

Original BMW Accessories.

Installation instructions.



Retrofit - antitheft alarm system BMW 1-series (E81, E82, E87)

| | | |
|--------------------------|-----------------|---|
| Retrofit kit No.: | 65 12 0 394 934 | Anti-theft alarm system retrofit kit (before 03/2010) |
| | 65 12 2 167 739 | Anti-theft alarm system retrofit kit |

Installation time

The installation time is **approx. 5.5 - 6.0 hours**. The time can vary, depending on vehicle condition and equipment.

The specified installation time does not include the time required for programming/coding.

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

Important information

These installation instructions are intended primarily for use within the BMW dealership organisation and in authorised BMW Service companies.

The target group of these installation instructions are technical personnel trained on BMW vehicles with corresponding technical know-how.

All work is to be carried out with the aid of currently valid BMW repair instructions, schematic diagrams, maintenance manuals and working instructions in rational order with the specified tools (special tools) while paying particular attention to valid safety regulations.

In the event of installation or functional problems, limit troubleshooting to 0.5 hours for mechanical jobs and 1.0 hours for electrical jobs.

To avoid unnecessary work and costs, send a corresponding enquiry via the Aftersales Assistance Portal (ASAP) to Technical Support.

Please quote the following:

- Vehicle identification number
- Part number of retrofit kit
- Exact description of the problem
- Work already carried out

Do not archive the printout of these Installation Instructions as daily updates are conducted through ASAP!

Pictograms



Denotes instructions that draw your attention to dangers.



Denotes information that draws attention to specific requirements.

◀ Denotes the end of the instruction or other text.

Installation information

All illustrations show LHD vehicles; follow the same procedure for RHD vehicles.

Ensure that the cables/lines are not kinked or damaged as you install them in the car. Costs incurred as a result of incorrect installation 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.

Following installation, the retrofit must be programmed/encoded with the integrated software service station (ISSS) via the path – **Conversions** –.

Ordering information

Interior roof light **H**, door lock **M** (only E81, E82 without option code 322, 3/09 onward and E87 without option code 322) and headliner **I** must be ordered separately. It is important to order the correct colour versions in the case of interior roof light **H** and headliner **I** (see EPC for part numbers and instructions).

List of optional extras

The following optional extras must be taken into account when installing the retrofit kit:

Option code 322 Comfort access system

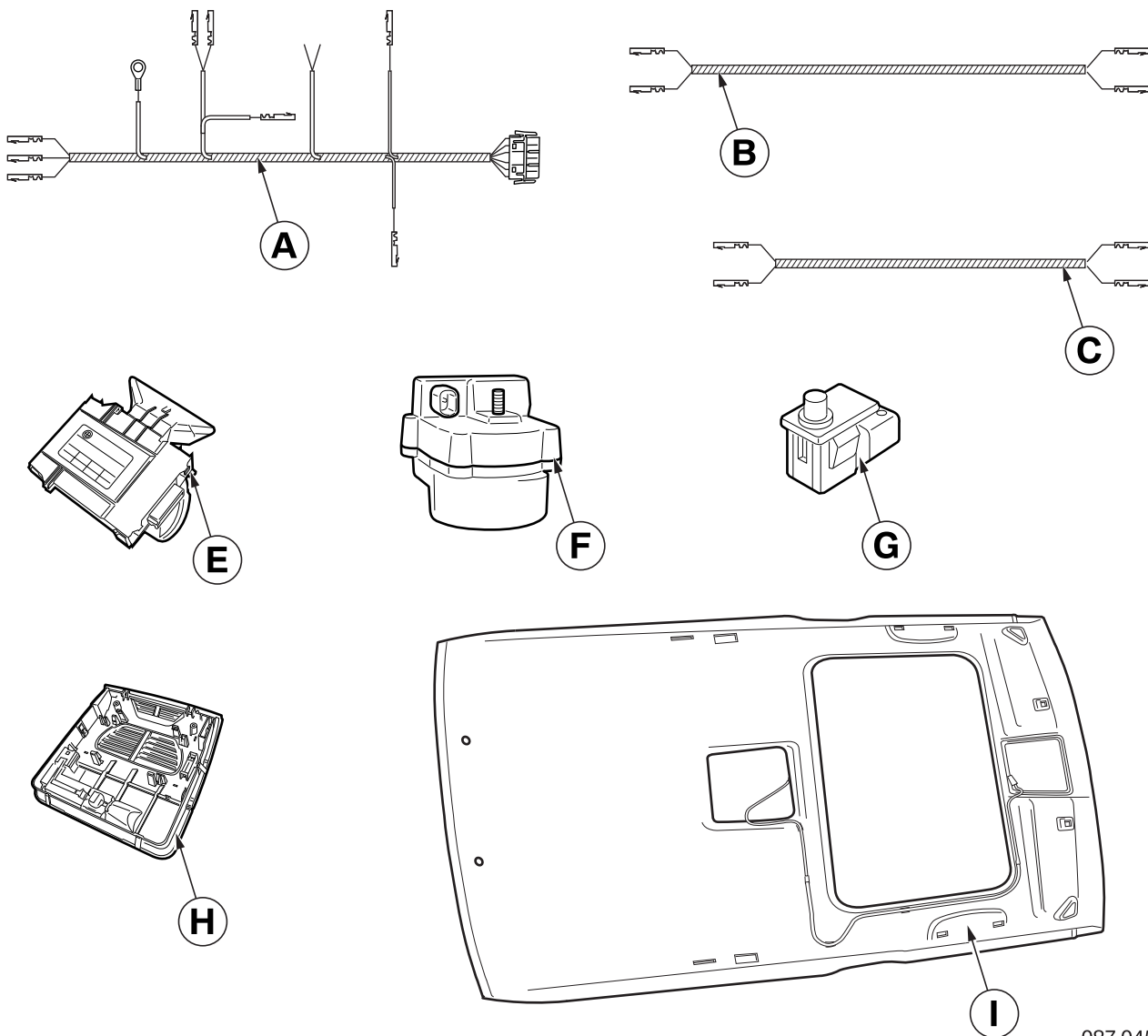
Required special tools

00 9 317, Trim panel wedge

Contents

| 1. Section | Page |
|---|------|
| 2. Parts overview | 4 |
| 3. Preparatory work | 6 |
| 4. Connections diagram, retrofit cable A | 7 |
| 5. Connections diagram, retrofit cables B and C | 8 |
| 6. Installation and layout diagram | 9 |
| 7. Installing ultrasonic sensor | 10 |
| 8. Connecting interior mirror | 11 |
| 9. Installing and connecting retrofit wiring loom A | 12 |
| 10. Installing and connecting retrofit wiring looms B and C | 16 |
| 11. Finishing off and coding | 18 |
| 12. Circuit diagram | 19 |

1. Parts overview

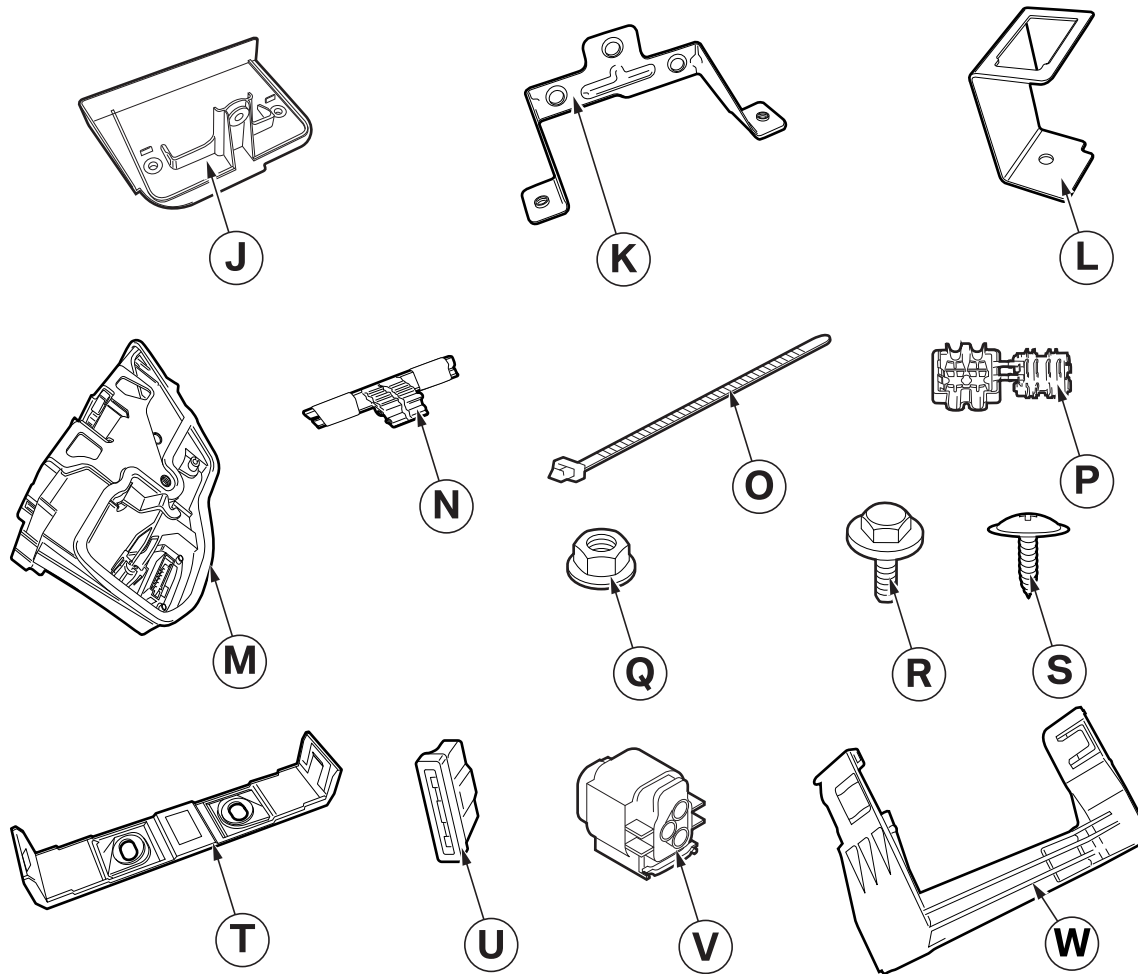


087 0451 Z

Key

- A** Retrofit cable A
- B** Retrofit cable B (only E87 without option code 322)
- C** Retrofit cable C (only E81, E82 without option code 322, 3/09 onward, and E87 without option code 322)
- E** Ultrasonic module
- F** Emergency current siren
- G** Bonnet switch
- H** Interior roof light (not included in the retrofit kit)
- I** Headliner (not included in the retrofit kit)

1. Parts overview




082 0042 Z

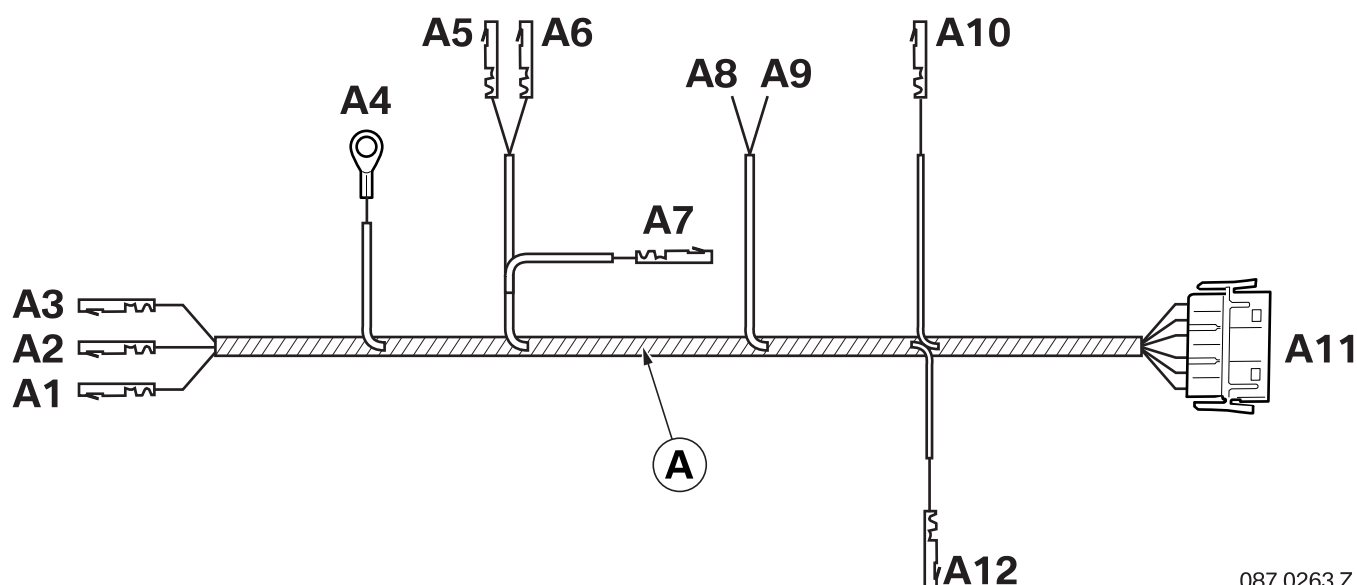
Key

- J** Mounting plate
- K** Bracket
- L** Bracket for bonnet switch
- M** Door lock (only E81, E82 without option code 322, 3/09 onward, and E87 without option code 322), not included in the retrofit kit
- N** Cable clip
- O** Cable tie L = 200 mm (25x)
- P** Miniature connector (2x)
- Q** Hexagon nut M6 (4x)
- R** Hexagon screw M6x18 (2x)
- S** Recessed cross head screw
- T** Bracket (only for E81, E87)
- U** Fuse 7.5 A
- V** Socket housing 3-pin SW (2x)
- W** Bracket (only for E82)

2. Preparatory work

| | ISTA No. |
|--|-----------------|
| Perform quick test | --- |
| Disconnect negative terminal of battery | 12 00 ... |
| Remove the following components | |
|  Observe safety information on working on vehicles with airbag systems. ◀ | --- |
| Cover of ABS/DSC control unit | --- |
| Headlining | 51 44 011 |
| Pedal assembly trim panel | 51 45 185 |
| Dashboard trim, bottom right | 51 45 181 |
| Glove compartment, right | 51 16 366 |
| Sill cover strip, front (inner) left | 51 47 000 |
| Footwell trim panel, A-pillar left | 51 43 070 |
| Backrest side section | 52 26 008 |
| Rear left wheel arch cover | 51 71 041 |
| Front door trim panel, left (only E87) | 51 41 000 |
| Door sill cover strip, rear (inner), left (only E87) | 51 47 030 |
| Additionally, for E81, E82 | |
| Rear seat | 52 26 005 |
| Rear left side trim panel | 51 43 000 |
| Additionally for E81, E82 without option code 322, 3/09 onward and E87 without option code 322 | |
| Sound insulation, left front door | 51 48 060 |

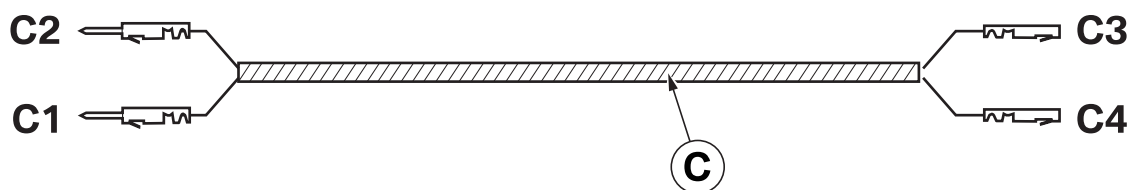
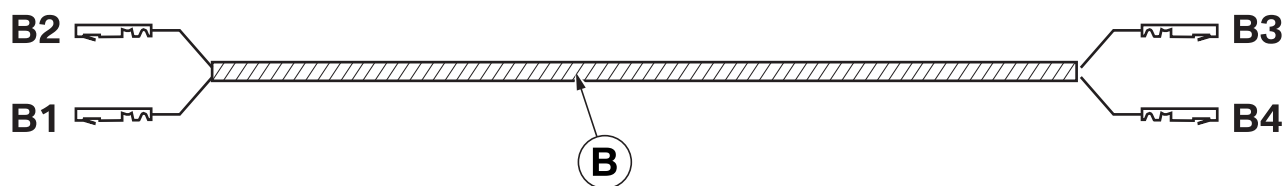
3. Connections diagram, retrofit cable A



087 0263 Z

| Item | Designation | Signal | Cable colours/ cross section | Plug-in location in vehicle | Designation/ plug-in location |
|------|-------------------------|----------------|---------------------------------|---|------------------------------------|
| A | Retrofit cable A | --- | --- | --- | --- |
| A1 | Socket contact | Terminal 31 | BR 0.50 mm ² | With socket housing V At emergency current siren F | X372 PIN 1 |
| A2 | Socket contact | IRS-SINE | SW/RT 0.50 mm ² | With socket housing V At emergency current siren F | X372 PIN 2 |
| A3 | Socket contact | Terminal 30 | RT/GE 0.50 mm ² | With socket housing V At emergency current siren F | X372 PIN 3 |
| A4 | Cable eyelet M6 | Terminal 31 | BR 0.50 mm ² | At comb connector behind seat backrest section, left | X13016 |
| A5 | Socket contact | MHK | VI/GN 0.50 mm ² | With socket housing V at bonnet switch G | X161 PIN 2 |
| A6 | Socket contact | Terminal 31 | BR 0.50 mm ² | With socket housing V at bonnet switch G | X161 PIN 1 |
| A7 | Socket contact | MHK | VI/GN 0.50 mm ² | At CAS control unit 41-pin connector, SW | X13376 PIN 38 |
| A8 | Wire open | K-CAN HIGH | OR/GN 0.35 mm ² | With miniature connector P at K-CAN cable to junction box | X14271 PIN 46 |
| A9 | Wire open | K-CAN LOW | GN 0.35 mm ² | With miniature connector P at K-CAN cable to junction box | X14271 PIN 10 |
| A10 | Socket contact | DWAL | GR/SW 0.50 mm ² | At interior mirror 10-pin connector, SW | X14292 PIN 9 |
| A11 | Socket connector, 8-pin | --- | SW | At ultrasonic module E | --- |
| A12 | Socket contact | Terminal 30 | RT/GE 0.50 mm ² | Cars up to 03/07 only At fuse box Cars 03/07 onward only At fuse box | X11001 PIN 9 X11007 PIN 3 |

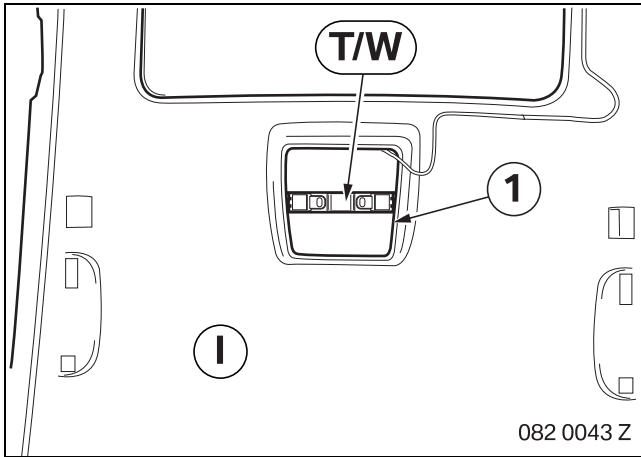
4. Connections diagram, retrofit cables B and C



087 0264 Z

| Item | Designation | Signal | Cable colours/ cross section | Plug-in location in vehicle | Designation/ plug-in location |
|------|------------------|--------|---------------------------------|---|----------------------------------|
| B | Retrofit cable B | --- | --- | Only E87 without option code 322 | --- |
| B1 | Socket contact | ERFT | WS/SW 0.50 mm ² | At door lock M | X747 PIN 5 |
| B2 | Socket contact | VRFT | SW/BL 0.50 mm ² | At door lock M | X747 PIN 4 |
| B3 | Socket contact | VRFT | SW/BL 0.50 mm ² | At 32-pin door disconnecter, SW door side | X257 PIN 10 |
| B4 | Socket contact | ERFT | WS/SW 0.50 mm ² | At 32-pin door disconnecter, SW door side | X257 PIN 11 |
| C | Retrofit cable C | --- | --- | Only E81, E82 without option code 322, 3/09 onward and E87 without option code 322 | --- |
| C1 | Pin contact | ERFT | WS/SW 0.50 mm ² | At 32-pin door disconnecter, SW vehicle side | X257 PIN 11 |
| C2 | Pin contact | VRFT | SW/BL 0.50 mm ² | At 32-pin door disconnecter, SW vehicle side | X257 PIN 10 |
| C3 | Socket contact | VRFT | SW/BL 0.50 mm ² | At footwell module 51-pin connector, SW | X14261 PIN 42 |
| C4 | Socket contact | ERFT | WS/SW 0.50 mm ² | At footwell module 51-pin connector, SW | X14261 PIN 46 |

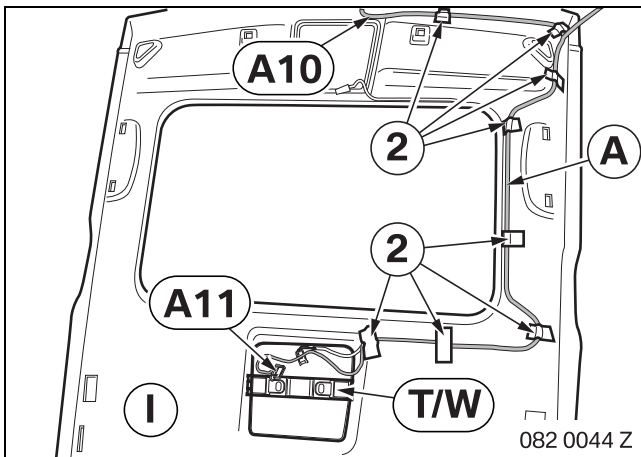
6. Installing ultrasonic sensor



Only cars with slide/tilt sunroof

▶ E82 cars: Note direction of installation of bracket **W**. ◀

Clip bracket **T/W** into lugs in metal frame **(1)**.



All models

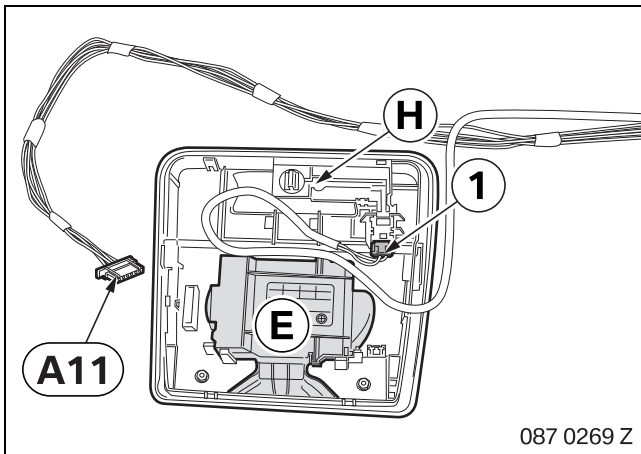
Route branch **A10**, GR/SW wire, to middle of headliner at front.

Route branch **A11** to cutout for interior roof light at rear.

Secure retrofit cable **A** to headliner **I** with adhesive tape **(2)** or Sikaflex.

Install headliner **I**.

▶ If the car has a slide/tilt sunroof, press brackets **T/W** into position on the roof. ◀

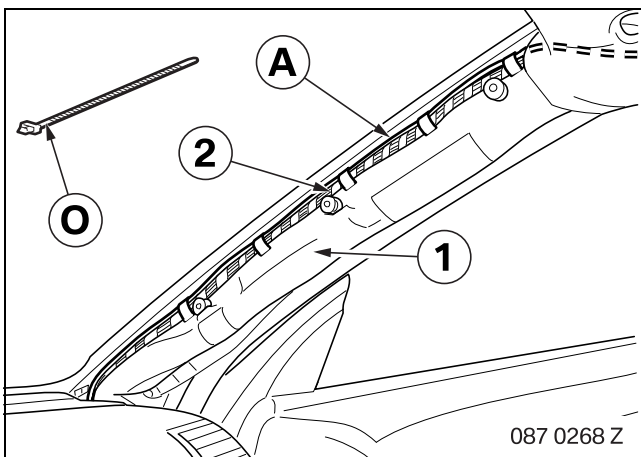


Install ultrasonic sensor **E** in interior roof light **H**.

Connect connector for rear interior roof light **(1)** to interior roof light **H**.

Connect branch **A11** to ultrasonic sensor **E**.

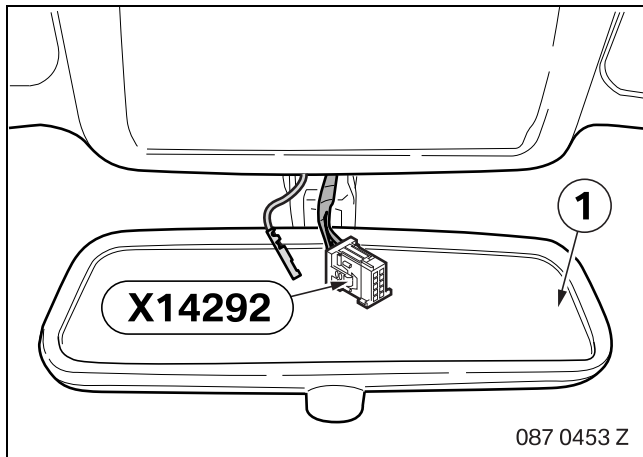
Install interior roof light **H**.



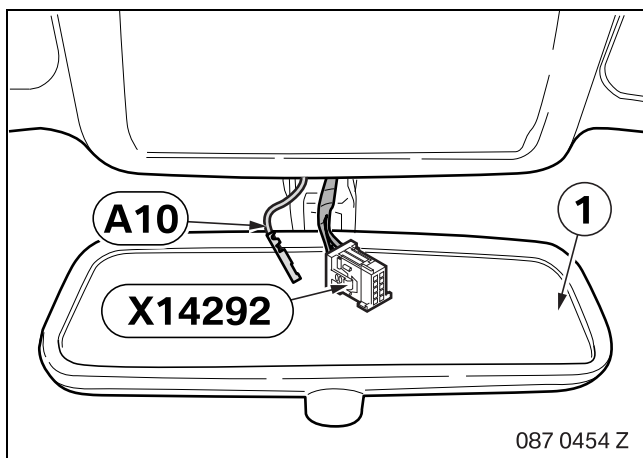
⚠ In order not to impair operation of the airbag **(1)**, secure retrofit cable **A** with cable tie **O** to vehicle wiring harness **(2)**. ◀

Route retrofit cable **A** along the A-pillar to behind the instrument panel.

7. Connecting interior mirror



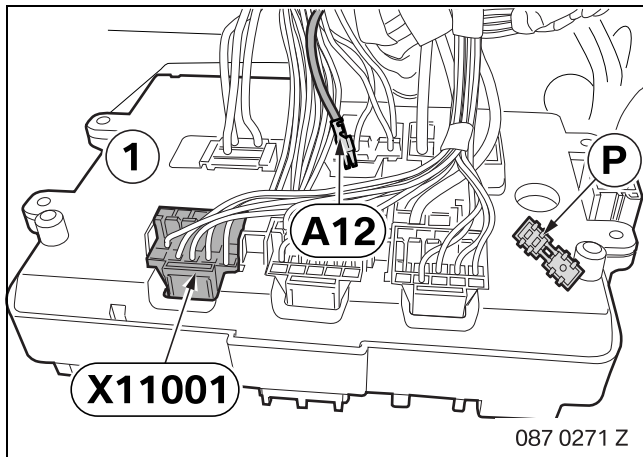
Unplug connector **X14292** (10-pin, SW) from interior rear-view mirror (1).



Connect branch **A10**, GR/SW wire, at PIN 9 of connector **X14292**.

Plug in connector **X14292** at interior rear-view mirror (1).

8. Installing and connecting retrofit wiring loom A



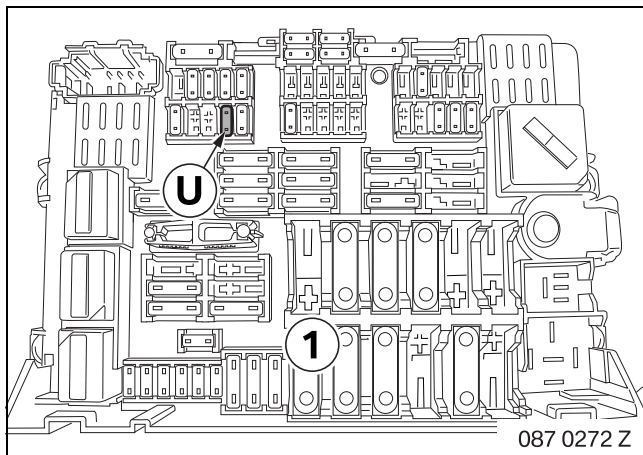
Cars up to 03/07 only

Route wiring loom **A** along the vehicle wiring harness behind the glove compartment.

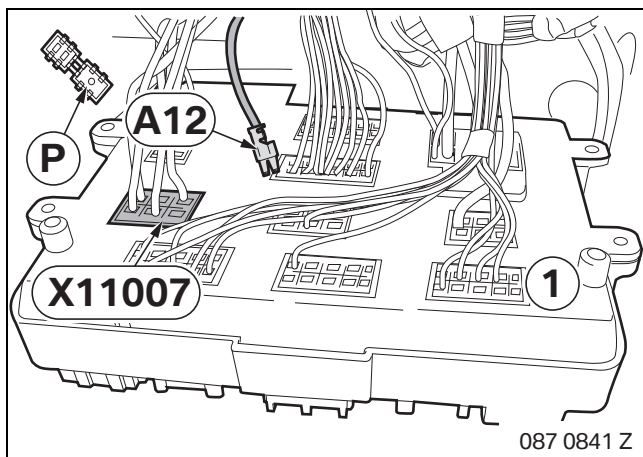
Route branch **A12**, RT/GE wire, to -fuse box (1).

Connect branch **A12** to connector **X11001**, PIN 9.

▶ If PIN 9 is already occupied, connect branch **A12** with miniature connector **P** to the RT/GE wire already connected to PIN 9. ◀



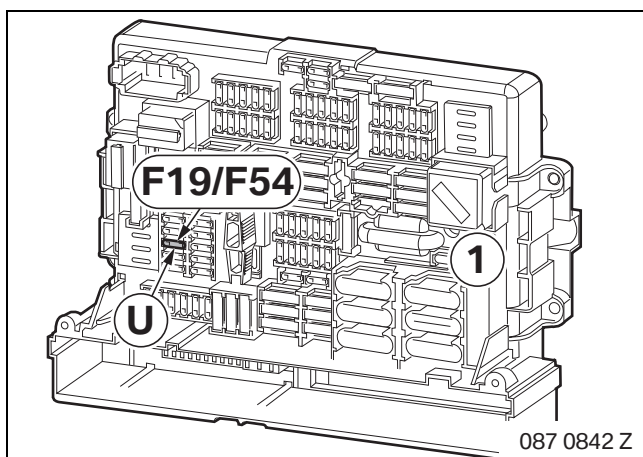
Insert fuse **U** in slot F 19 in fuse box (1).



Cars 03/07 onward only

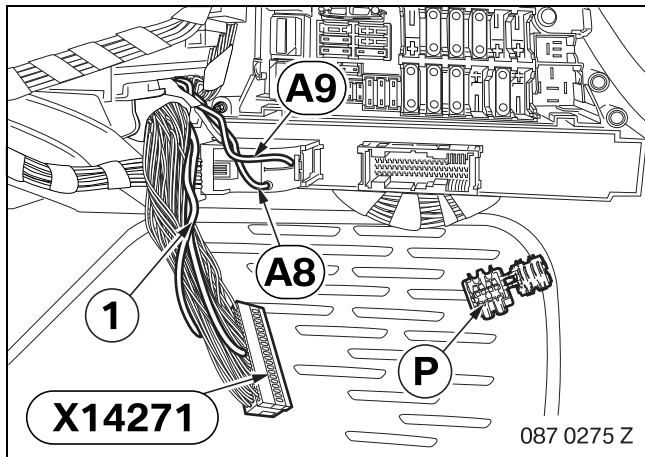
▶ If PIN 3 is occupied, disconnect socket contact from branch **A12** and connect with cutting-edge connector **P**. ◀

Plug in branch **A12**, RT/GE wire, at PIN 3 of connector **X11007** (RT 10-pin) at fuse box (1).



If the car's production data is 03/07 to 09/07, insert fuse **U** to slot **F19**; if the car's production date is 09/07 onward, insert the fuse in slot **F54** of fuse box (1).

8. Installing and connecting retrofit wiring loom A

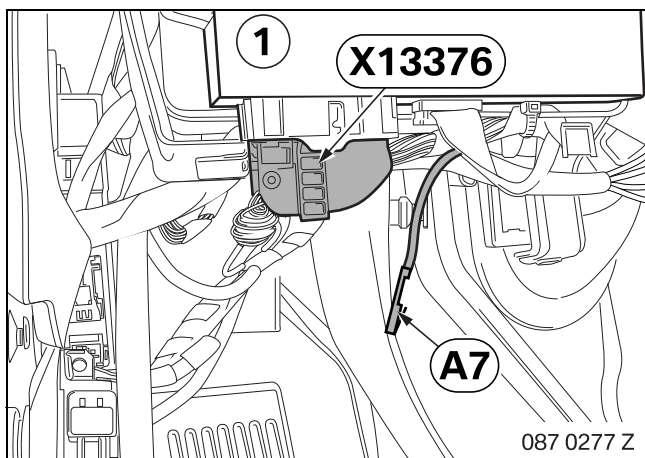


All models

Route branch **A8**, OR/GN wire, and branch **A9**, GN wire, to connector **X14271** (54-pin BL).

Connect branches **A8** and **A9** to K-CAN wires (1) of connector **X14271** (54-pin BL) with miniature connectors **P** as follows:

- Branch **A8**, OR/GN wire, to wire of same colour to PIN 46
- Branch **A9**, GN wire, to wire of same colour to PIN 10

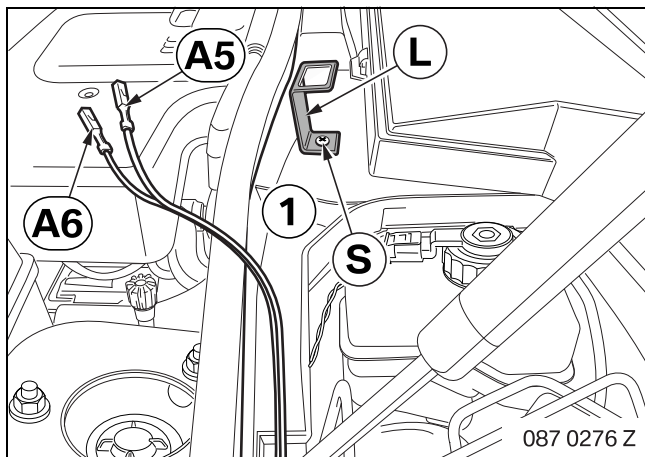


Route retrofit cable **A** along the vehicle wiring harness to the driver's footwell.

Unplug and release connector **X13376** (41-pin, SW) from CAS control unit (1).

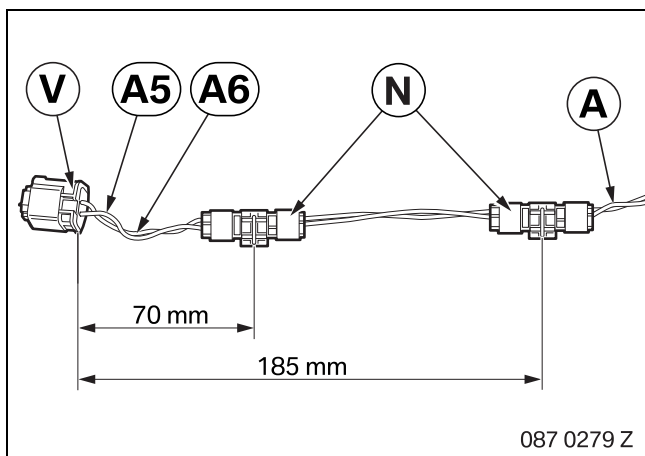
Connect branch **A7**, VI/GN wire, to PIN 38 of connector **X13376**.

Lock and plug in connector **X13376**.



Secure bracket for bonnet switch **L** with recessed cross head screw **S** to microfilter housing (1).

Route branch **A5**, VI/GN wire, and branch **A6**, BR wire, into engine compartment and to microfilter housing (1).

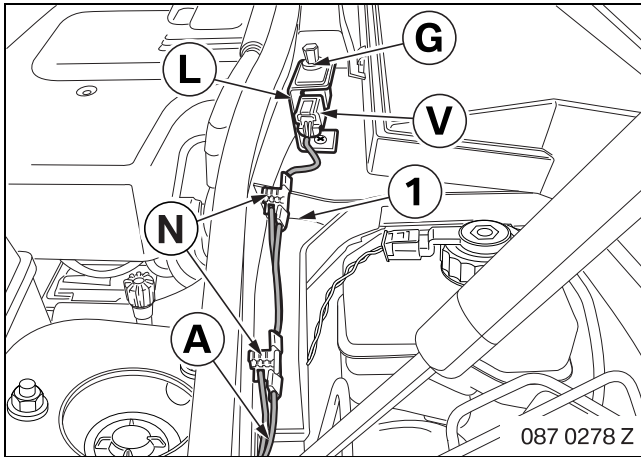


Connect branches **A5** and **A6** to socket housing **V** as follows:

- Branch **A5**, VI/GN wire, at PIN 2
- Branch **A6**, BR wire, at PIN 1

Secure cable holder **N** with insulating tape to retrofit cable **A** (dimensions as shown).

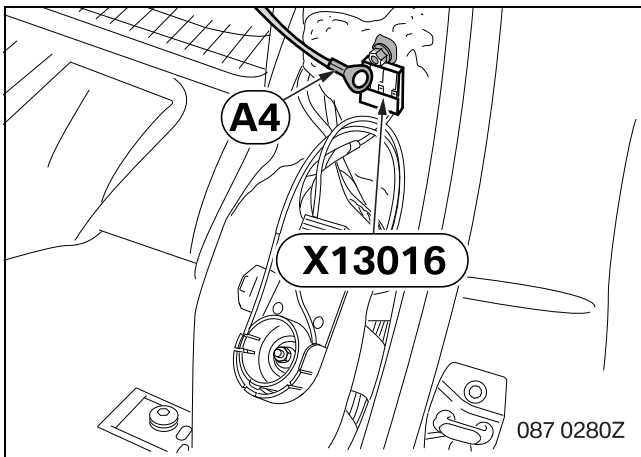
8. Installing and connecting retrofit wiring loom A



Fit bonnet switch **G** in bracket for bonnet switch **L**.

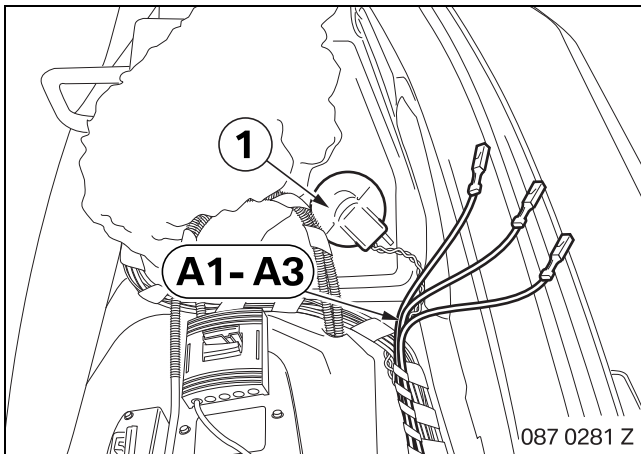
Connect socket housing **V** to bonnet switch **G**.

Secure retrofit cable **A** with cable tie **N** to micro-filter housing (1).

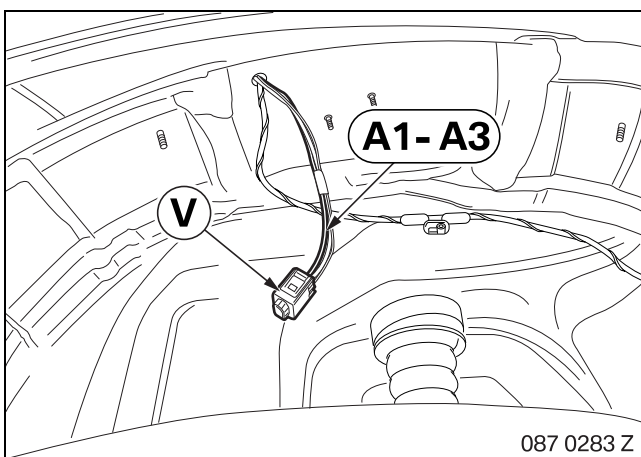


Route retrofit cable **A** along the left sill behind the seat backrest section, left.

Screw down branch **A4**, BR wire, at ground terminal point **X13016**.



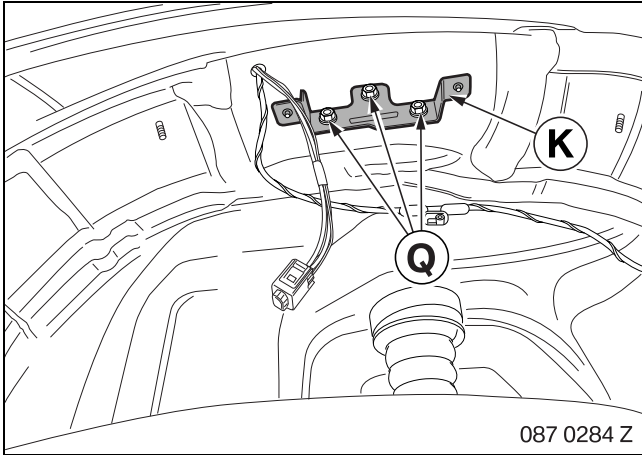
Route branch **A1**, BR wire, branch **A2**, SW/RT wire, and branch **A3**, RT/GE wire, through rubber grommet (1) and into rear left wheel housing.



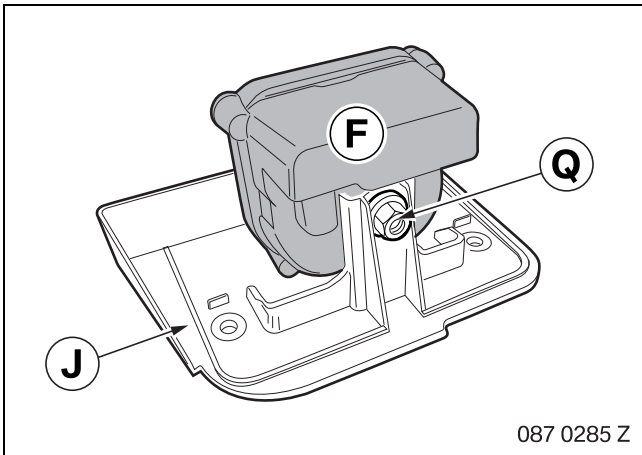
Connect branches **A1-A3** to socket housing **V** as follows:

- Branch **A1**, BR wire, at PIN 1
- Branch **A2**, SW/RT wire, at PIN 2
- Branch **A3**, RT/GE wire, at PIN 3

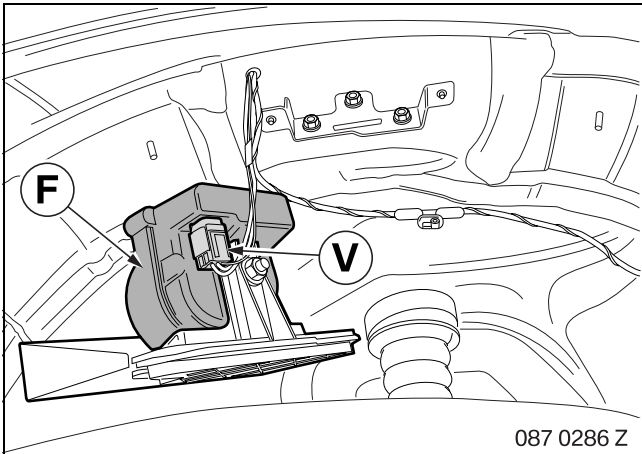
8. Installing and connecting retrofit wiring loom A



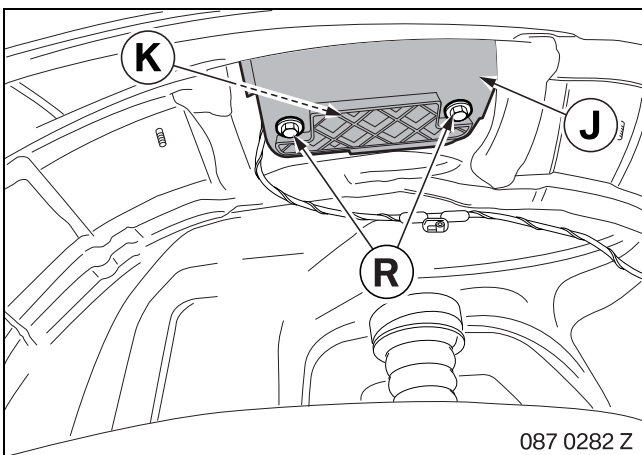
Secure bracket **K** in position in rear left wheel housing with hexagon nuts **Q**.



Secure emergency current siren **F** to mounting plate **J** with hexagon nut **Q**.

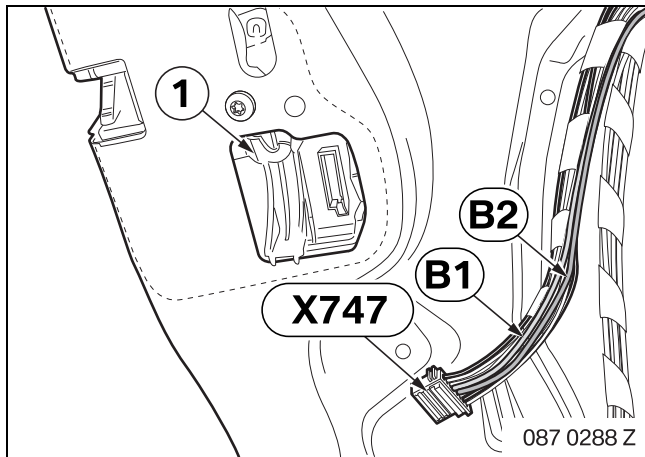


Connect socket housing **V** to emergency current siren **F**.



Secure mounting plate **J** to bracket **K** with hexagon screws **R**.

9. Installing and connecting retrofit wiring looms B and C

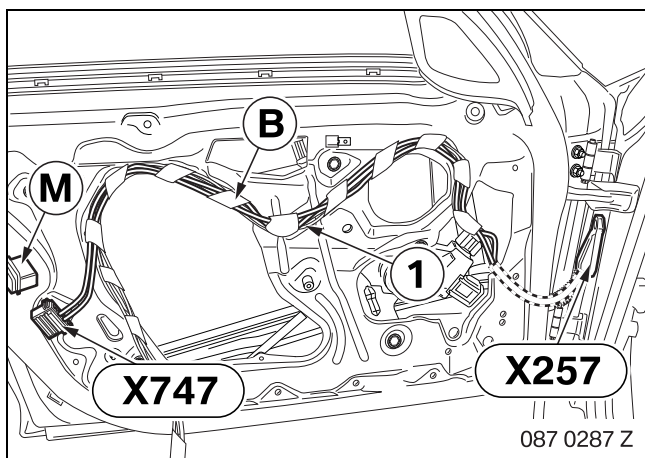


Only E87 without option code 322

Remove driver's door door lock (1) and install door lock **M** (see TIS REP 51 21 090).

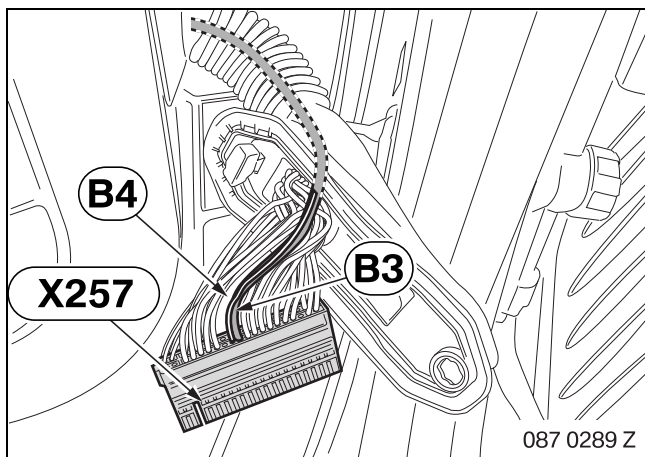
Connect branches **B1** and **B2** to connector **X747** (8-pin SW) as follows:

- Branch **B1**, WS/SW wire, at PIN 5
- Branch **B2**, SW/BL wire, at PIN 4



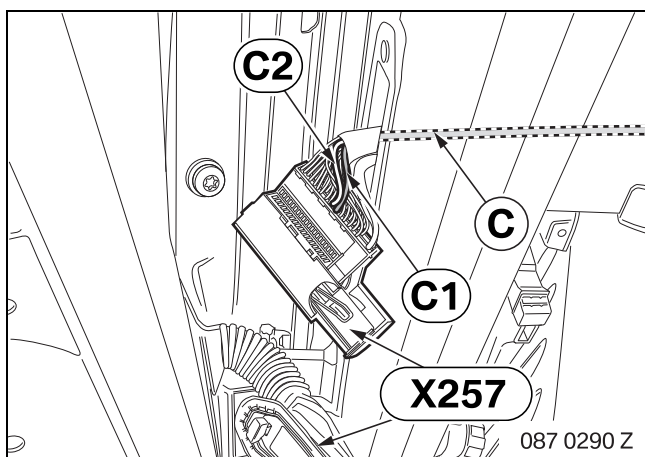
Connect connector **X747** to door lock **M**.

Route retrofit cable **B** along the door wiring harness (1) to the door disconnecter **X257** (32-pin, SW).



Plug in branches **B3** and **B4** at door disconnecter **X257** as follows:

- Branch **B3**, SW/BL wire, at PIN 10
- Branch **B4**, WS/SW wire, at PIN 11



Only E81, E82 without option code 322, 3/09 onward and E87 without option code 322

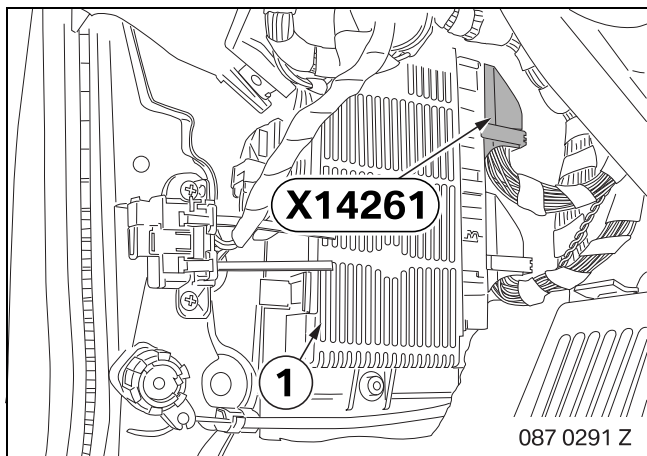
Plug in branches **C1** and **C2** at door disconnecter **X257** as follows:

- Branch **C1**, WS/SW wire, at PIN 11
- Branch **C2**, SW/BL wire, at PIN 10

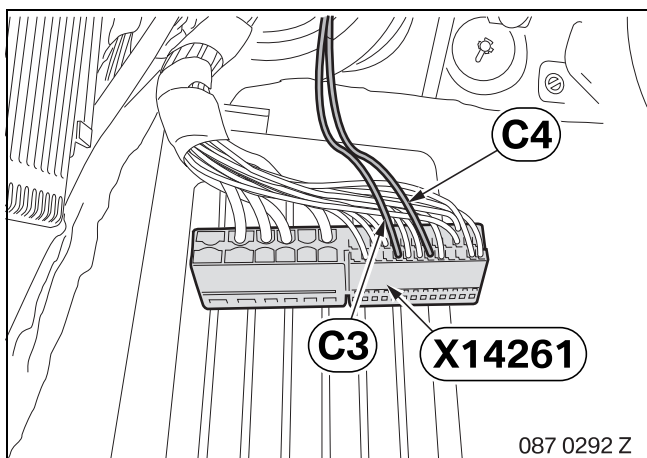
Route retrofit cable **C** to the inner side of the left A-pillar.

Lock and install door disconnecter **X257**.

9. Installing and connecting retrofit wiring looms B and C



Unplug and release connector **X14261** (51-pin, SW) from footwell module (1).



Plug in branches **C3** and **C4** at connector **X14261** as follows:

- Branch **C3**, SW/BL wire, at PIN 42
- Branch **C4**, WS/SW wire, at PIN 46

Lock and plug in connector **X14261**.

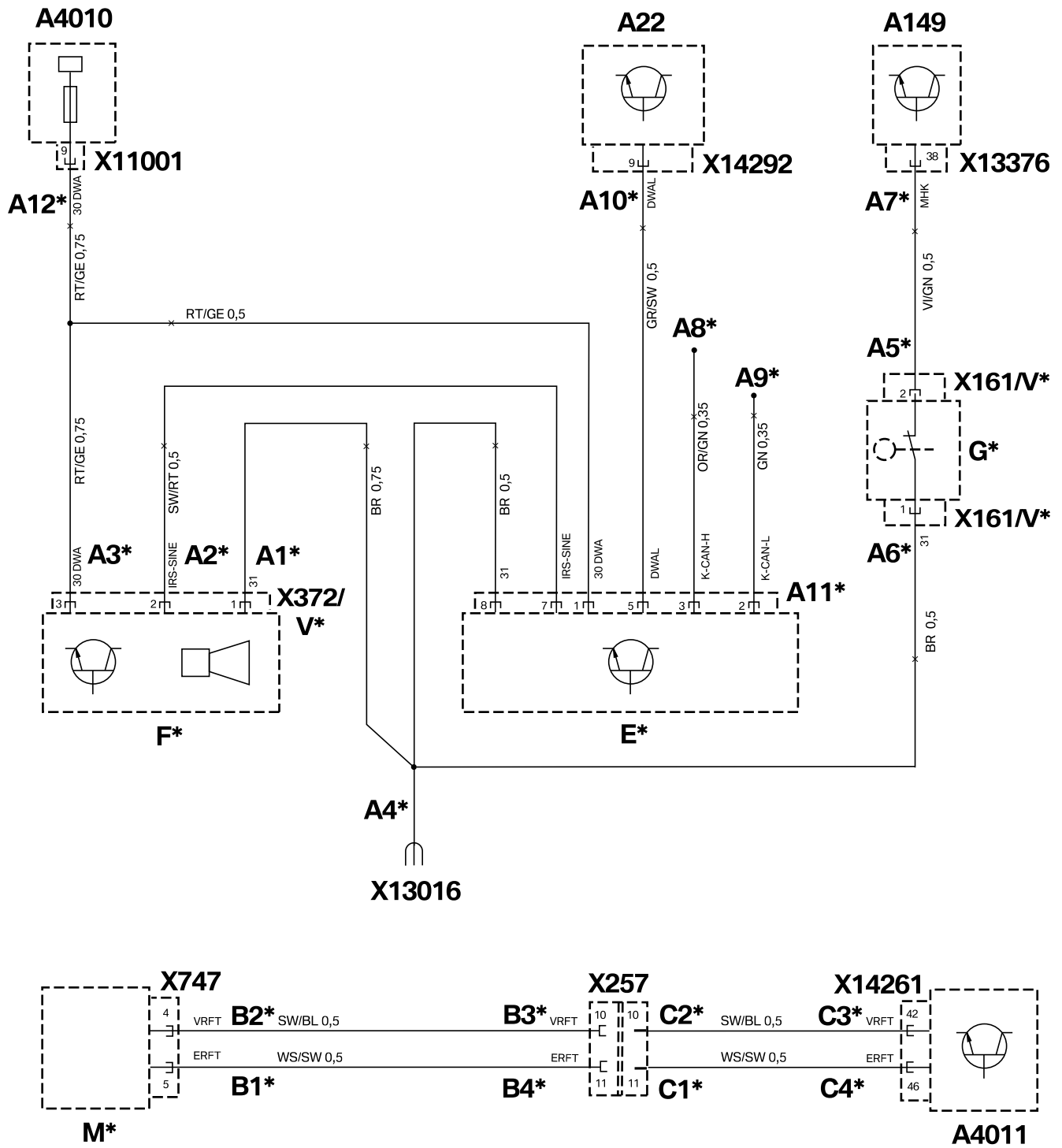
10. Finishing off and coding

The retrofit system requires encoding.

- Reconnect vehicle battery
- Encode/program retrofit with Integrated Software Service Station (ISSS) with the path – Conversions
- Perform quick test
- Perform function test
- Reassemble vehicle in reverse order of removal

11. Circuit diagram

Cars up to 03/07 only



087 0455 Z

11. Circuit diagram

Key

| | |
|---------------|--|
| A8* | Open line, K-CAN-High connecting point at 54-pin, BL connector X14271 |
| A9* | Open line, K-CAN-Low connecting point at 54-pin, BL connector X14271 |
| A11* | 8-pin connector, SW, at ultrasonic sensor E* |
| A22 | Interior mirror |
| A149 | CAS control unit |
| A4010 | Fuse box |
| A4011 | Footwell module |
| E* | Ultrasonic module |
| F* | Emergency current siren |
| G* | Bonnet switch |
| M* | Door lock |
| V* | 3-pin SW socket housing |
| X161 | 3-pin connector, SW, at bonnet switch G* (A5*-A6*) |
| X257 | Door disconnecter, 32-pin, SW (B3*-B4* and C1*-C2*) |
| X372 | 3-pin connector, SW, at emergency current siren F* (A1*-A3*) |
| X747 | 8-pin connector, SW, at door lock M* (B1*-B2*) |
| X11001 | 15-pin connector, SW, at fuse box A4010 (A12*) |
| X13016 | Comb connector, connecting point terminal 31 (A4*) |
| X13376 | 41-pin connector, SW, at CAS control unit A149 (A7*) |
| X14261 | 51-pin connector, SW, at footwell module A4011 (C3*-C4*) |
| X14292 | 10-pin connector, SW, at interior mirror A22 (A10*) |

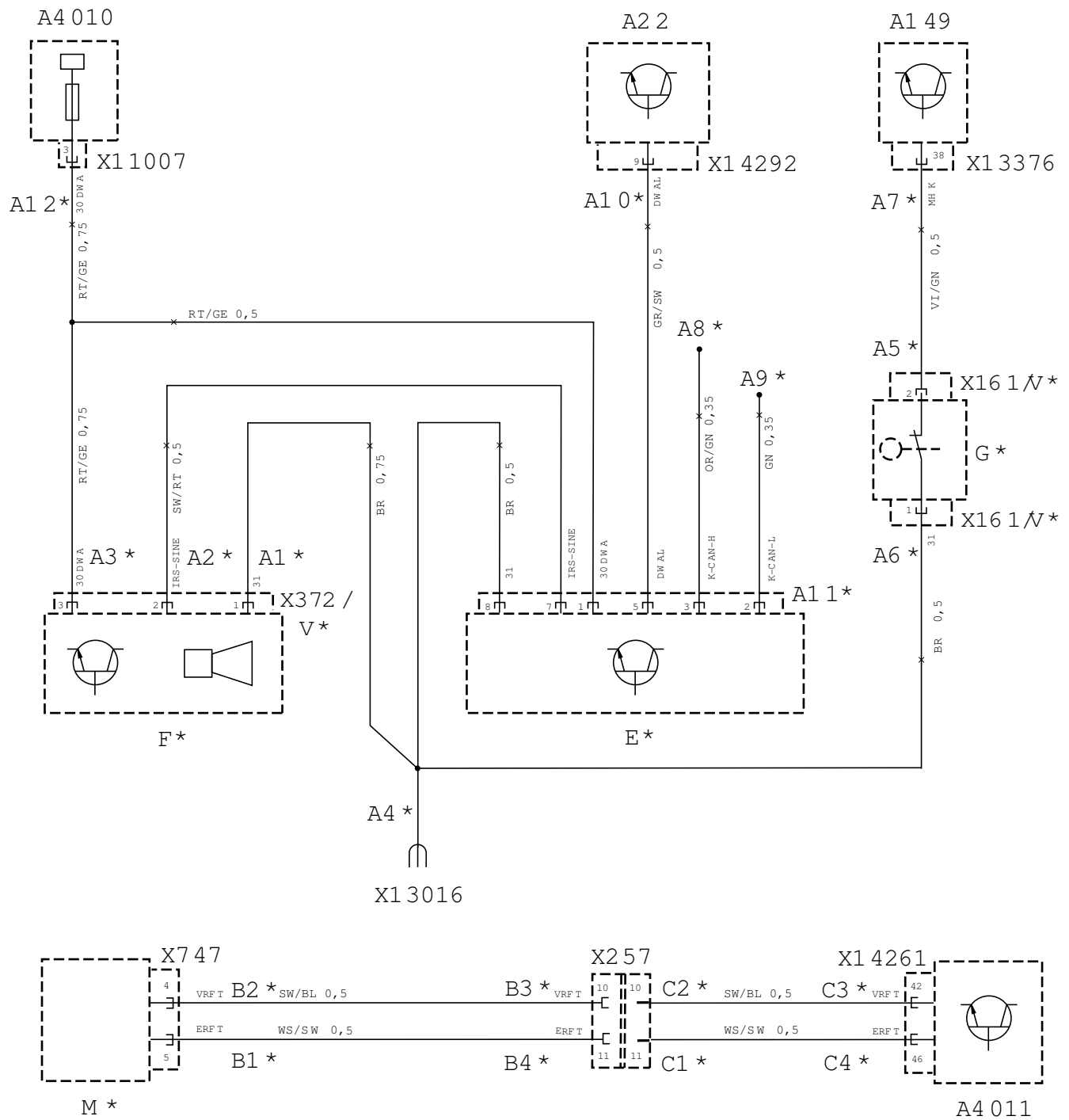
All designations marked * only apply to these installation instructions or this circuit diagram

Cable colours

| | |
|----|--------|
| BL | Blue |
| BR | Brown |
| GE | Yellow |
| GN | Green |
| GR | Grey |
| OR | Orange |
| RT | Red |
| SW | Black |
| VI | Violet |
| WS | White |

11. Circuit diagram

Cars 03/07 onward only



087 0821 Z

11. Circuit diagram

Key

| | |
|---------------|--|
| A8* | Open line, K-CAN-High connecting point at 54-pin, BL connector X14271 |
| A9* | Open line, K-CAN-Low connecting point at 54-pin, BL connector X14271 |
| A11* | 8-pin connector, SW, at ultrasonic sensor E* |
| A22 | Interior mirror |
| A149 | CAS control unit |
| A4010 | Fuse box |
| A4011 | Footwell module |
| E* | Ultrasonic module |
| F* | Emergency current siren |
| G* | Bonnet switch |
| M* | Door lock |
| V* | 3-pin SW socket housing |
| X161 | 3-pin connector, SW, at bonnet switch G* (A5*-A6*) |
| X257 | Door disconnecter, 32-pin, SW (B3*-B4* and C1*-C2*) |
| X372 | 3-pin connector, SW, at emergency current siren F* (A1*-A3*) |
| X747 | 8-pin connector, SW, at door lock M* (B1*-B2*) |
| X11007 | 10-pin connector, RT, at fuse box A4010 (A12*) |
| X13016 | Comb connector, connecting point terminal 31 (A4*) |
| X13376 | 41-pin connector, SW, at CAS control unit A149 (A7*) |
| X14261 | 51-pin connector, SW, at footwell module A4011 (C3*-C4*) |
| X14292 | 10-pin connector, SW, at interior mirror A22 (A10*) |

All designations marked * only apply to these installation instructions or this circuit diagram

Cable colours

| | |
|----|--------|
| BL | Blue |
| BR | Brown |
| GE | Yellow |
| GN | Green |
| GR | Grey |
| OR | Orange |
| RT | Red |
| SW | Black |
| VI | Violet |
| WS | White |