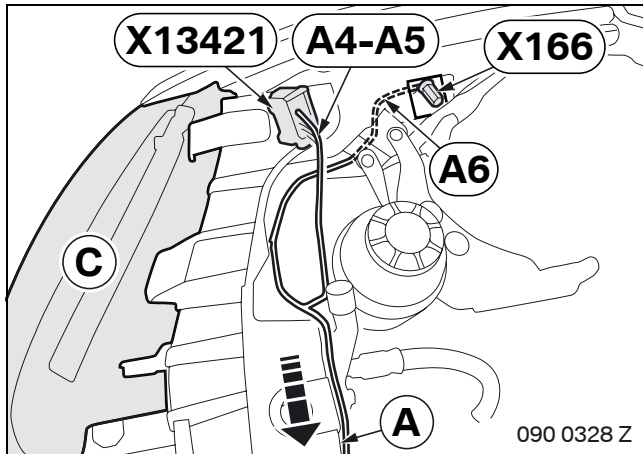
### Cars without SA 502 only

Install the retrofit headlight cleaning system as you install the headlights **C** and **D**.

### All cars

Install the light control **F**, see TIS RA 61 31 037

Install the right headlight **C** and left headlight **D**, see TIS RA 63 12 010



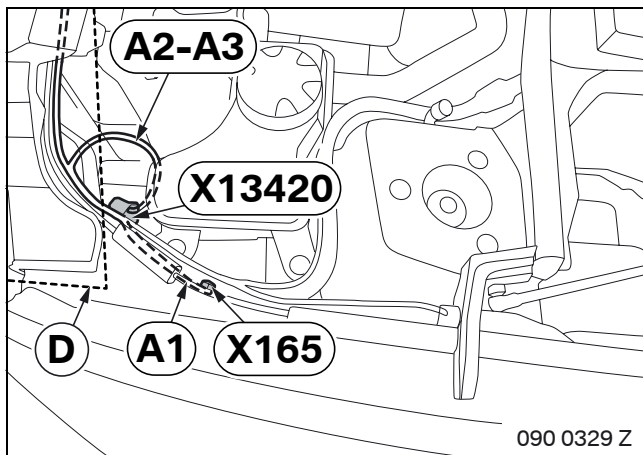
Connect branches **A4 - A5** as follows to plug **X13421** (12-pin SW):

- Branch **A4**, BR/GE cable, to PIN 5
- Branch **A5**, BR cable, to PIN 2

Connect branch **A6**, BR cable, to joint connector **X166**.

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

Route wiring harness **A** to the left side of the car

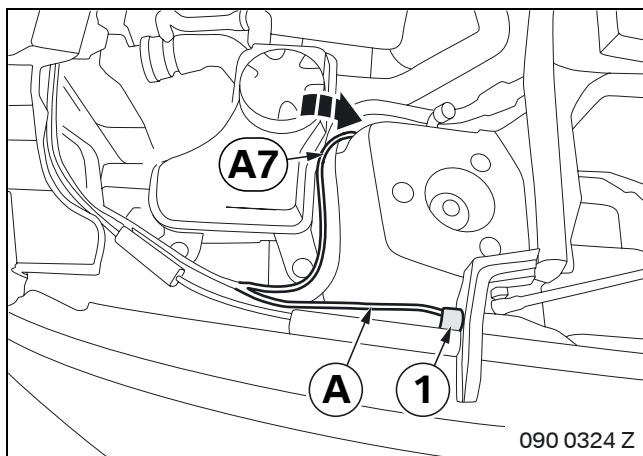


Connect branches **A2 - A3** as follows to plug **X13420** (12-pin SW):

- Branch **A2**, BR cable, to PIN 2
- Branch **A3**, BR/GE cable, to PIN 5

Connect branch **A1**, BR cable, to joint connector **X165**.

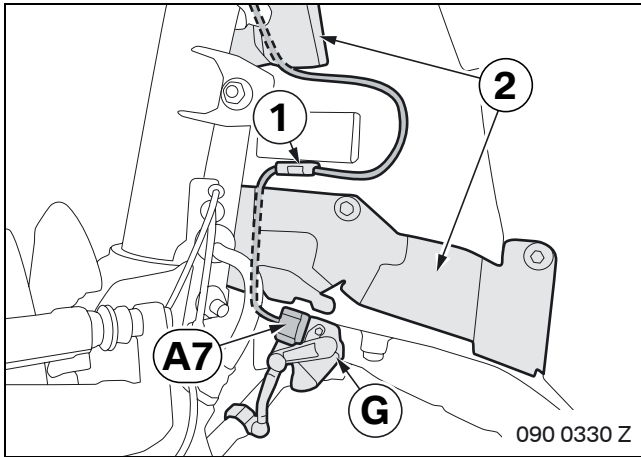
Connect plug **X13420** to the left headlight **D**.



Route branch **A7** (6-pin BR plug) along the standard wiring harness into the wheel arch.

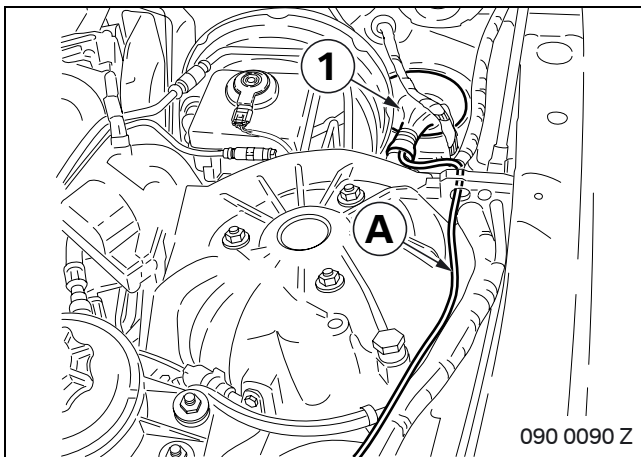
Route wiring harness **A** through the grommet (1) to the DSC control module.

8. To install and connect the wiring harness

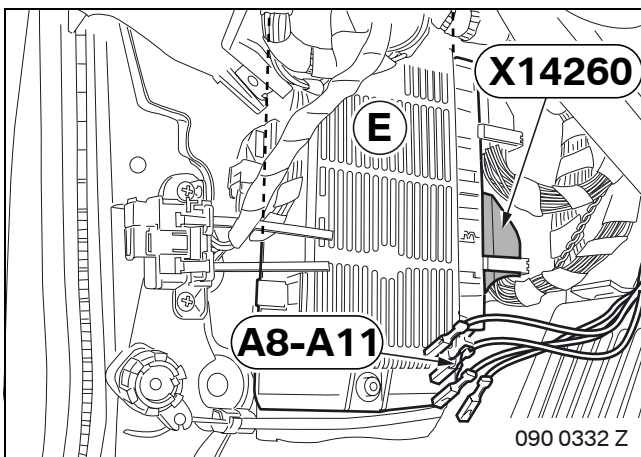


Route branch **A7** (6-pin BR plug) along the standard wiring harness to the front level sensor **G** and connect it.

Fit the cable holder (1) and install the covers (2).

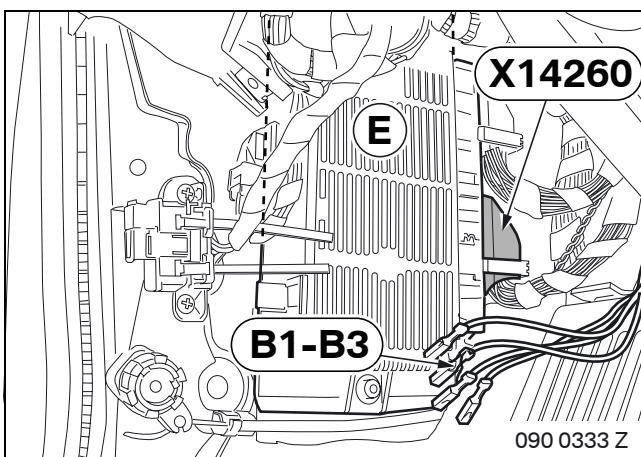


Thread the wiring harness **A** through the grommet (1) into the interior.



Connect branches **A8 - A11** as follows to plug **X14260** (51-pin SW) in the footwell module **E**:

- Branch **A8**, BR/GE cable, to PIN 41
- Branch **A9**, GR/GN cable, to PIN 49
- Branch **A10**, GR/WS cable, to PIN 26
- Branch **A11**, GR/BR cable, to PIN 31



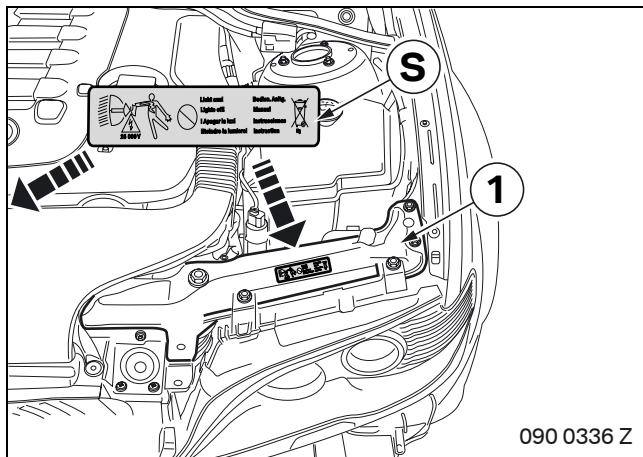
Connect branches **B1 - B3** as follows to plug **X14260** (51-pin SW) in the footwell module **E**:

- Branch **B1**, SW/GN cable, to PIN 48
- Branch **B2**, SW/WS cable, to PIN 27
- Branch **B3**, SW/GR cable, to PIN 29

## 9. 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



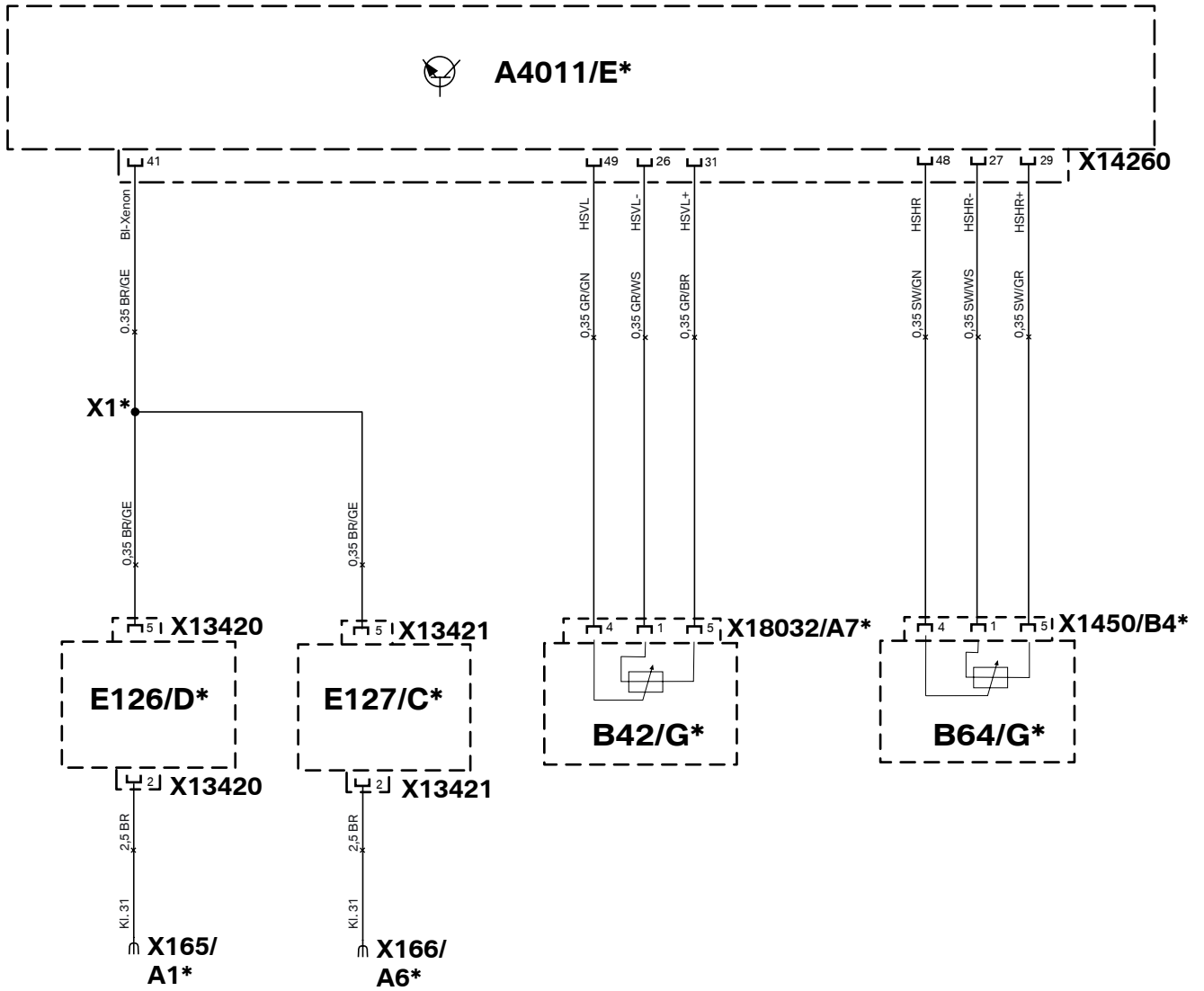
Affix warning stickers **S** on both sides of the cross traverse (1).

Conduct a function test on the automatic headlight adjustment control.

Test the default headlight setting and adjust if necessary.



# 10. Circuit diagram



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## 10. Circuit diagram

### Legend

<b>A4011</b>	Footwell module
<b>A1*</b>	Ring eyelet, terminal 31 tap on joint connector <b>X165</b>
<b>A6*</b>	Ring eyelet, terminal 31 tap on joint connector <b>X166</b>
<b>A7*</b>	6-pin SW plug to front level sensor <b>B42 (G*)</b>
<b>B4*</b>	6-pin SW plug to rear level sensor <b>B64 (G*)</b>
<b>C*</b>	Right headlight <b>E127</b>
<b>D*</b>	Left headlight <b>E126</b>
<b>E126</b>	Left headlight <b>D*</b>
<b>E127</b>	Right headlight <b>C*</b>
<b>G*</b>	Level sensors <b>B42</b> and <b>B64</b>
<b>X1*</b>	Bi-xenon connector
<b>X165</b>	Terminal 31 joint connector ( <b>A1*</b> )
<b>X166</b>	Terminal 31 joint connector ( <b>A6*</b> )
<b>X1450</b>	6-pin SW plug to rear level sensor <b>B64 (B*)</b>
<b>X13420</b>	12-pin SW plug, to left headlight <b>E126 (D*)</b>
<b>X13421</b>	12-pin SW plug, to right headlight <b>E127 (C*)</b>
<b>X14260</b>	51-pin SW plug, to footwell module <b>A4011 (E*)</b>
<b>X18032</b>	6-pin SW plug to front level sensor <b>B42 (A7*)</b>

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