

# Original BMW Accessory. Installation Instructions.



## Front seat heating system retrofit

**BMW 1 Series (E87)**

**BMW 3 Series Saloon (E90)**

**BMW 3 Series Touring (E91)**

**BMW 3 Series Coupé (E92)**

<b>Retrofit kit No.</b>	61 11 0 391 644	Retrofit kit for E87 with manual seat adjustment
	61 11 0 400 883	Retrofit kit for E90, E91 and E92 with manual seat adjustment
	61 11 0 405 003	Retrofit kit for E90, E91 and E92 with electric seat adjustment
	61 11 0 413 834	Retrofit kit for E87 with electric seat adjustment

### Installation time

The installation time is 3.5 hours, but this may vary depending on the condition of the car and the equipment in it.

The installation of heating elements **E** is not included in the above installation time and must be calculated separately depending on the equipment in the car (see KSD for installation time and further details).

In general the car must be upgraded to the latest I stage status by flashing before starting the work. Depending on the production age of the car and the work already carried out on the car, the programming times will vary, which means that we cannot quote a specific time at this point.

The installation time does not include any time for programming/encoding, as this 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 organization and by authorized 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 problem occurs, after a brief troubleshooting session (approx. 0.5 hours), please contact the following:**

**1. Either your national subsidiary or your regional office**

**2. The Support team via the Aftersales Assistance Portal (ASAP) using the optional technical parts support application.**

**Specify the chassis number and the part number of the installed retrofit kit and give a precise description of the problem.**

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 special features.



Denotes the end of the instruction or other text.

## Installation information

Ensure that the cables/lines are not kinked or damaged as you install them in the car. 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 occupied, bridges, double crimps or twin-lead terminals must be used.

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

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

## Ordering instructions for E87

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

- Center console switch center **O**
- Trim **P** or **R**
- Trim for center instrument panel **Q**

## Ordering instructions for E90, E91 and E92

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

- Center console switch center **O**
- Trim **P**

## List of special equipment

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

- SA 459** Electric seat adjustment with memory for driver's seat
- SA 609** Professional navigation system

## Special tools required

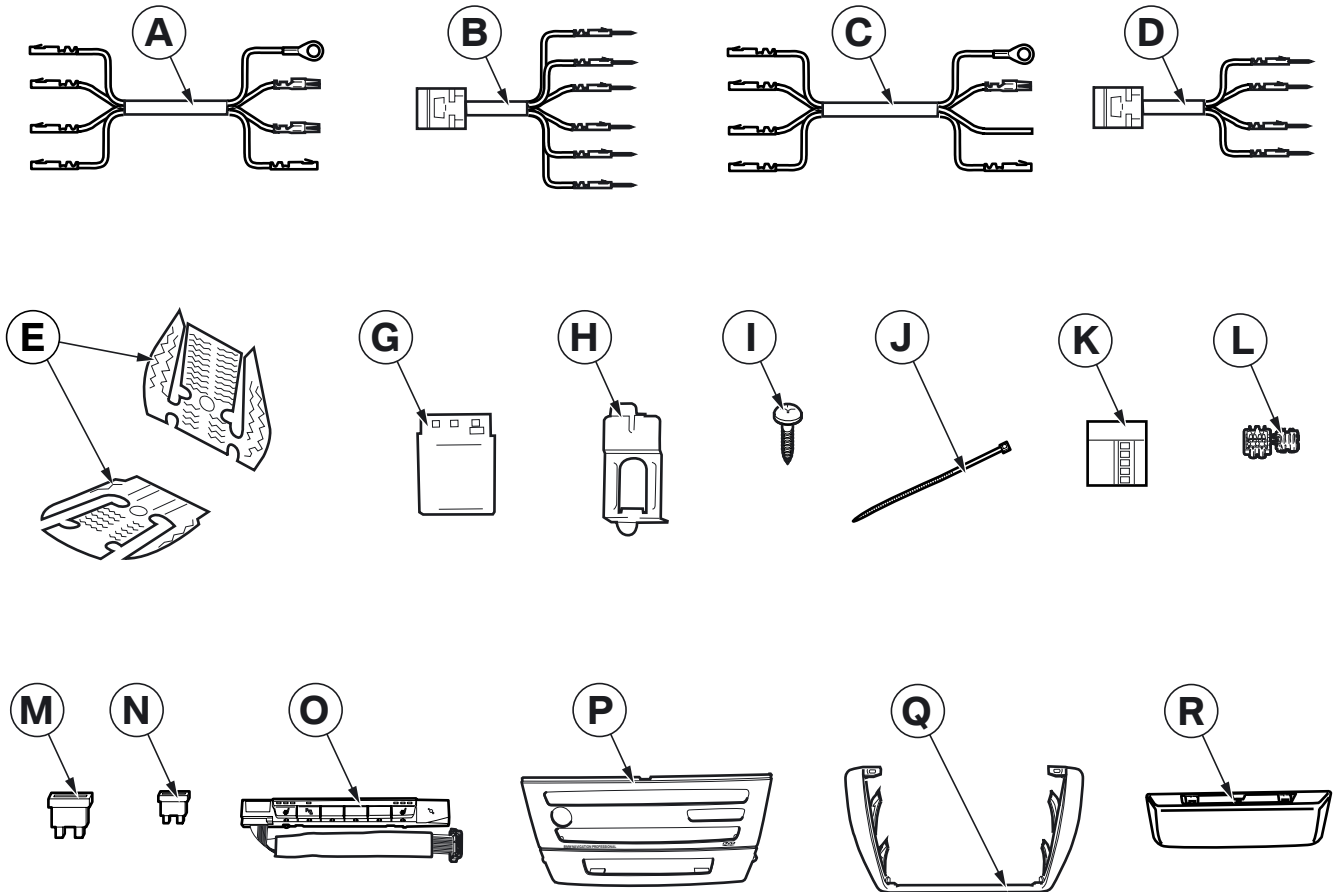
52 0 050, pliers

00 9 317, Trim wedge

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## 1. Parts overview for E87 (cars without SA 459 only)

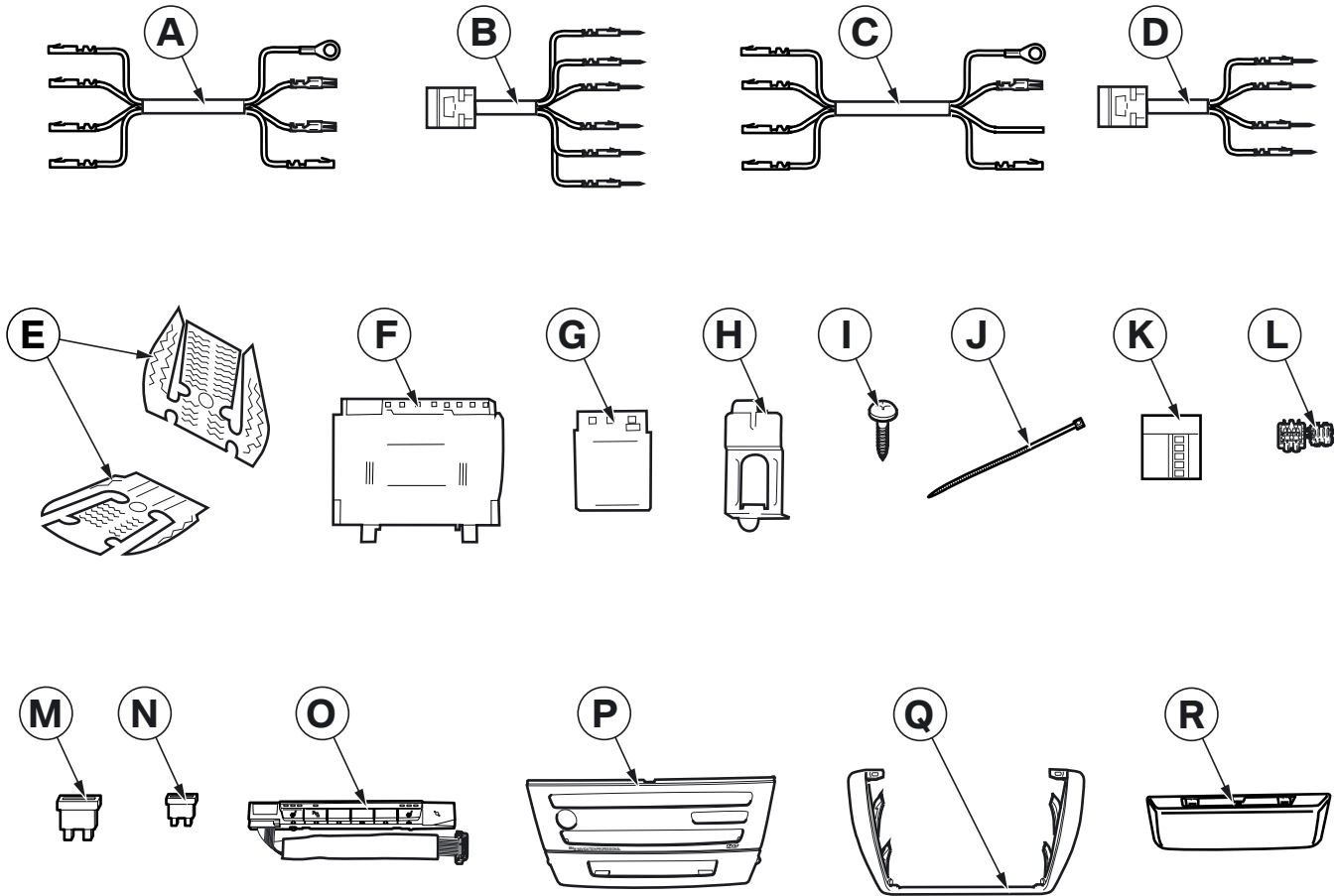


087 0700 Z

### Legend

- A** Wiring harness for driver's seat
- B** Seat cable for driver's seat
- C** Wiring harness for passenger seat
- D** Seat cable for passenger seat
- E** Heating elements
- G** Seat module (2x)
- H** Holder (2x)
- I** Fillister head screw M4 x 8 mm (4x)
- J** Cable tie (20x)
- K** 13-pin SW plug (2x)
- L** Miniature connector (2x)
- M** Fusible link 30 A (2x)
- N** Fusible link 5 A
- O** Center console switch center (not supplied with retrofit kit)
- P** Trim (cars with SA 609 only, not supplied in retrofit kit)
- Q** Trim for center instrument panel (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)
- R** Trim (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)

## 2. Parts overview for E87 (cars with SA 459 only)

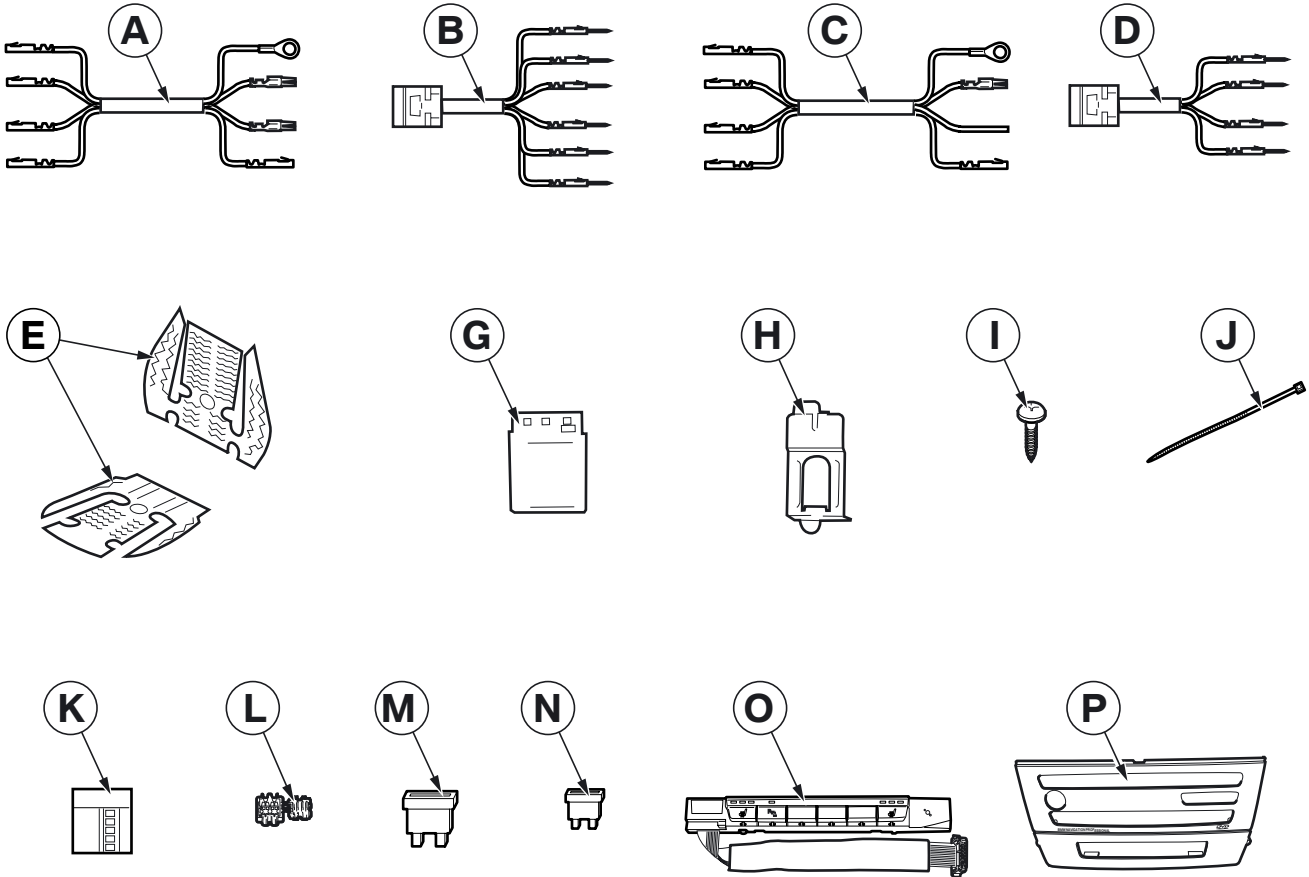


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### Legend

- A** Wiring harness for driver's seat
- B** Seat cable for driver's seat
- C** Wiring harness for passenger seat
- D** Seat cable for passenger seat
- E** Heating elements
- F** Seat module for driver's seat
- G** Seat module
- H** Holder
- I** Fillister head screw M4 x 8 mm (4x)
- J** Cable tie (20x)
- K** 13-pin SW plug (2x)
- L** Miniature connector (2x)
- M** Fusible link 30 A (2x)
- N** Fusible link 5 A
- O** Center console switch center (not supplied with retrofit kit)
- P** Trim (not supplied with the retrofit kit)
- Q** Trim for center instrument panel (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)
- R** Trim (for cars without SA 609 and without a center console switch center only, not supplied with the retrofit kit)

### 3. Parts overview for E90, E91 and E92 (cars without SA 459 only)

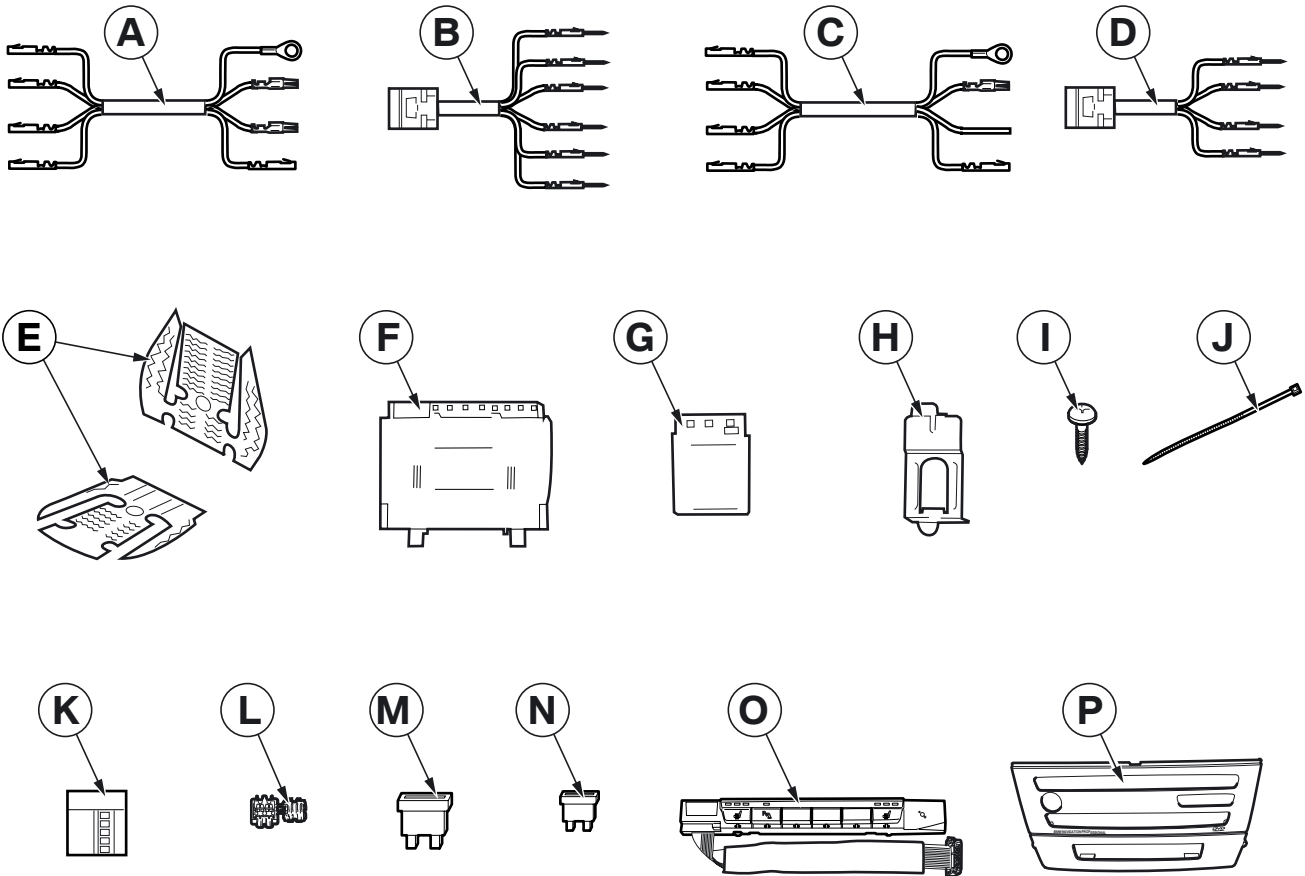


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#### Legend

- A** Wiring harness for driver's seat
- B** Seat cable for driver's seat
- C** Wiring harness for passenger seat
- D** Seat cable for passenger seat
- E** Heating elements
- G** Seat module (2x)
- H** Holder (2x)
- I** Fillister head screw M4 x 8 mm (4x)
- J** Cable tie (20x)
- K** 13-pin SW plug (2x)
- L** Miniature connector (2x)
- M** Fusible link 30 A (2x)
- N** Fusible link 5 A
- O** Center console switch center (not supplied with retrofit kit)
- P** Trim (not supplied with the retrofit kit)

#### 4. Parts overview for E90, E91 and E92 (cars with SA 459 only)



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#### Legend

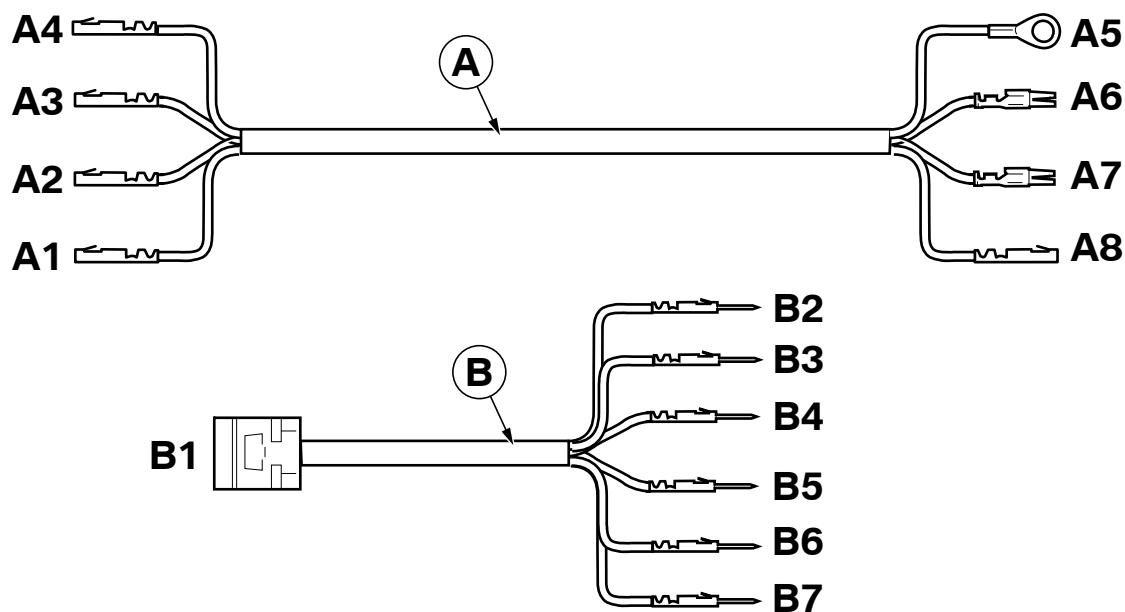
- A** Wiring harness for driver's seat
- B** Seat cable for driver's seat
- C** Wiring harness for passenger seat
- D** Seat cable for passenger seat
- E** Heating elements
- F** Seat module for driver's seat
- G** Seat module
- H** Holder
- I** Fillister head screw M4 x 8 mm (4x)
- J** Cable tie (20x)
- K** 13-pin SW plug (2x)
- L** Miniature connector (2x)
- M** Fusible link 30 A (2x)
- N** Fusible link 5 A
- O** Center console switch center (not supplied with retrofit kit)
- P** Trim (not supplied with the retrofit kit)

## 5. Preparatory work

	<b>TIS No.</b>
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
<b>The following components must be removed first of all</b>	
Front seat, left and right	52 13 000
Trim for center instrument panel (E87 only)	51 45 310
Glove box with casing	51 16 366
Release fuse holder	---
Pedal trim	51 45 185
Inside door sill strip, front (inside) right and left	51 47 000
Side footwell trim on the A pillar, right and left	51 43 070
Heating/air-conditioning control	64 11 377
Center console switch center (no longer required)	61 31 052/054
Seat covers for front seats, left and right	52 13 400
Backrest covers for front seats, left and right	52 13 405
<b>Cars with SA 459 only</b>	
Replace the existing driver's seat module with driver's seat module <b>F</b>	---



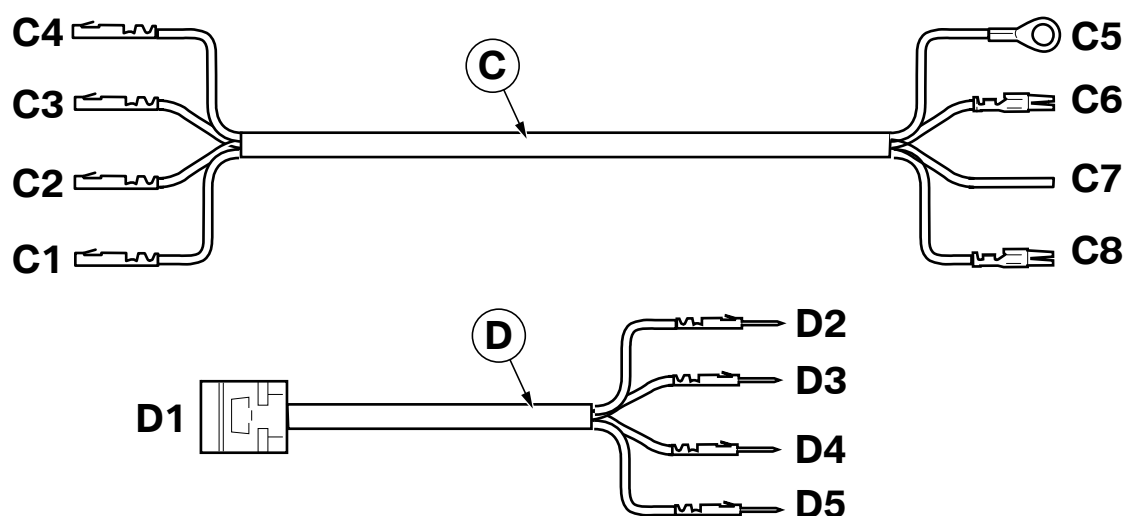
## 6. Connections diagram for driver's seat



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Branch/Item	Designation	Signal	Cable color/ Cross-section	Connection location in car	Abbreviation/ Slot
A	Wiring harness for driver's seat	---	---	---	---
A1	Socket contact	Terminal 31	BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 8
A2	Socket contact	Terminal 30	RT/BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 4
A3	Socket contact	Terminal 15	GN/RT 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 5
A4	Socket contact	O_SHFA	BL/VI 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 1
A5	Eyelet	Terminal 31	BR 4.0 mm <sup>2</sup>	To joint connector in passenger side footwell	X490
A6	Blade terminal contact	Terminal 30	RT/BR 4.0 mm <sup>2</sup>	To fuse holder (natural 6-pin plug)	X11005 PIN 4
A7	Blade terminal contact	Terminal 15	GN/RT 0.35 mm <sup>2</sup>	To fuse holder (BL 15-pin plug)	X11003 PIN 9
A8	Socket contact	O_SHFA	BL/VI 0.35 mm <sup>2</sup>	To the junction box (SW 47-pin plug)	X14270 PIN 34
B	Seat cable for driver's seat	---	---	---	---
B1	8-pin socket casing SW	---	---	To driver's seat module <b>F</b> or <b>G</b> (SW 8-pin plug)	X13709
B2	Plug contact	Terminal 31	BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 8
B3	Plug contact	Terminal 30	RT/BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 4
B4	Plug contact	Terminal 15	GN/RT 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 5
B5	Plug contact	O_SHFA	BL/VI 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 1
B6	Plug contact	K_CAN_H	OR/GN 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 2
B7	Plug contact	K_CAN_L	GN 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X275 PIN 3

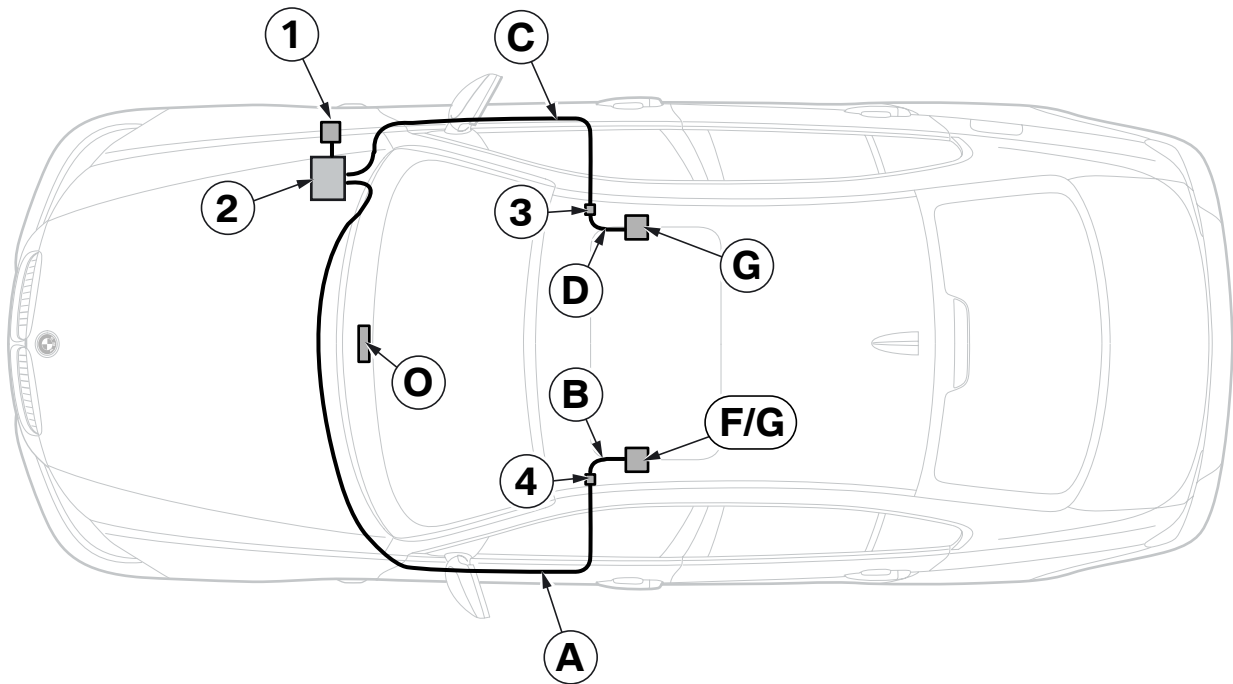
## 7. Passenger seat connections diagram



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Branch/ Item	Designation	Signal	Cable color/ Cross-section	Connection location in car	Abbreviation/ Slot
C	Wiring harness for passenger seat	---	---	---	---
C1	Socket contact	Terminal 31	BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 8
C2	Socket contact	Terminal 30	RT/BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 4
C3	Socket contact	Terminal 15	GN/RT 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 5
C4	Socket contact	O_SHBF	BL/WS 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 1
C5	Eyelet	Terminal 31	BR 4.0 mm <sup>2</sup>	To joint connector in passenger side footwell	X490
C6	Blade terminal contact	Terminal 30	RT/BR 4.0 mm <sup>2</sup>	To fuse holder (SW 6-pin plug)	X11004 PIN 6
C7	Cable open	Terminal 15	GN/RT 0.35 mm <sup>2</sup>	With miniature connector <b>L</b> to branch <b>A7</b>	---
C8	Socket contact	O_SHBF	BL/WS 0.35 mm <sup>2</sup>	To the junction box (SW 47-pin plug)	X14270 PIN 38
D	Seat cable for passenger seat	---	---	---	---
D1	8-pin socket casing SW	---	---	To seat module <b>G</b> (SW 8-pin plug)	X13710
D2	Plug contact	Terminal 31	BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 8
D3	Plug contact	Terminal 30	RT/BR 4.0 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 4
D4	Plug contact	Terminal 15	GN/RT 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 5
D5	Plug contact	O_SHBF	BL/WS 0.35 mm <sup>2</sup>	To seat disconnection plug (19-pin GE)	X279 PIN 1

## 8. Installation and cabling diagram

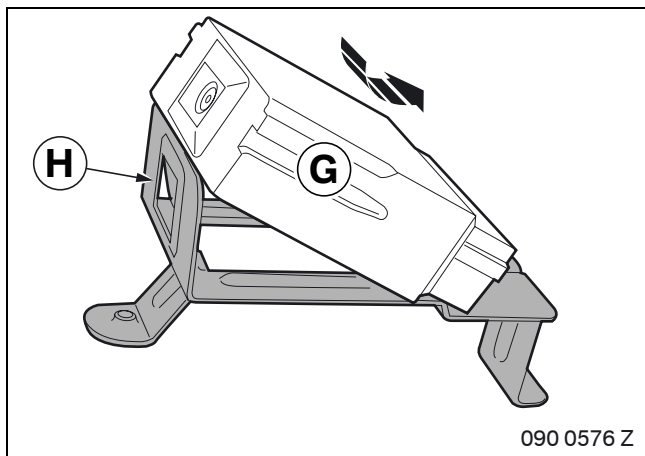


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### Legend


- A** Wiring harness for driver's seat
  - B** Seat cable for driver's seat
  - C** Wiring harness for passenger seat
  - D** Seat cable for passenger seat
  - F** Seat module for driver's seat
  - G** Seat module
  - O** Switch center, center console
- 
- 1** Joint connector **X490**
  - 2** Passenger side footwell
    - Fuse holder, plugs **X11003**, **X11004** and **X11005**
    - Junction box, plug **X14270**
  - 3** Seat disconnection plug **X279**
  - 4** Seat disconnection plug **X275**

## 9. To install the seat modules and heating elements

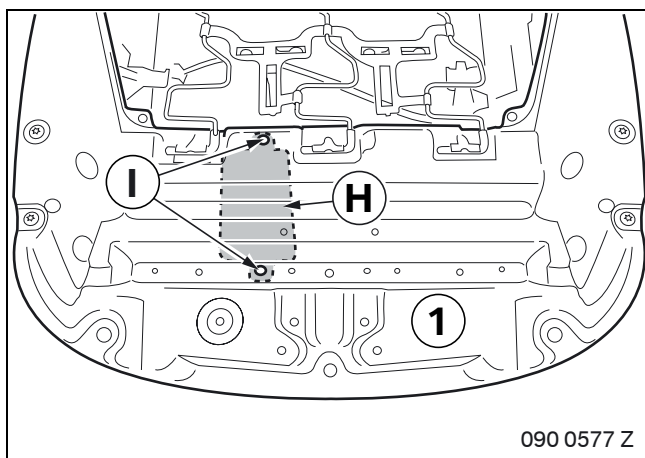


### Cars without SA 459 only


Insert both seat modules **G** into holder **H** and secure them.

 The plugs must point to the rear. ◀

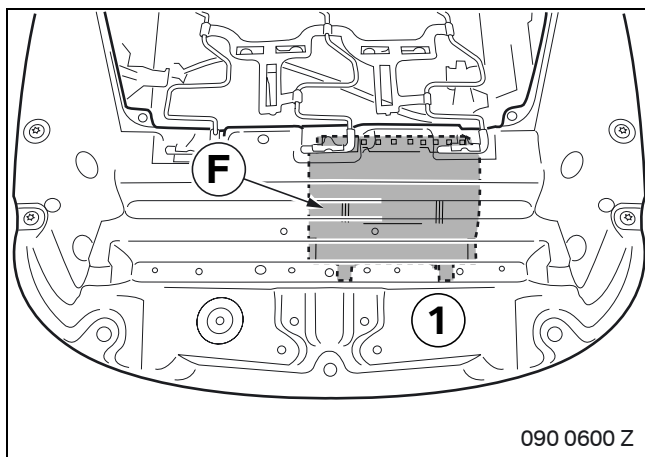
Secure holders **H** under the seat (1) on both seats using fillister head screws **I**.



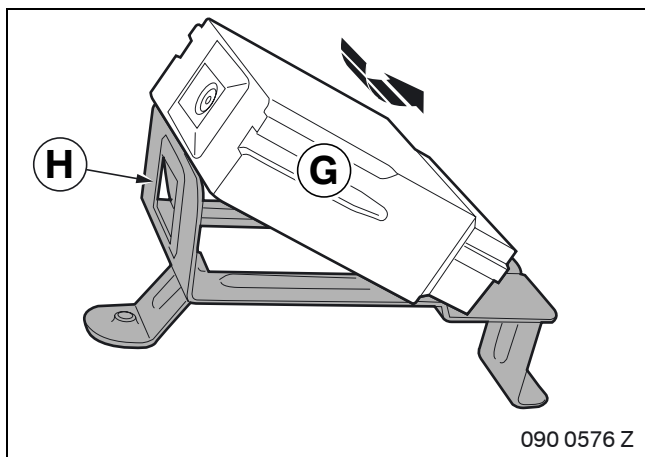
### Cars with SA 459 only

 The plugs must point to the rear. ◀

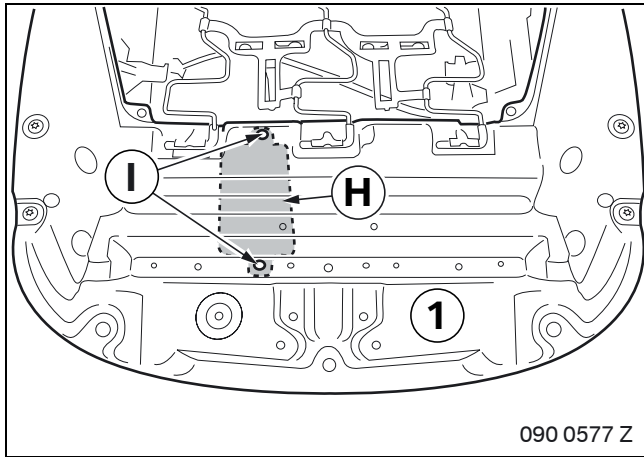
Replace the fitted seat module with driver's seat module **F**.




Insert seat module **G** into holder **H** and secure it.

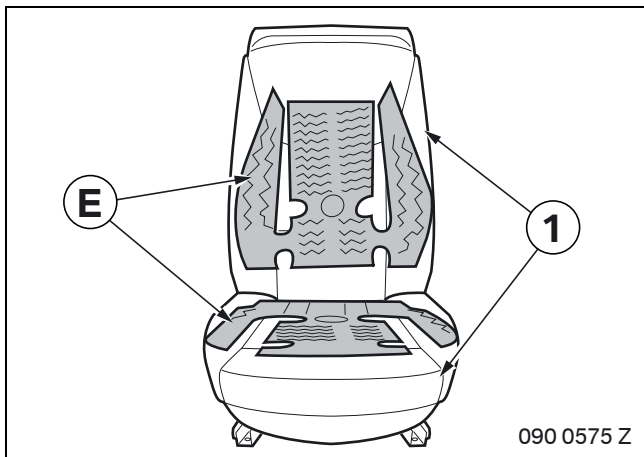


## 9. To install the seat modules and heating elements



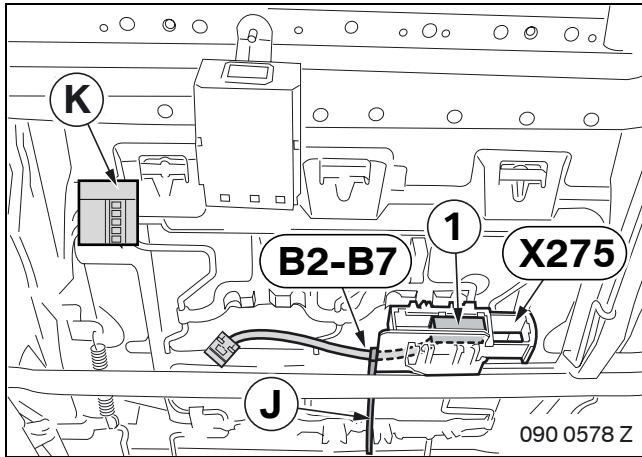
 The plugs must point to the rear. ◀

Secure holders **H** under the seat (1) on the passenger seat using fillister head screws **I**.



Affix heating elements **E** to the seat and backrest padding (1) (see TIS RA 52 13 455).

## 10. To connect the seat cable for the driver's seat (cars without SA 459 only)



☐ If the SW 13-pin plug (1) is not in seat disconnection plug **X275** (19-pin GE), connect branches **B2 - B5** to plug **K**. ◀

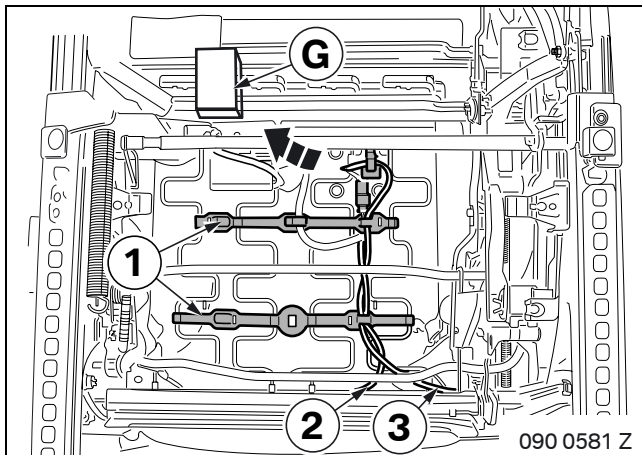
Connect branches **B2-B5** as follows to seat disconnection plug **X257**:

- Branch **B2**, brown cable, to PIN 8
- Branch **B3**, RT/BR cable, to PIN 4
- Branch **B4**, GN/RT cable, to PIN 5
- Branch **B5**, BL/VI cable, to PIN 1

Insulate branch **B6**, OR/GN cable, and branch **B7**, GN cable, and tie them back.

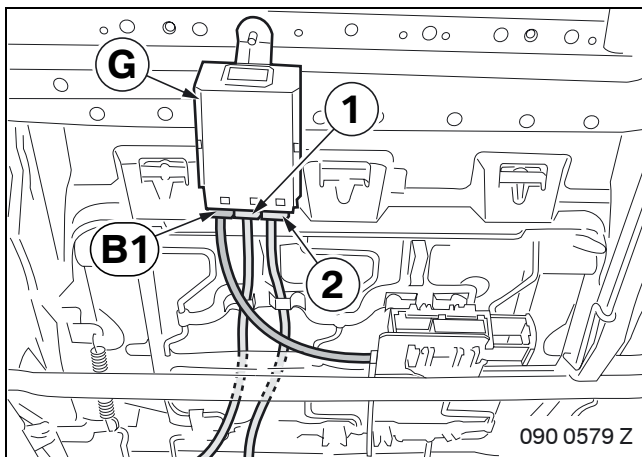
Use a cable tie **J** to secure the cable to the seat disconnection plug **X275**.

Route the plug for the backrest heating element (2) and seat heating element (3) to seat module **G** and attach them to the mountings (1).

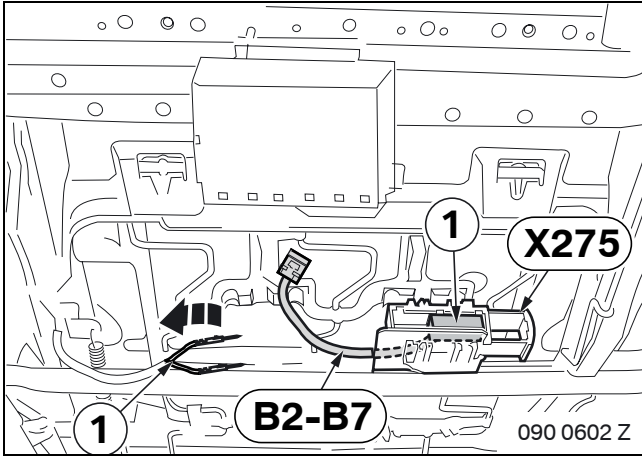


Connect the plug for the backrest heating element (1) and seat heating element (2) to seat module **G**.

Connect branch **B1** (8-pin SW plug) to seat module **G**.



## 11. To connect the seat cable for the driver's seat (cars with SA 459 only)



Disconnect, insulate and tie back the following cables from seta disconnection plug **X275** (19-pin GE):

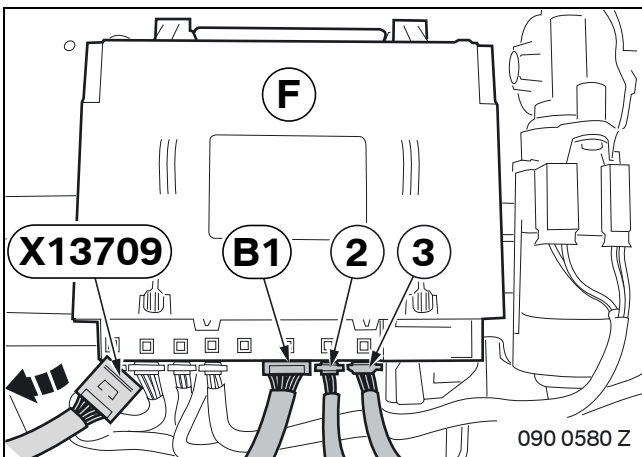
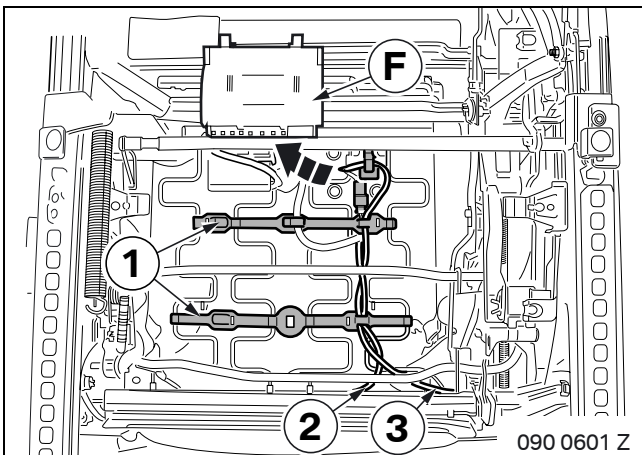
- OR/GN cable from PIN 2
- GN cable from PIN 3

Connect branches **B2-B7** as follows to seat disconnection plug **X257**:

- Branch **B2**, brown cable, to PIN 8
- Branch **B3**, RT/BR cable, to PIN 4
- Branch **B4**, GN/RT cable, to PIN 5
- Branch **B5**, BL/VI cable, to PIN 1
- Branch **B6**, OR/GN cable, to PIN 2
- Branch **B7**, GN cable, to PIN 3

Use a cable tie **J** to secure the cable to the seat disconnection plug **X275**.

Route the plug for the backrest heating element (2) and seat heating element (3) to driver's seat module **F** and attach them to the mountings (1).

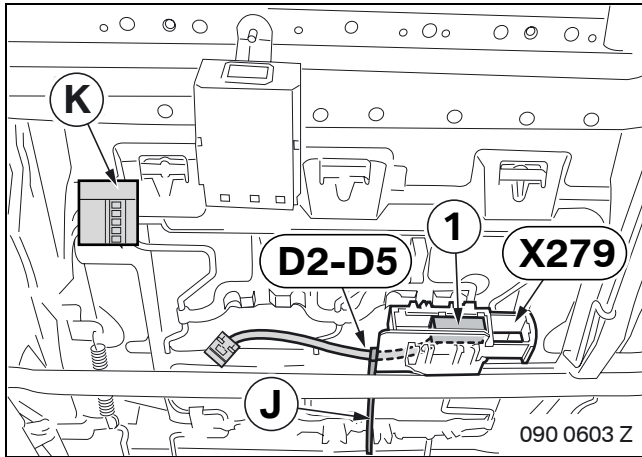


Tie back existing plug **X13709** (8-pin SW).

Connect the plug for the backrest heating element (2) and seat heating element (3) to driver's seat module **F**.

Connect branch **B1** (8-pin SW plug) to driver's seat module **F**.

## 12. To connect the seat cable for the passenger seat (all cars)

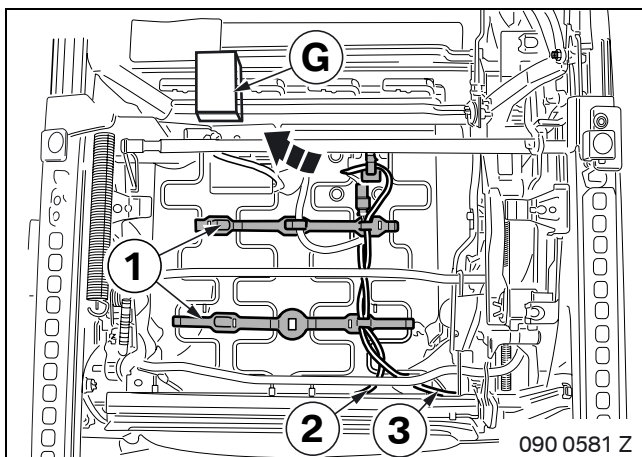


☐ If the SW 13-pin plug (1) is not in seat disconnection plug **X279** (19-pin GE), connect branches **D2 - D5** to plug **K**. ◀

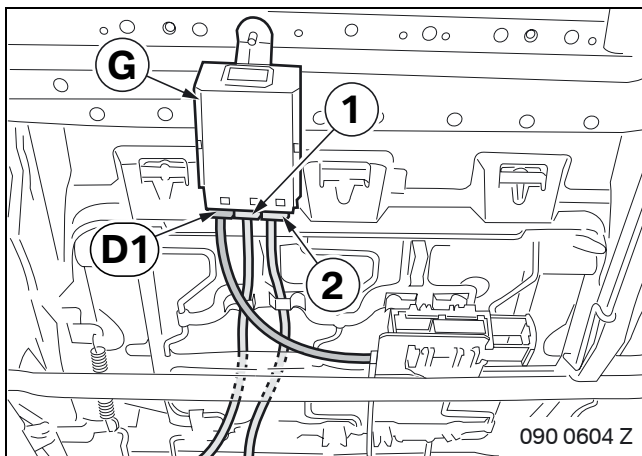
Connect branches **D2-D5** as follows to seat disconnection plug **X279**:

- Branch **D2**, BR cable, to PIN 8
- Branch **D3**, RT/BR cable, to PIN 4
- Branch **D4**, GN/RT cable, to PIN 5
- Branch **D5**, BL/WS cable, to PIN 1

Use a cable tie **J** to secure the cable to seat disconnection plug **X279**.



Route the plug for the backrest heating element (2) and seat heating element (3) to seat module **G** and attach them to the mountings (1).

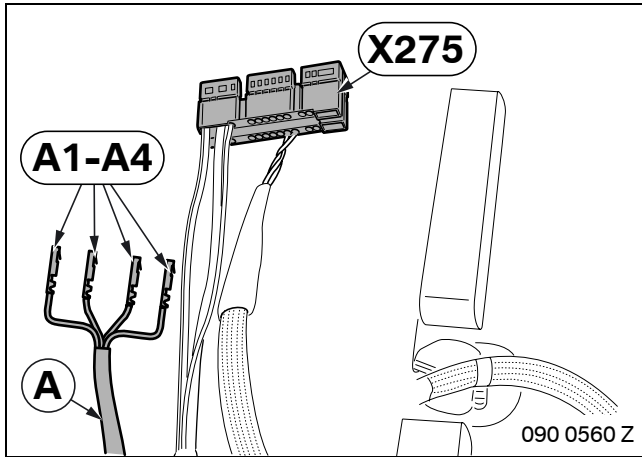


Connect the plug for the backrest heating element (1) and seat heating element (2) to seat module **G**.

Connect branch **D1** (8-pin SW plug) to seat module **G**.

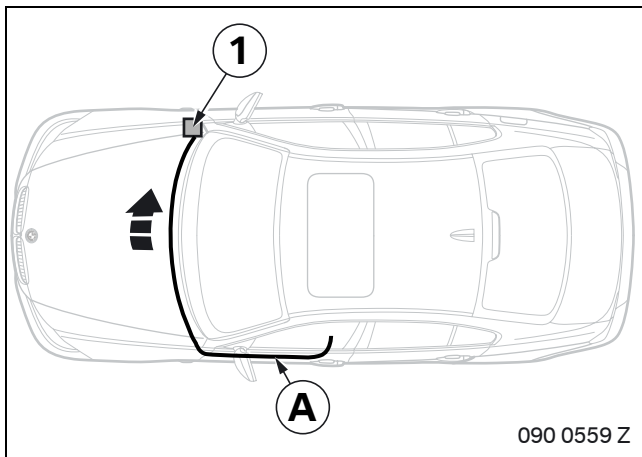


### 13. To install and connect the wiring harness for the driver's and passenger seat



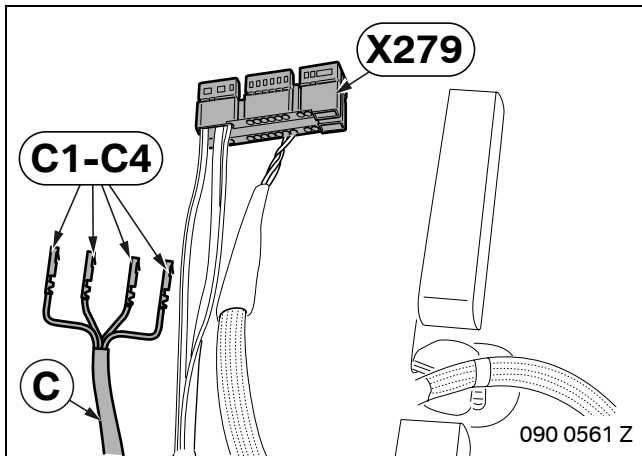
Connect driver's seat wiring harness **A** to seat disconnection plug **X275** (19-pin GE) as follows:

- Branch **A1**, BR cable, to PIN 8
- Branch **A2**, RT/BR cable, to PIN 4
- Branch **A3**, GN/RT cable, to PIN 5
- Branch **A4**, BL/VI cable, to PIN 1



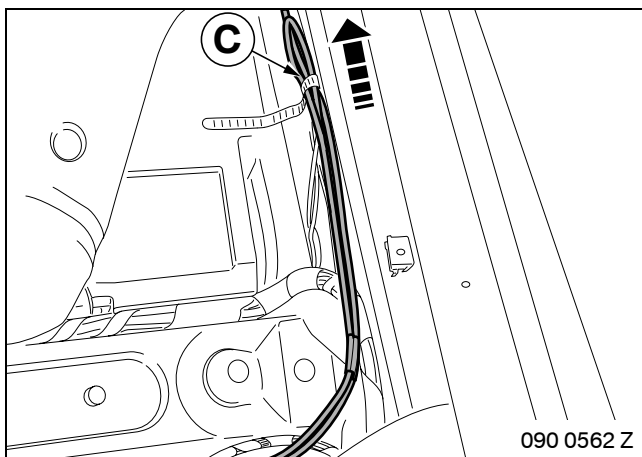
Route driver's seat wiring harness **A** as follows:

- To the left door sill
- Along the standard wiring harness to the footwell on the passenger side (1)



Connect passenger seat wiring harness **C** to seat disconnection plug **X279** (19-pin GE) as follows:

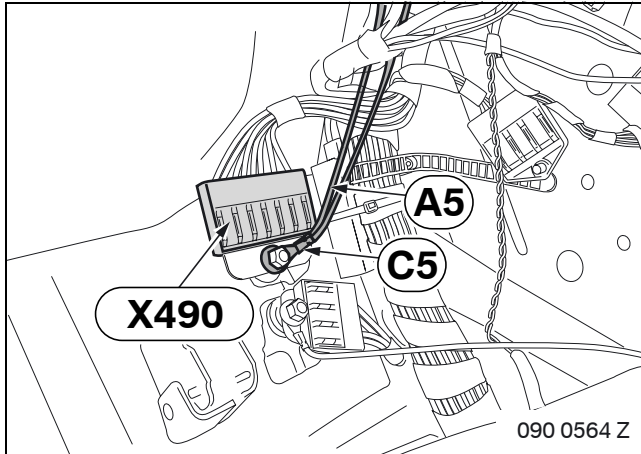
- Branch **C1**, brown cable, to PIN 8
- Branch **C2**, RT/BR cable, to PIN 4
- Branch **C3**, GN/RT cable, to PIN 5
- Branch **C4**, BL/WS cable, to PIN 1



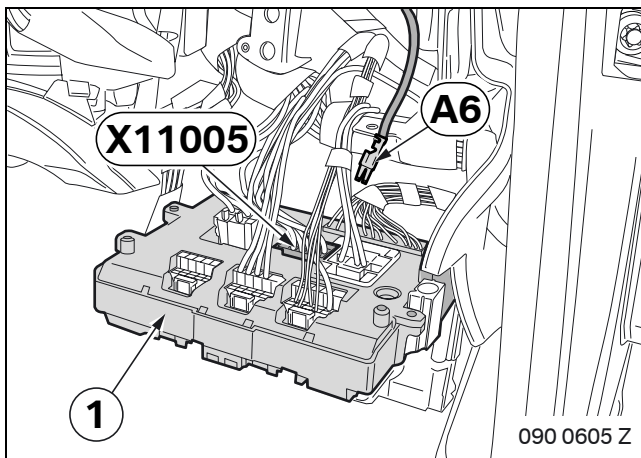
Route passenger seat wiring harness **C** as follows:

- To the right door sill
- Along the standard wiring harness to the footwell on the passenger side

### 13. To install and connect the wiring harness for the driver's and passenger seat

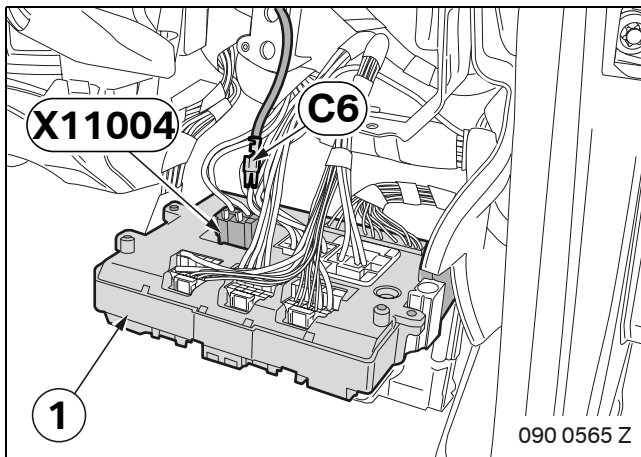


Secure branch **A5**, BR cable, and branch **C5**, BR cable, to joint connector **X490**.



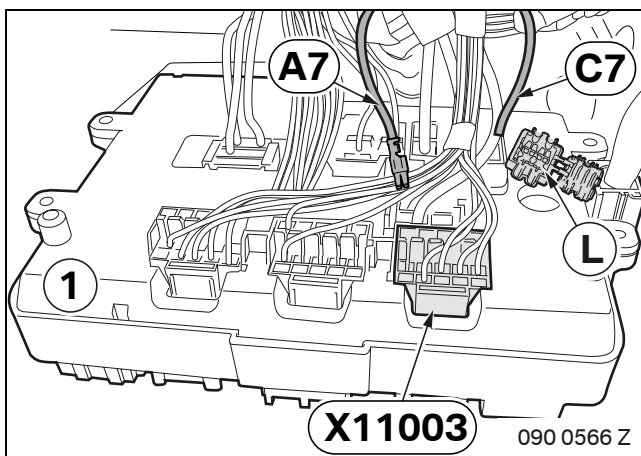
Route branch **A6**, RT/BR cable, to the fuse holder (1).

Connect branch **A6** to PIN 4 of plug **X11005** (6-pin natural color).



Route branch **C6**, RT/BR cable, to the fuse holder (1).

Connect branch **C6** to PIN 6 of plug **X11004** (6-pin SW).



Route branch **A7** and branch **C7**, green/red cable, to the fuse holder (1).

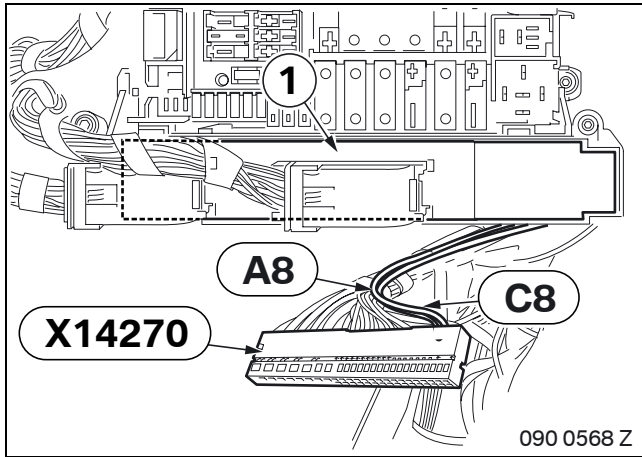
Connect branch **A7** to PIN 9 of plug **X11003** (15-pin BL).

▶ If PIN 9 is already occupied, connect branch **A7** to the cable connected to it, GN/RT or GN/BR cable, using miniature connector **L**. ◀

Connect branch **C7** to branch **A7** using miniature connector **L**.

Install the fuse holder (1).

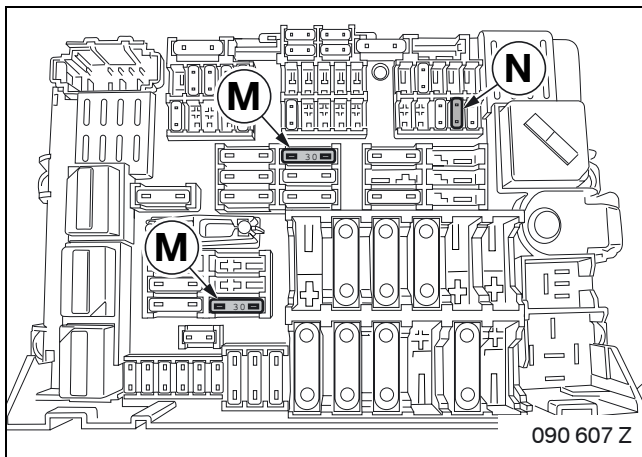
### 13. To install and connect the wiring harness for the driver's and passenger seat



Disconnect plug **X14270** (47-pin SW) from the rear of the junction box (1).

Connect branches **A8** and **C8** to plug **X14270** as follows:

- Branch **A8**, BL/M cable, to PIN 34
- Branch **C8**, BL/WS cable, to PIN 38

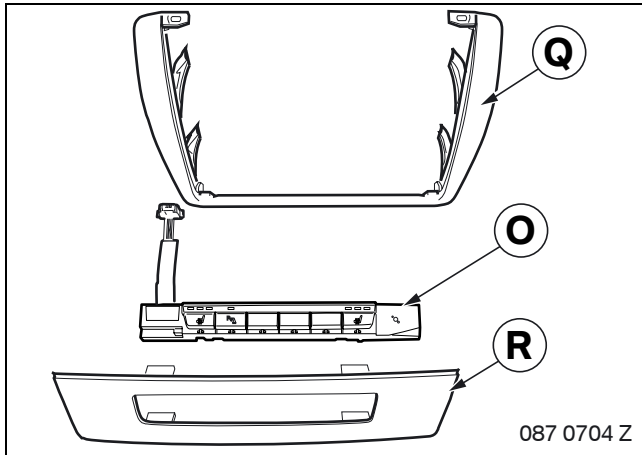


Insert 30 A fusible inserts **M** into slot F32 and F49.


Insert 5 A fusible insert **N** into slot F29.

Install the glove box with casing.

## 14. To install the center console switch center (E87 only)

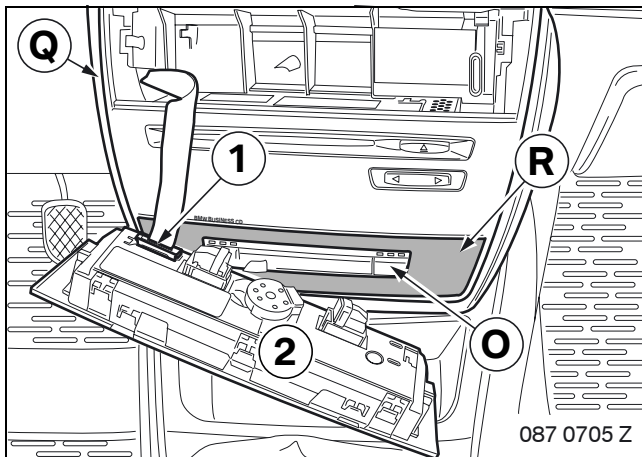


### Cars without SA 609 only

 The trims originally fitted in cars without a central console switch center must be replaced by the following: Trim for center instrument panel **Q** and trim **R**. ◀

Install trim for center instrument panel **Q**.

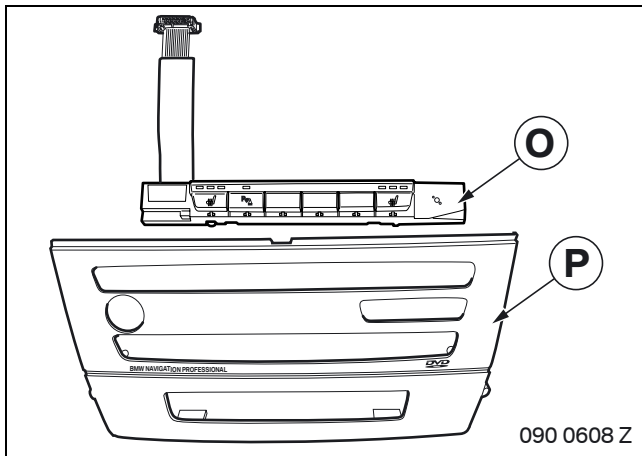
Clip center console switch center **O** into trim **R**.




Clip trim **R** into trim for the center instrument panel **Q**.

Connect the plug (1) from the center console switch center **O** to the heating/air-conditioning control (2).

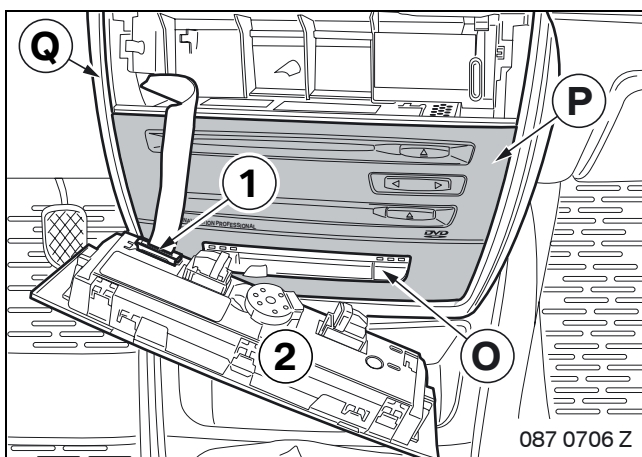
Clip in the heating/air-conditioning control (2).



### Cars with SA 609 only

 The trim originally fitted in cars without a central console switch center must be replaced by the following: Trim **P**. ◀

Clip center console switch center **O** into trim **P**.



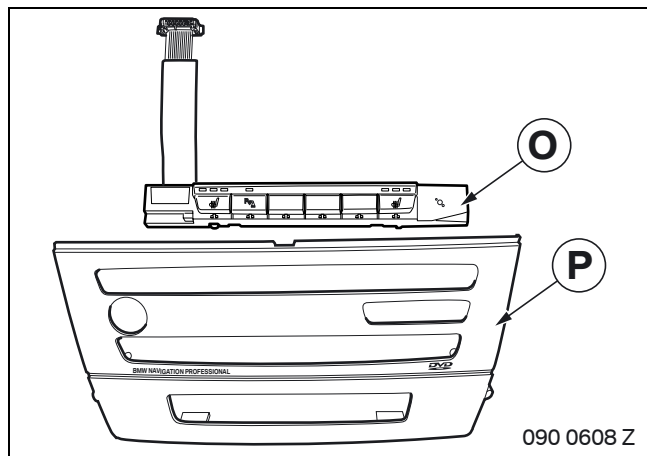
Install trim for center instrument panel **Q**.

Clip trim **P** into the trim for the center instrument panel.

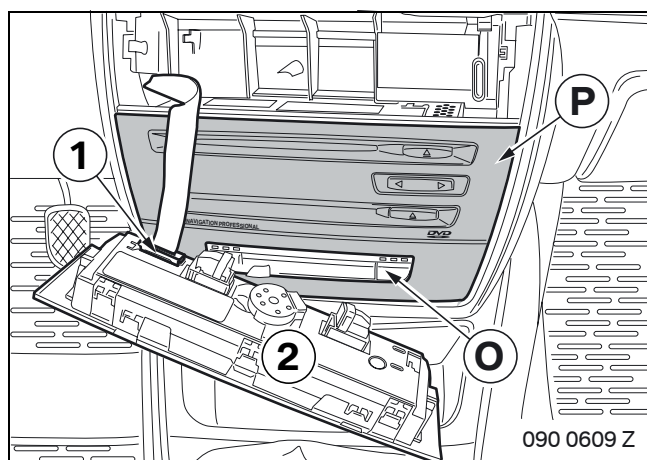
Connect the plug (1) from the center console switch center **O** to the heating/air-conditioning control (2).

Clip in the heating/air-conditioning control (2).

## 15. To install the center console switch center (E90, E91 and E92 only)



Clip center console switch center **O** into trim **P**.



Clip in trim **P**.

Connect the plug (1) from the center console switch center **O** to the heating/air-conditioning control (2).

Clip in the heating/air-conditioning control (2).

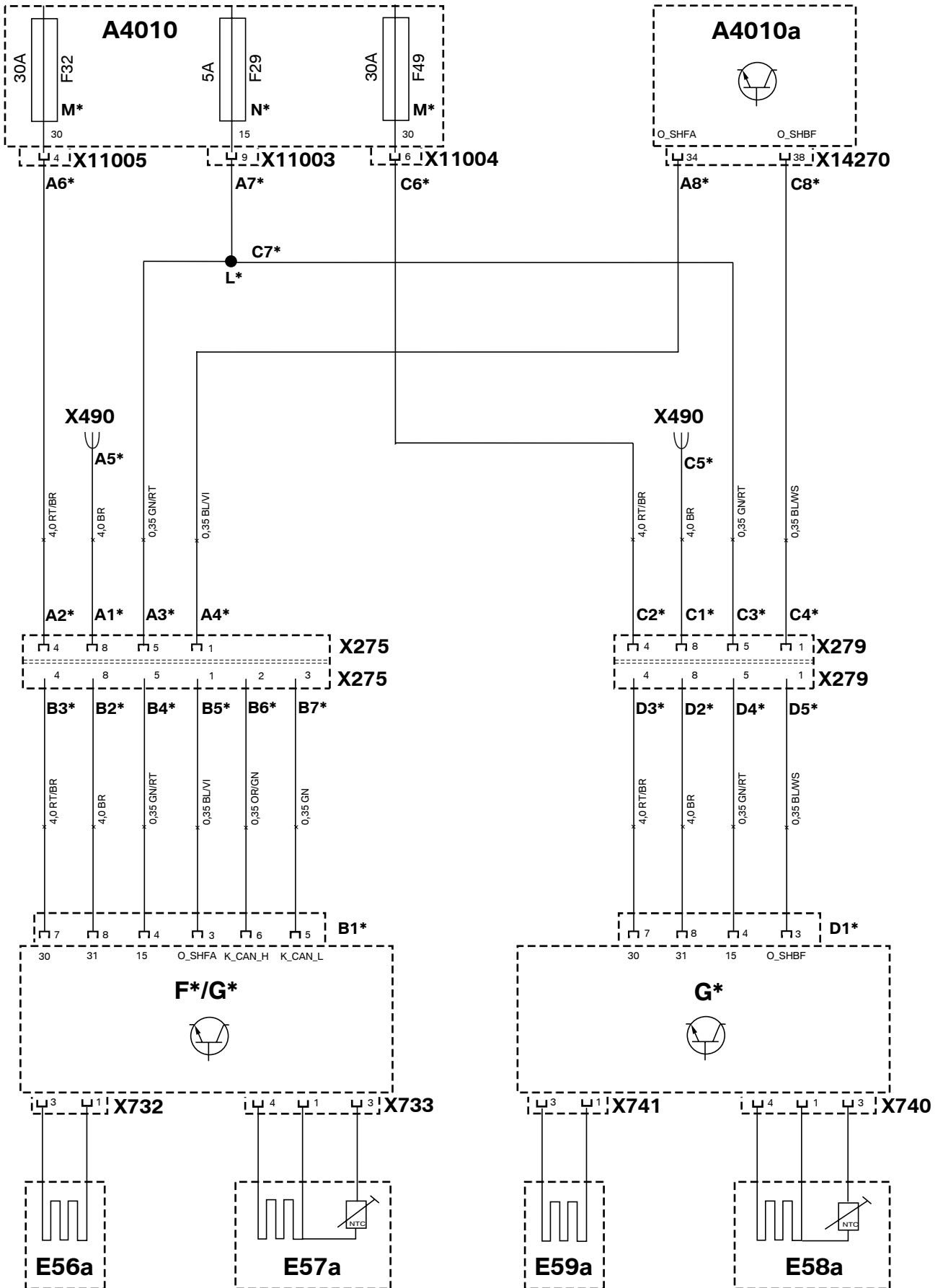
## 16. Concluding work and coding

This retrofit system requires coding.

- Connect the battery
- Encode/program the retrofit via path **Retrofit**
- Conduct a brief test
- Conduct a function test

Re-assemble the car.

# 17. Circuit diagram



090 0610 Z

## 17. Circuit diagram

### Legend

<b>A4010</b>	Fuse holder
<b>A4010a</b>	Junction box
<b>B1*</b>	SW 8-pin plug ( <b>X13709</b> )
<b>D1*</b>	SW 8-pin plug ( <b>X13710</b> )
<b>E56a</b>	Driver's seat backrest heating element ( <b>E*</b> )
<b>E57a</b>	Driver's seat cushion heating element ( <b>E*</b> )
<b>E59a</b>	Passenger seat backrest heating element ( <b>E*</b> )
<b>E58a</b>	Passenger seat cushion heating element ( <b>E*</b> )
<b>F*</b>	Driver's seat module ( <b>A187</b> )
<b>G*</b>	Seat module ( <b>A186</b> )
<b>L*</b>	Miniature connector
<b>M*</b>	Fusible inserts 30 A ( <b>F32</b> and <b>F49</b> )
<b>N*</b>	Fusible insert 5 A ( <b>F29</b> )
<b>X275</b>	Driver's seat disconnection plug (19-pin GE)
<b>X279</b>	Passenger seat disconnection plug (19-pin GE)
<b>X490</b>	Terminal 31 joint connector
<b>X732</b>	4-pin plug BR
<b>X733</b>	SW 5-pin plug
<b>X740</b>	SW 5-pin plug
<b>X741</b>	4-pin plug BR
<b>X11003</b>	Blue 15-pin plug
<b>X11004</b>	SW 6-pin plug
<b>X11005</b>	6-pin natural-colored plug
<b>X14270</b>	SW 47-pin plug

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

### Cable colors

BL	Blue
BR	Brown
GE	Yellow
GN	Green
OR	Orange
RT	Red
VI	Violet
WS	White