

Original BMW Accessory. Installation Instructions.



Xenon light retrofit BMW 1 Series (E81, E82, E87 LCI)

These installation instructions are valid only for cars with SA 502 (headlight washer system).

Retrofit kit no.: 63 13 0 443 692 Bi-xenon light retrofit kit

Installation time

The installation time is **approx. 4.0 hours**. The installation time will increase by **approx. 2.0 hours** for cars **without SA 502**. The installation time will increase by **approx. 0.5 hours** for cars **without SA 510**. This may vary depending on the condition of the car and the equipment in it.

The vehicle must be updated to the latest I-level status by flashing before installing the retrofit. Differing programming times may be necessary depending on the production age of the vehicle and on work previously performed on the vehicle.

The installation time given does not include time needed for programming/encoding.

The total costs for the programming time should be taken into account when calculating retrofitting costs (reimbursement through warranty is not permissible).

Important information

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

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.

If you experience installation or function problems, limit troubleshooting to approx. 0.5 hours for mechanical or 1.0 hour for electrical work.

In order to reduce costs and avoid any additional expense, send a query immediately to the Technical Parts Support via the Aftersales Assistance Portal (ASAP).

Specify the following information:

- Chassis number
- Part number of the retrofit kit
- A precise description of the problem
- Work steps already carried out

Do not archive the hard copy of these installation instructions since daily updates are made by 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. The costs thereby incurred 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 occupied, bridges, double crimps or twin-lead terminals must be used.

All pictures show LHD cars; proceed accordingly 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 **R**
- Light control **S**
- Right xenon headlight **D**, left **E**
- Rear light LED right **W**, left **X**

List of special equipment

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

SA 502 Headlight cleaning system

SA 510 Headlight adjustment control

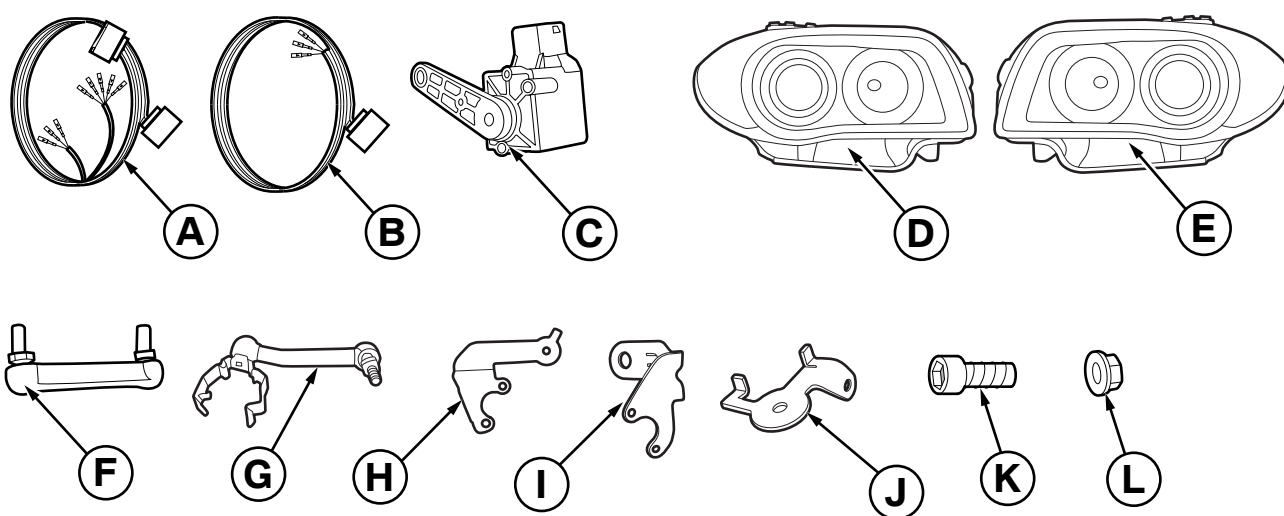
Special tools required

00 9 317 Installation wedges

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1. Parts list

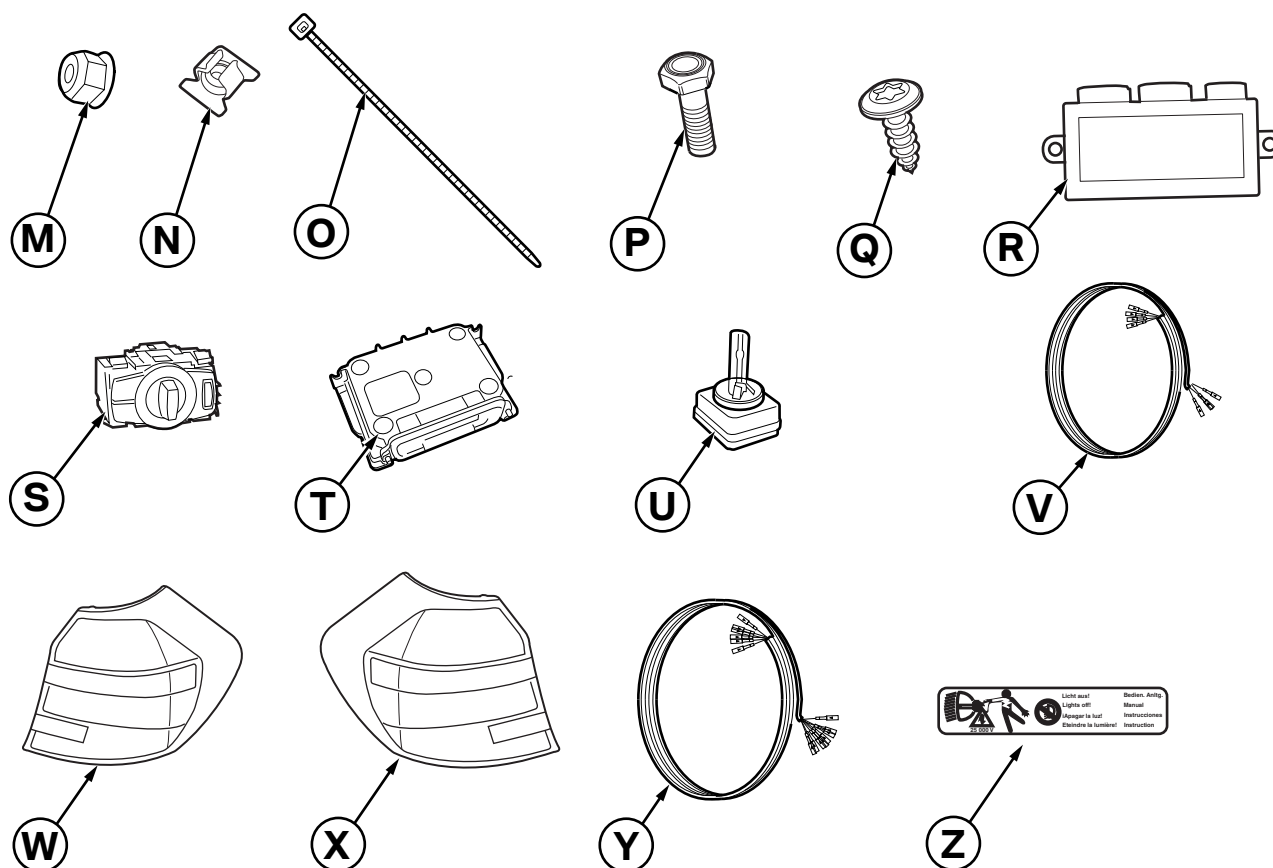


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Legend

- A** Xenon cable kit
- B** Level sensor cable kit
- C** Level sensor (2x)
- D** Right xenon headlight (not supplied in the retrofit kit)
- E** Left xenon headlight (not supplied in the retrofit kit)
- F** Rear control rod
- G** Front control rod
- H** Rear level sensor holder
- I** Front level sensor holder
- J** Rear control rod holder
- K** Allen screw M5 x 10 (4x)
- L** Hexagonal lock nut M6 (3x)

1. Parts list



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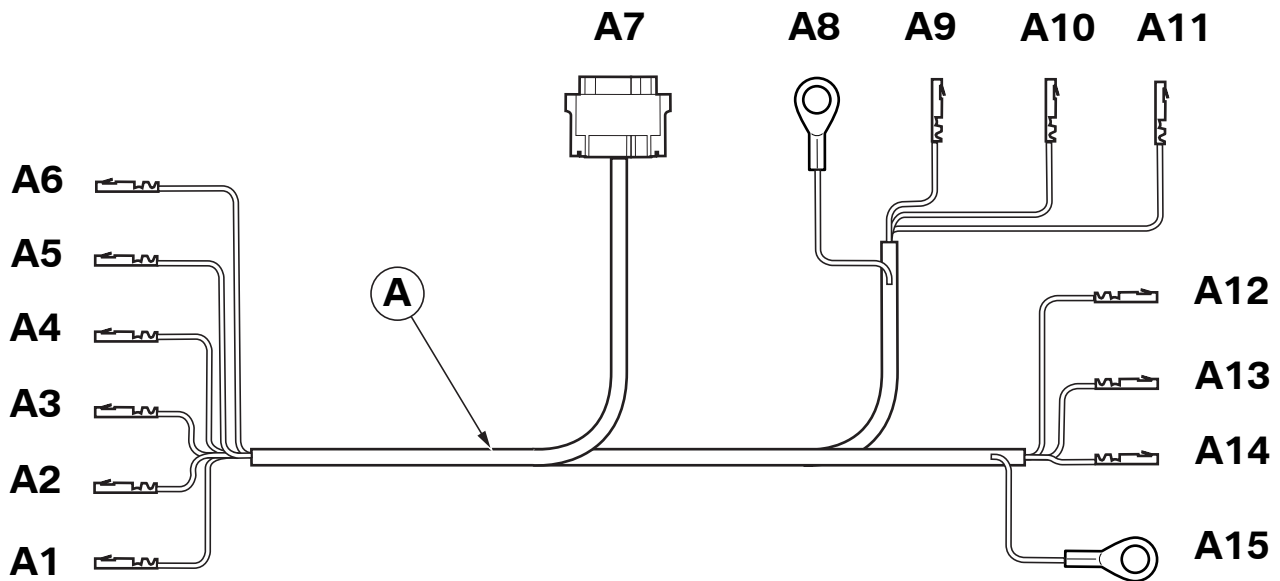
Legend

- M** Collar nut M12 x 1, self-locking
- N** Insert nut M6 (Prestol cage, 2x)
- O** Cable tie (x 15)
- P** Hexagonal screw M6 x 16 mm (2x)
- Q** Torx screw (4x, supplied with xenon light control units)
- R** Footwell module (not supplied in the retrofit kit)
- S** Light control (not supplied in the retrofit kit)
- T** Xenon headlights control unit (2x)
- U** Xenon bulb with ignition (2x)
- V** LED rear light cable kit (E81, E87 cars only)
- W** Right LED rear light (not supplied in the retrofit kit)
- X** Left LED rear light (not supplied in the retrofit kit)
- Y** Headlight adjustment control cable kit (cars without SA 510 only)
- Z** Bi-xenon headlights sticker (2x)

2. Preparatory work

	TIS No.
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
The following components must be removed first of all	
Power unit bottom guard, front	51 47 490
Front bumper trim	51 11 156
Headlights on both sides (no longer required)	63 12 001
Door sill strip at the front left (interior)	51 47 000
Pedal trim	51 45 185
Side A pillar trim, left footwell	51 43 070
Light control (no longer required)	61 31 037
Footwell module (no longer required)	61 35 115
Rear window shelf	51 46 003
Luggage compartment floor trim	51 47 101
Rear seat	52 26 005
Backrest side section on the left rear seat backrest	52 26 008
Trim on top rear closing panel	51 46 050
Left luggage compartment wheel arch trim	51 47 151
Rear lights, left or right, exchanging	63 21 180
Left front wheel	36 10 300
Left rear wheel	36 10 300
E87 cars only	
Door sill strip at the rear left (interior)	51 47 030
E81, E87 cars with LED rear light cable kit retrofit only	
Right luggage compartment wheel arch trim	51 47 161

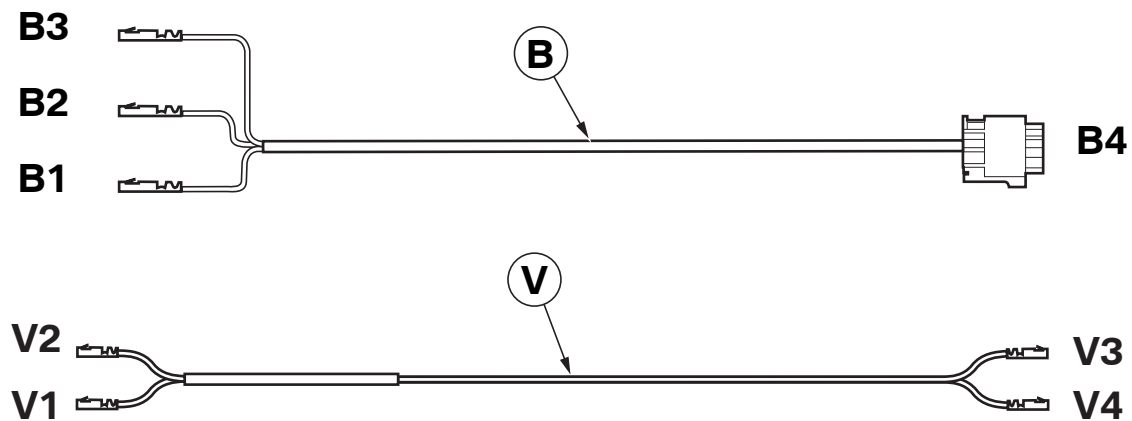
3. Connection diagram



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Branch/ Item	Designation	Signal	Cable colour/ Cross-section	Connection site in the car	Abbreviation/Slot
A	Xenon cable kit	---	---	---	---
A1	Socket contact	TFL_R	GR/GE 0.75 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 14
A2	Socket contact	HSV L-	GR/WS 0.35 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 26
A3	Socket contact	HSV L+	GR/BR 0.35 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 31
A4	Socket contact	Bi-xenon	BR/GE 0.35 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 41
A5	Socket contact	HSV L	GR/GN 0.35 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 49
A6	Socket contact	TFL_L	GR/VI 0.75 mm ²	On footwell module R SW 51-pin plug	X14261 PIN 41
A7	BR 6-pin socket casing	---	---	On front left level sensor C	X18032
A8	Eyelet	Terminal 31	Brown 2.50 mm ²	Earth bolt on joint connector	X165
A9	Socket contact	TFL_L	GR/VI 0.75 mm ²	On left headlight E SW 12-pin plug	X13420 PIN 1
A10	Socket contact	Terminal 31	Brown 2.50 mm ²	On left headlight E SW 12-pin plug	X13420 PIN 2
A11	Socket contact	Bi-xenon	BR/GE 0.35 mm ²	On left headlight E SW 12-pin plug	X13420 PIN 5
A12	Socket contact	TFL_R	GR/GE 0.75 mm ²	On right headlight D SW 12-pin plug	X13421 PIN 1
A13	Socket contact	Terminal 31	Brown 2.50 mm ²	On right headlight D SW 12-pin plug	X13421 PIN 2
A14	Socket contact	Bi-xenon	BR/GE 0.35 mm ²	On right headlight D SW 12-pin plug	X13421 PIN 5
A15	Eyelet	Terminal 31	Brown 2.50 mm ²	Earth bolt on joint connector	X166

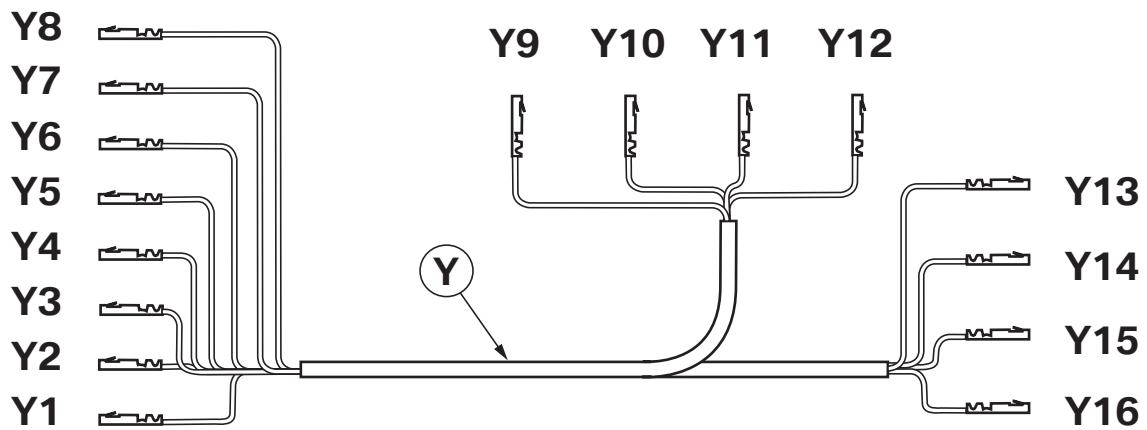
3. Connection diagram



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Branch/ Item	Designation	Signal	Cable colour/ Cross-section	Connection site in the car	Abbreviation/Slot
B	Level sensor cable kit	---	---	---	---
B1	Socket contact	HSHL	SW/GN 0.35 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 48
B2	Socket contact	HSHL-	SW/WS 0.35 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 27
B3	Socket contact	HSHL+	SW/GR 0.35 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 29
B4	BR 6-pin socket casing	---	---	On rear left level sensor C	X1450
V	Rear light cable kit	---	---	E81, E87 cars only	---
V1	Socket contact	58 HL	GE/SW 0.75 mm ²	On footwell module R , SW 51-pin plug	X14260 PIN 16
V2	Socket contact	58 HR	GE/VI 0.75 mm ²	On footwell module R , SW 51-pin plug	X14260 PIN 18
V3	Socket contact	58 HR	GE/VI 0.75 mm ²	On right rear light W	X339 PIN 4
V4	Socket contact	58 HL	GE/SW 0.75 mm ²	On left rear light X	X338 PIN 4

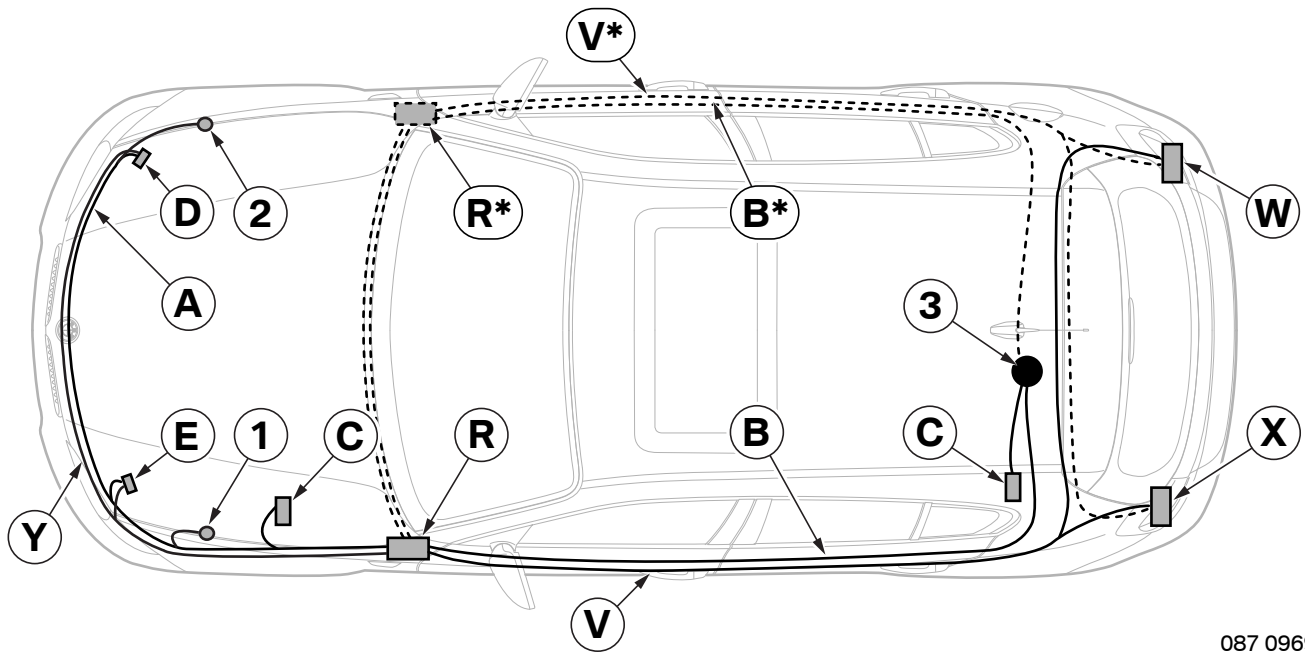
3. Connection diagram



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Branch/ Item	Designation	Signal	Cable colour/ Cross-section	Connection site in the car	Abbreviation/ Slot
Y	Height regulation cable kit	---	---	Cars without SA 510 only	---
Y1	Socket contact	Q21L	BL/RT 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 15
Y2	Socket contact	Q22L	BL/BR 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 17
Y3	Socket contact	Q12L	GE/BR 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 19
Y4	Socket contact	Q21R	BL/SW 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 28
Y5	Socket contact	Q22R	BL/BR 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 30
Y6	Socket contact	Q12R	GE/BR 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 32
Y7	Socket contact	Q11L	GE/RT 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 50
Y8	Socket contact	Q11R	GE/SW 0.5 mm ²	On footwell module R SW 51-pin plug	X14260 PIN 51
Y9	Socket contact	Q11L	GE/RT 0.5 mm ²	On left headlight E SW 12-pin plug	X13420 PIN 8
Y10	Socket contact	Q12L	GE/BR 0.5 mm ²	On left headlight E SW 12-pin plug	X13420 PIN 9
Y11	Socket contact	Q21L	BL/RT 0.5 mm ²	On left headlight E SW 12-pin plug	X13420 PIN 10
Y12	Socket contact	Q22L	BL/BR 0.5 mm ²	On left headlight E SW 12-pin plug	X13420 PIN 11
Y13	Socket contact	Q11R	GE/SW 0.5 mm ²	On right headlight D SW 12-pin plug	X13421 PIN 8
Y14	Socket contact	Q12R	GE/BR 0.5 mm ²	On right headlight D SW 12-pin plug	X13421 PIN 9
Y15	Socket contact	Q21R	BL/SW 0.5 mm ²	On right headlight D SW 12-pin plug	X13421 PIN 10
Y16	Socket contact	Q22R	BL/BR 0.5 mm ²	On right headlight D SW 12-pin plug	X13421 PIN 11

4. Installation and cabling diagram



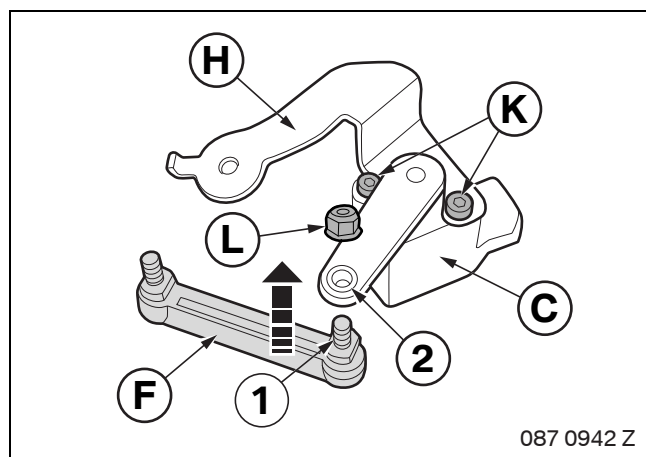
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Legend

- A** Xenon cable kit
- B** Level sensor cable kit for LHD cars
- B*** Level sensor cable kit for RHD cars
- C** Level sensor
- D** Right headlight, plug **X13421**
- E** Left headlight, plug **X13420**
- R** Footwell module **A4011** in LHD cars
- R*** Footwell module **A4011** in RHD cars
- V** LED rear light cable kit for LHD cars
- V*** LED rear light cable kit for RHD cars
- W** Right LED rear light
- X** Left LED rear light
- Y** Headlight adjustment control cable kit (cars without SA 510 only)

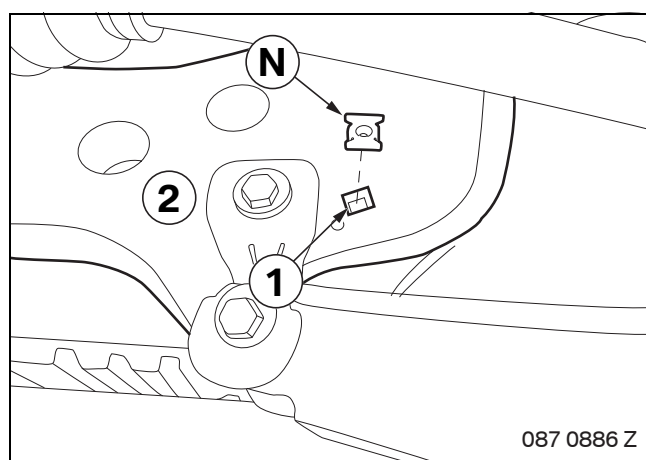
- 1** Earth joint connector **X165**
- 2** Earth joint connector **X166**
- 3** Grommet

5. To install level sensors

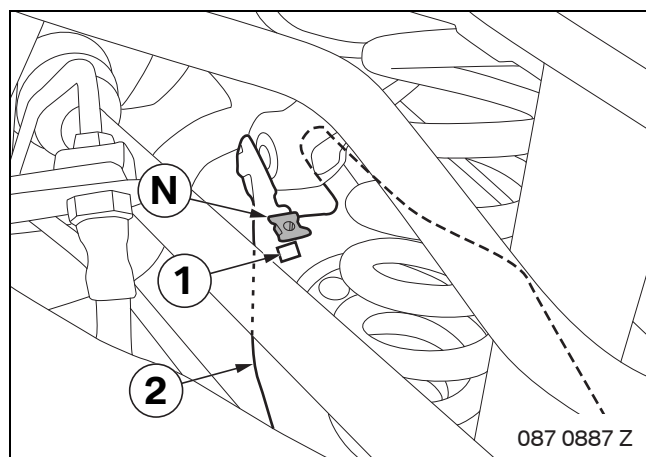


Secure rear level sensor holder **H** to level sensor **C** using Allen bolts **K** (tightening torque: 5 Nm). Torque: 5 Nm).

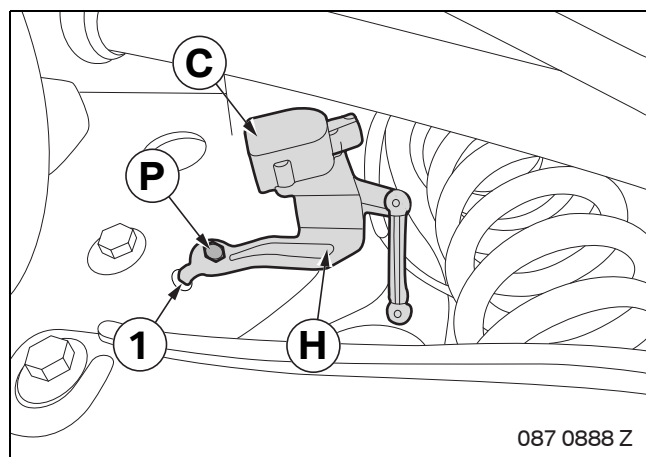
Guide the grub screw (1) of control rod **F** through the hole (2) on level sensor **C** and screw on with hexagonal nut **L** (tightening torque: 8 Nm).




Insert the insert nut **N** in the recess (1) on the left rear axle bracket (2).



Insert the insert nut **N** in the recess (1) on the left rear camber control arm (2).

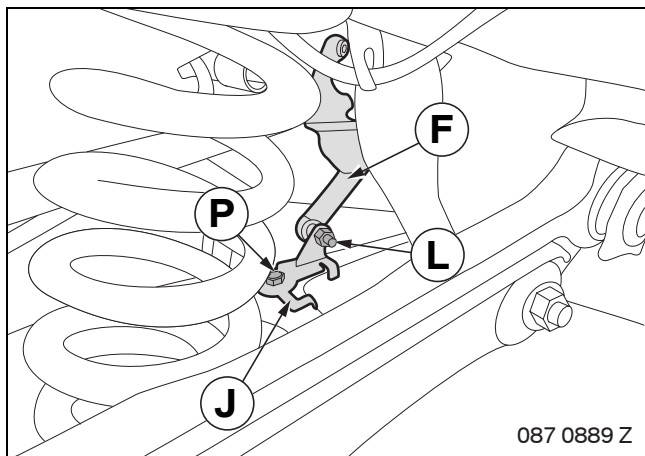


 Make sure that the torsion lock (1) of level sensor holder **H** engages in the hole provided. ◀

Install level sensor **C**.

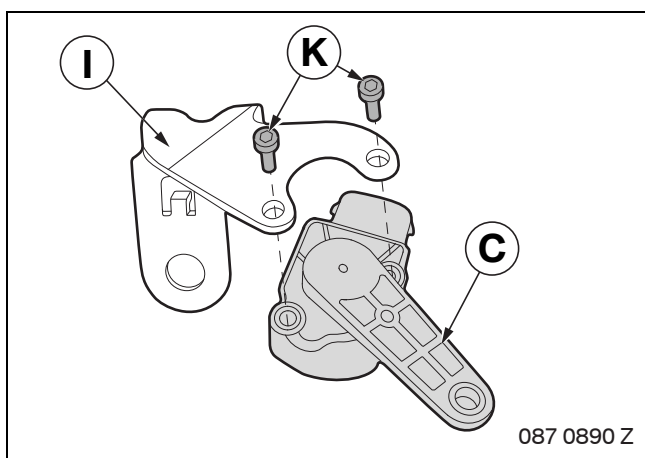
Secure level sensor holder **H** onto left rear axle bracket using hexagonal screw **P** (tightening torque: 8 Nm).

5. To install level sensors

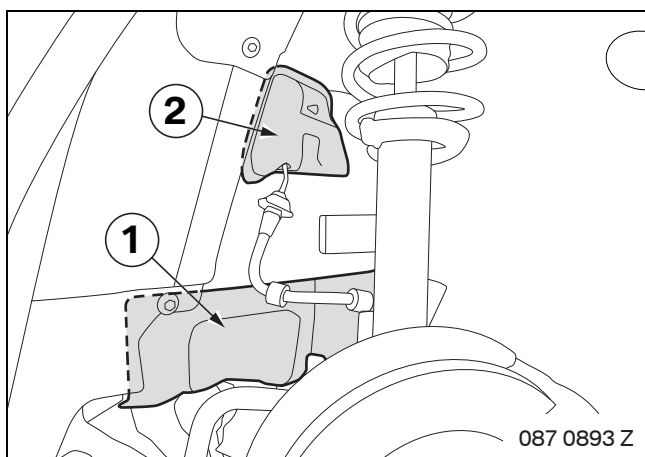


Secure control rod holder **J** onto left rear camber control arm using hexagonal screw **P**.

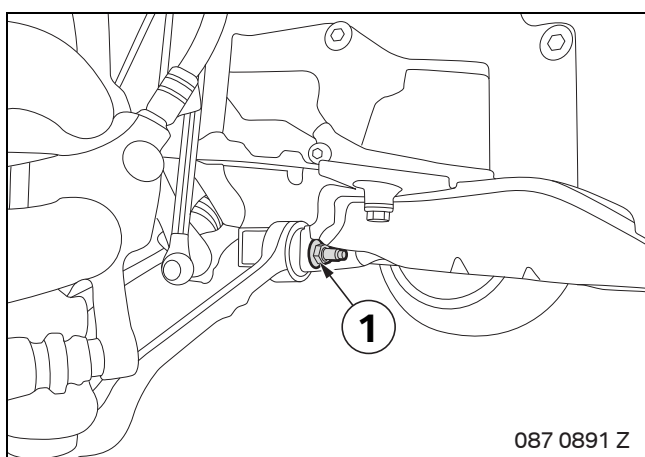
Secure control rod **F** to control rod holder **J** using hexagonal nut **L** (tightening torque: 8 Nm).



Secure level sensor **C** to front level sensor holder **I** using Allen bolts **K** (tightening torque: Torque: 5 Nm).

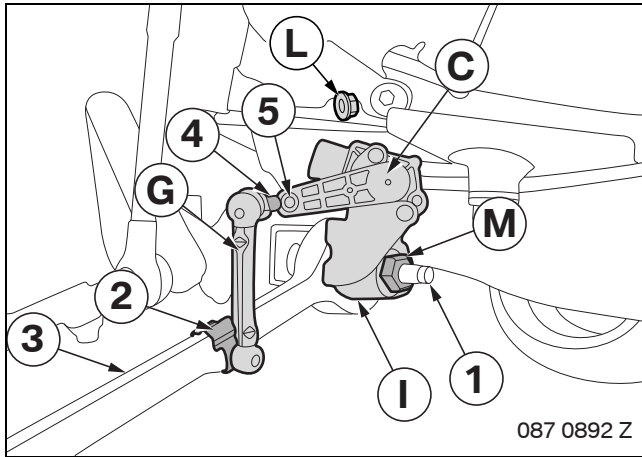


Remove covers (1) and (2) in the front left wheel arch.



Undo the nut (1) on the front left transverse control arm.

5. To install level sensors

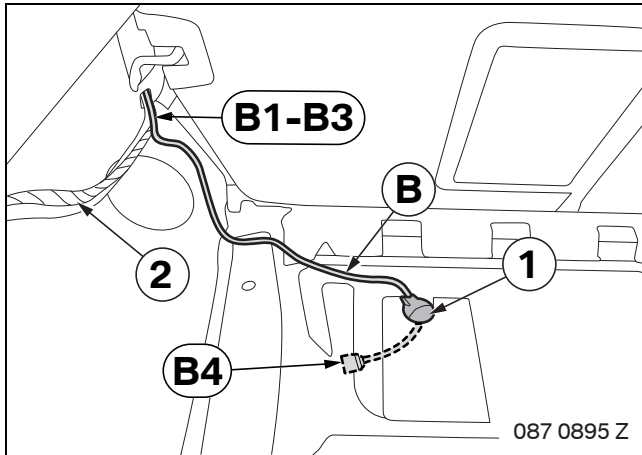


Push level sensor **C** with holder **I** onto transverse control arm pin (1) and secure with nut **M** (tightening torque: see TIS-RA: 31 12 000).

Place clip (2) from control rod **G** around recess on transverse control arm (3) and lock.

Guide the grub screw (4) of control rod **G** through the hole (5) on level sensor **C** and screw on with nut **L** (tightening torque: 8 Nm).

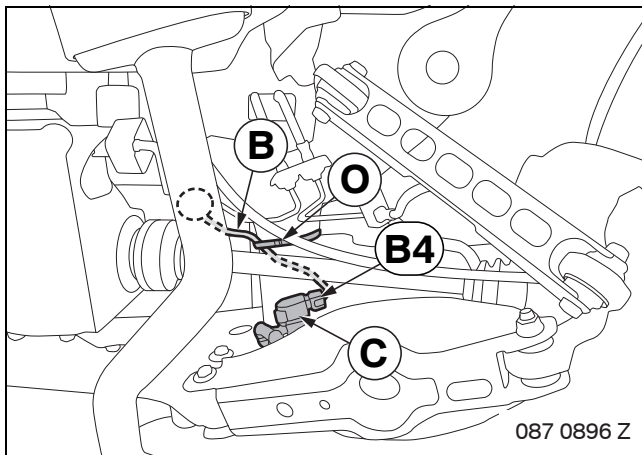
6. To install the cable kit




Route level sensor cable kit **B** through the grommet (1) provided.

Route branch **B4** outwards.

Route branches **B1-B3** on standard wiring harness (2) to the footwell module.



 Route cable kit **B** so there is no contact with moving parts of the rear axle. ◀

Route branch **B4** to level sensor **C** and connect it.

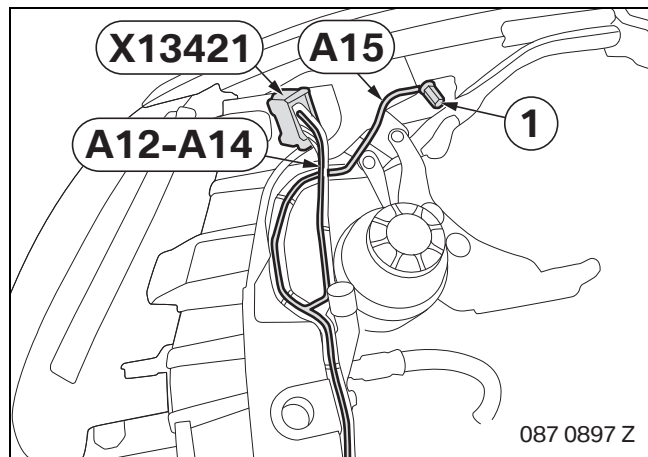
Secure cable kit **B** to the rear axle bracket using cable tie **O**.

6. To install the cable kit

Attach control units **T** with Torx screws **Q** (see TIS-RA: 63 12 860) and install xenon bulbs **U** (see TIS-RA: 63 12 870) into xenon headlights **D** and **E**.

Install Xenon headlights **D** and **E** in the car (see TIS-RA: 63 12 012).

Install light control **S** in the car (see TIS-RA: 61 31 037).

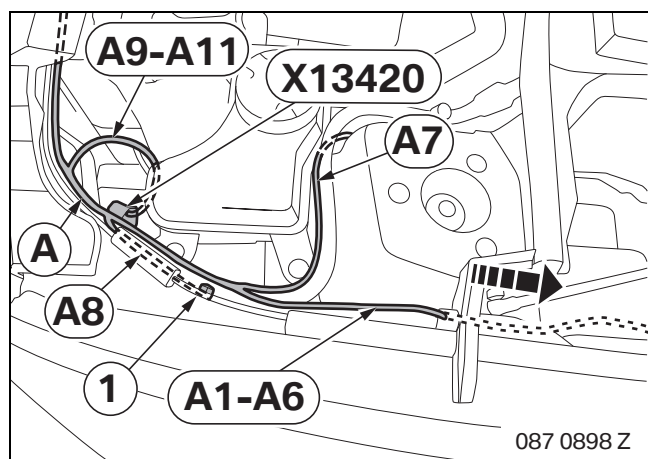


Start with branches **A12–A15** on front right headlight. ◀

Screw branch **A15** to the earth bolt (1) of earth joint connector **X166**.

Connect branches **A12–A14** to socket casing **X13421** as follows:

- Disconnect SW/GN cable from PIN 1, insulate it and tie it back
- Branch **A12**, GR/GE cable, to PIN 1
- Branch **A13**, BR cable, to PIN 2
- Branch **A14**, BR/GE cable, to PIN 5



Route xenon cable kit **A** along the wiring harness to the left headlight.

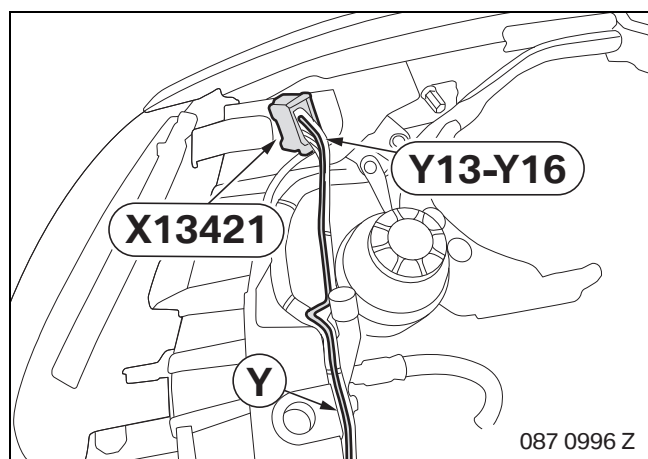
Screw branch **A8** to the earth bolt (1) of earth joint connector **X165**.

Connect branches **A9–A11** to socket casing **X13420** as follows:

- Disconnect SW/GN cable from PIN 1, insulate it and tie it back
- Branch **A9**, GR/VI cable, to PIN 1
- Branch **A10**, BR cable, to PIN 2
- Branch **A11**, BR/GE cable, to PIN 5

Route branches **A7** along the standard wiring harness to the wheel arch feed-through.

Route branches **A1–A6** along the standard wiring harness to the bulkhead.



Cars without SA 510 only

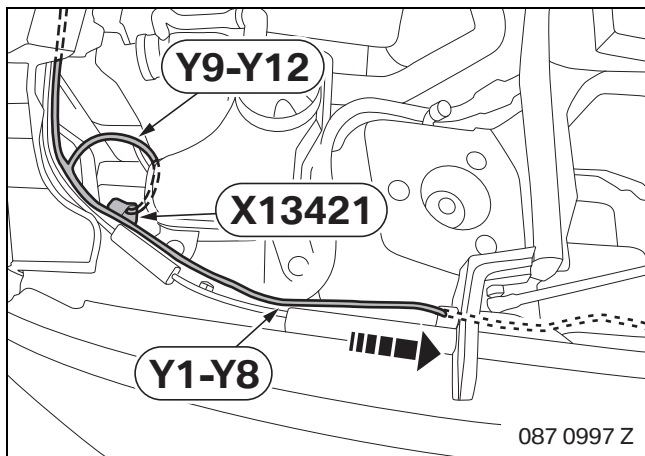
Start with branches **Y13–Y16** on front right headlight. ◀

Connect branches **Y13–Y16** to socket casing **X13421** as follows:

- Branch **Y13**, GE/SW cable, to PIN 8
- Branch **Y14**, GE/BR cable, to PIN 9
- Branch **Y15**, BL/SW cable, to PIN 10
- Branch **Y16**, BL/BR cable, to PIN 11

Route headlight adjustment control cable kit **Y** along the standard wiring harness to the left headlight.

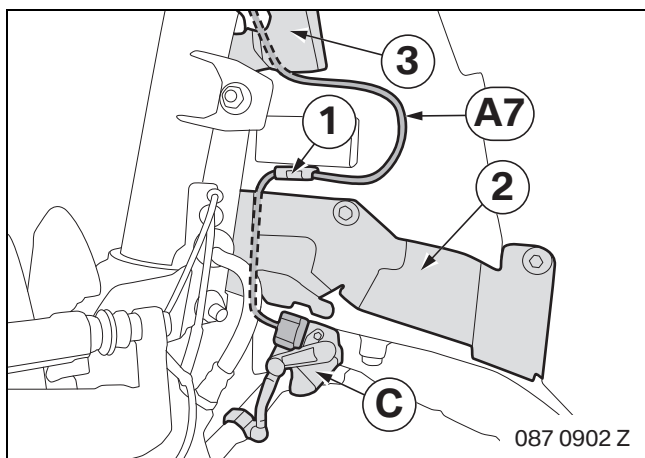
6. To install the cable kit



Connect branches **Y9-Y12** to socket casing **X13421** as follows:

- Branch **Y9**, GE/RT cable, to PIN 8
- Branch **Y10**, GE/BR cable, to PIN 9
- Branch **Y11**, BL/RT cable, to PIN 10
- Branch **Y12**, BL/BR cable, to PIN 11

Route branches **Y1-A8** along the standard wiring harness to the bulkhead.

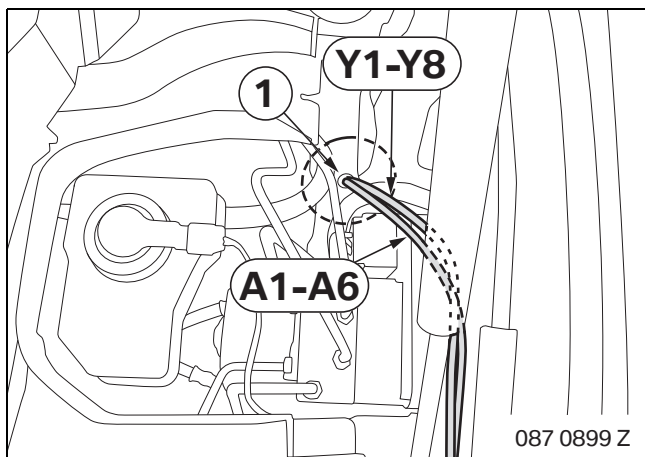


All cars

Route branch **A7** along the standard wiring harness to level sensor **C** and connect it.

Engage the clip (1) in the hole provided.

Re-attach the covers (2) and (3).

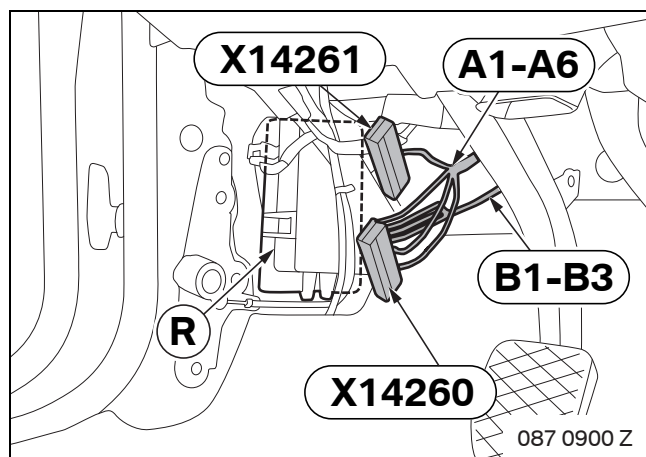


Route branches **A1-A6** from the engine compartment through rubber grommet (1) into the inside of the car.

Cars without SA 510 only

Route branches **Y1-Y8** from the engine compartment through rubber grommet (1) into the inside of the car.

6. To install the cable kit



▶ Install footwell module **R** for xenon light (see TIS-RA: 61 35 153). Tie back excess length of wiring harness in LHD cars. ◀

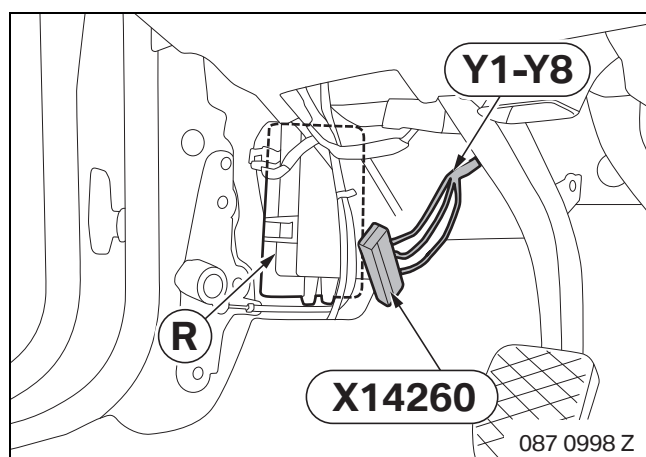
All cars

Route branches **A1-A6** and **B1-B3** to footwell module **R**.

Connect branches **A1-A5** and **B1-B3** to socket casing **X14260** as follows:

- Branch **A1**, GR/GE cable, to PIN 14
- Branch **A2**, GR/WS cable, to PIN 26
- Branch **A3**, GR/BR cable, to PIN 31
- Branch **A4**, BR/GE cable, to PIN 41
- Branch **A5**, GR/GN cable, to PIN 49
- Branch **B1**, SW/GN cable, to PIN 48
- Branch **B2**, SW/WS cable, to PIN 27
- Branch **B3**, SW/GR cable, to PIN 29

Connect branch **A6**, GR/VI cable, to PIN 41 of socket casing **X14261**.



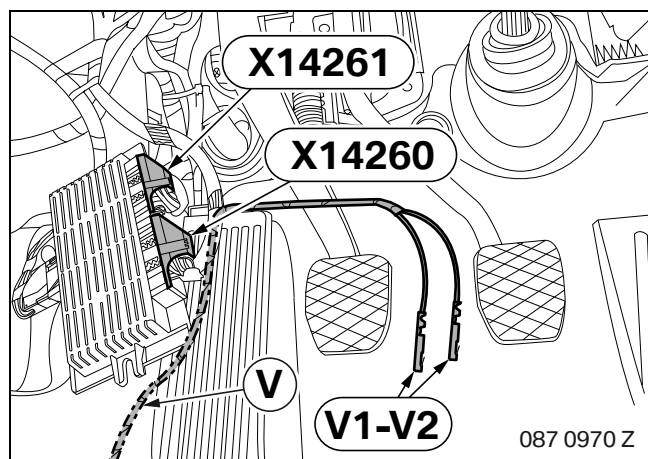
Cars without SA 510 only

Route branches **Y1-Y8** to footwell module **R**.

Connect branches **Y1-Y8** to socket casing **X14260** as follows:

- Branch **Y1**, BL/RT cable, to PIN 15
- Branch **Y2**, BL/BR cable, to PIN 17
- Branch **Y3**, GE/BR cable, to PIN 19
- Branch **Y4**, BL/SW cable, to PIN 28
- Branch **Y5**, BL/BR cable, to PIN 30
- Branch **Y6**, GE/BR cable, to PIN 32
- Branch **Y7**, GE/RT cable, to PIN 50
- Branch **Y8**, GE/SW cable, to PIN 51

7. To install LED rear light cable kit (E81, E87 cars only)

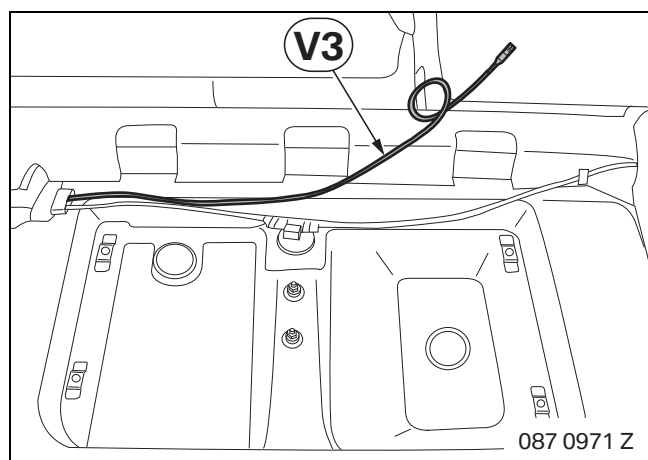


Disconnect GR/VI cable from socket casing **X14260**, PIN 16 and connect to socket casing **X14261**, PIN 43.

Disconnect GR/GE cable from socket casing **X14260**, PIN 18 and connect to socket casing **X14261**, PIN 9.

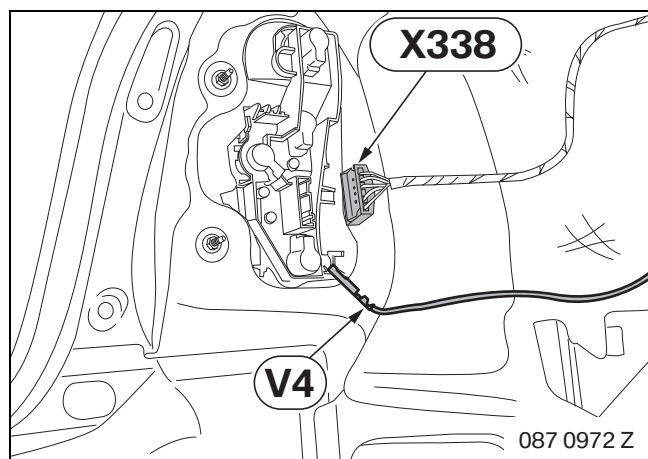
Connect branches **V1-V2** to socket casing **X14260** as follows:

- Branch **V1**, GE/SW cable, to PIN 16
- Branch **V2**, GE/VI cable, to PIN 18

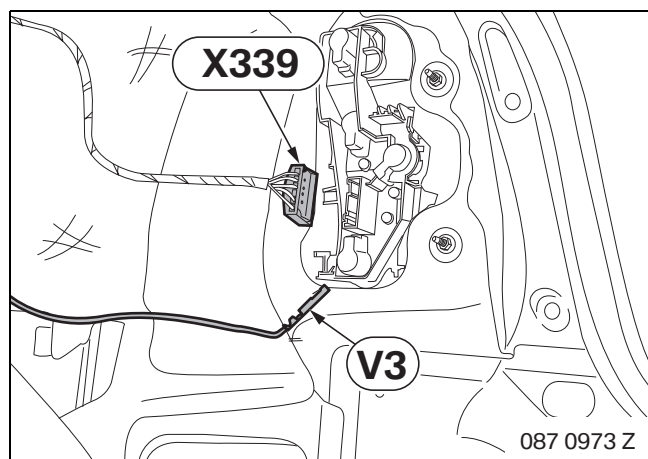


Route LED rear lights cable kit **V** along the standard wiring harness to the rear seat bench.

Route branch **V3** along the standard wiring harness to the luggage compartment floor.



Route branch **V4** to the left rear light and connect GE/SW cable to PIN 4 of plug **X338**.

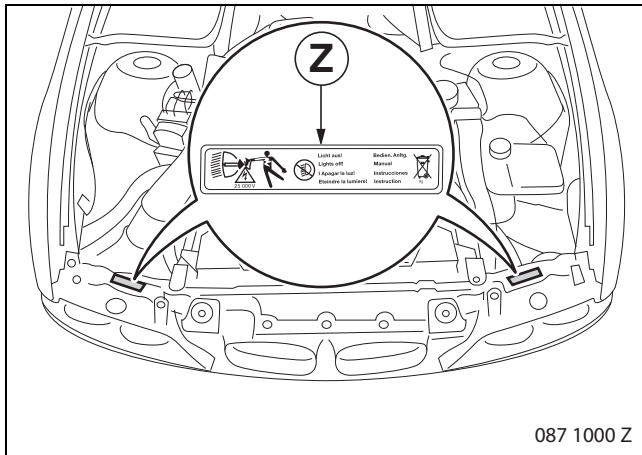


Connect branch **V3**, GE/VI cable, to PIN 4 of plug **X339**.

8. Concluding work and coding

This retrofit system requires coding.

- Connect the battery
- Encode/program the retrofit with SSS (software service station) via the **CIP** path
- Conduct a brief test
- Conduct a function test
- Adjust the headlights
- Re-assemble the car

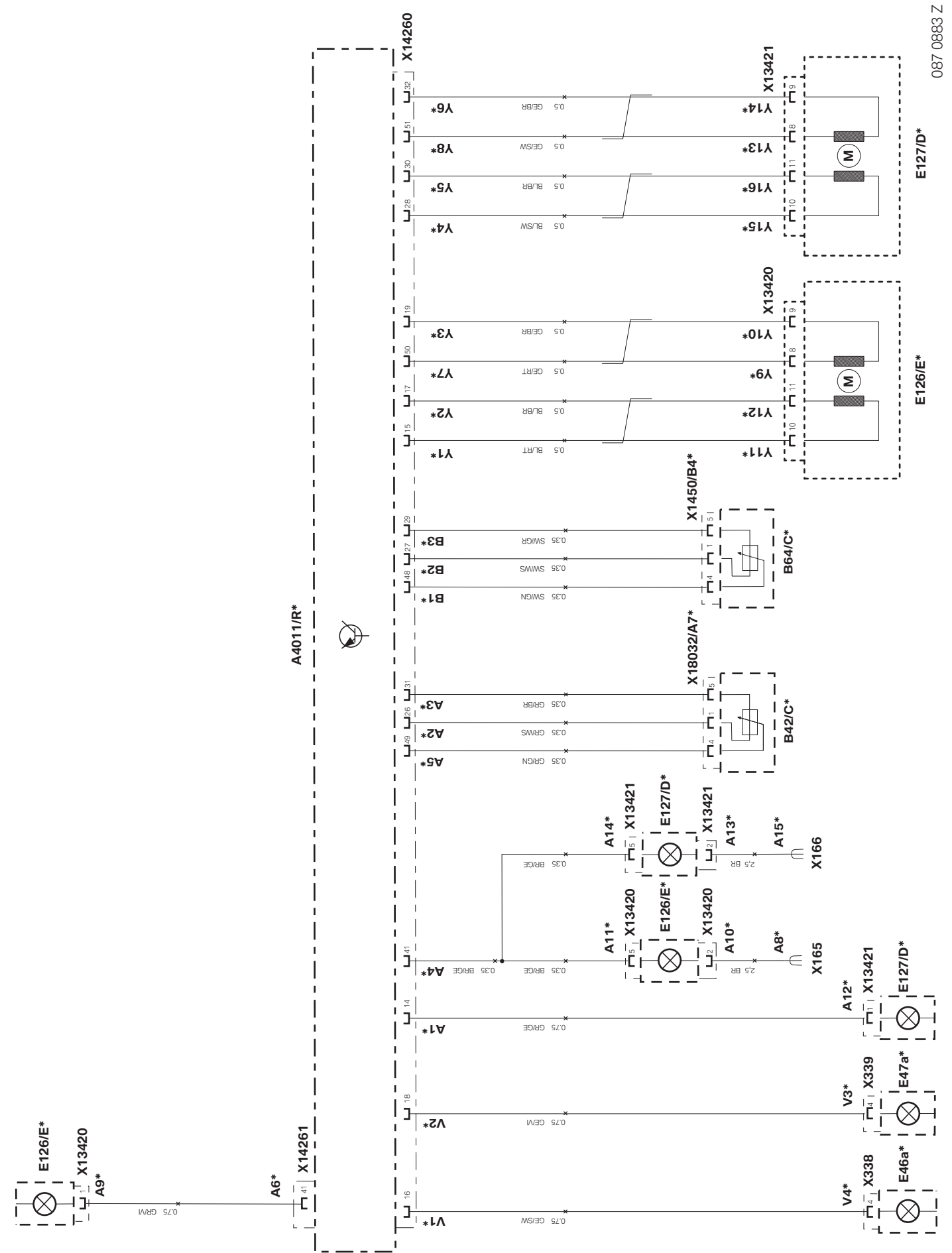


Clean the base support arms near the headlights and affix the bi-xenon headlights sticker **Z**.

Function test of the level sensors

When the dipped headlight switch is activated the headlights must adjust automatically. Test the function of the automatic headlight adjustment control by loading the front and then the rear of the car.

9. Circuit diagram



087 0883 Z

9. Circuit diagram

Legend

A4011	Footwell module R*
B42	Front left level sensor C*
B64	Rear left level sensor C*
E126	Front left headlight E*
E127	Front right headlight D*
E46a	Left LED rear light
E47a	Right LED rear light
Y*	Headlight adjustment control cable kit Y1*–Y16*
X165	Joint connector earth A8*
X166	Joint connector earth A15*
X338	Left rear light V4*
X339	Right rear light V3*
X1450	6-pin plug B4*
X13420	12-pin plug A9*–A11*
X13421	12-pin plug A12*–A14*
X 14260	51-pin plug A1*–A5*, B1*–B3*, V1*–V2*
X14261	51-pin plug A6*
X18032	6-pin plug A7*

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

Cable colours

BR	Brown
GE	Yellow
GN	Green
GR	Grey
SW	Black
VI	Violet
WS	White