

Original BMW Accessories. Installation Instructions.



Retrofit BMW Accessory Menu (ACM)

BMW 1 Series (E81, E82, E87)

BMW 3 Series (E90, E91, E92, E93)

BMW 5 Series (E60, E61)

BMW 6 Series (E63, E64)

BMW X5 (E70)

BMW X6 (E71)

Installation instructions only valid for cars with M-ASK, CCC or CHAMP.

Retrofit kit No.:	65 50 0 418 002	Retrofit BMW Accessory Menu ACM
	65 50 0 422 701	Retrofit BMW Accessory Menu ACM
	65 50 0 431 544	Retrofit BMW Accessory Menu ACM
	65 50 0 441 372	Retrofit BMW Accessory Menu ACM

Installation time

The installation time is **approx. 1.75 hours**. This may vary depending on the condition of the car and the equipment in it.

Cars without AUX socket only

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 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.

In the event of any installation or function problems, restrict the troubleshooting session to about 0.5 hours for mechanical work or 1 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.

Information for the customer

Print out the “Customer Information” section at the end of these installation instructions and give it to the customer.

Installation information

Attention must be paid to connection differences between equipment with **M-ASK**, **CCC** or **CHAMP**.

For cars **built after 03/07 without SA866** (China language version), **SA867** (Korea language version) or **LA807** (Japan national version) **except E81, E82, E87** and cars **with CHAMP**, the grey cable must be disconnected, insulated and tied back from PIN 1 on branch **A1**.

For cars **with CHAMP** the grey cable must be disconnected from PIN 12 and connected to PIN 25 at branch **A15**, 26-pin BL socket casing.

In countries in which the picture playback is permitted up to a certain speed, the red cable from PIN 2 to branch **A1** must be disconnected, insulated and tied back.

Ensure that the cables and/or 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.

All pictures show LHD cars; proceed accordingly on RHD cars.

In most cases, after installation of the retrofit, repairs or a software update of the car, an image misalignment appears on the control display. To correct the image misalignment, ACM Unit C must be installed (see Section “Concluding work”).

For cars without auxiliary socket, the retrofit must be programmed/coded using SSS (Software Service Station) via the **CIP, AUX IN connection retrofit** path after the installation.

List of special equipment

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

SA 6FL USB/audio interface

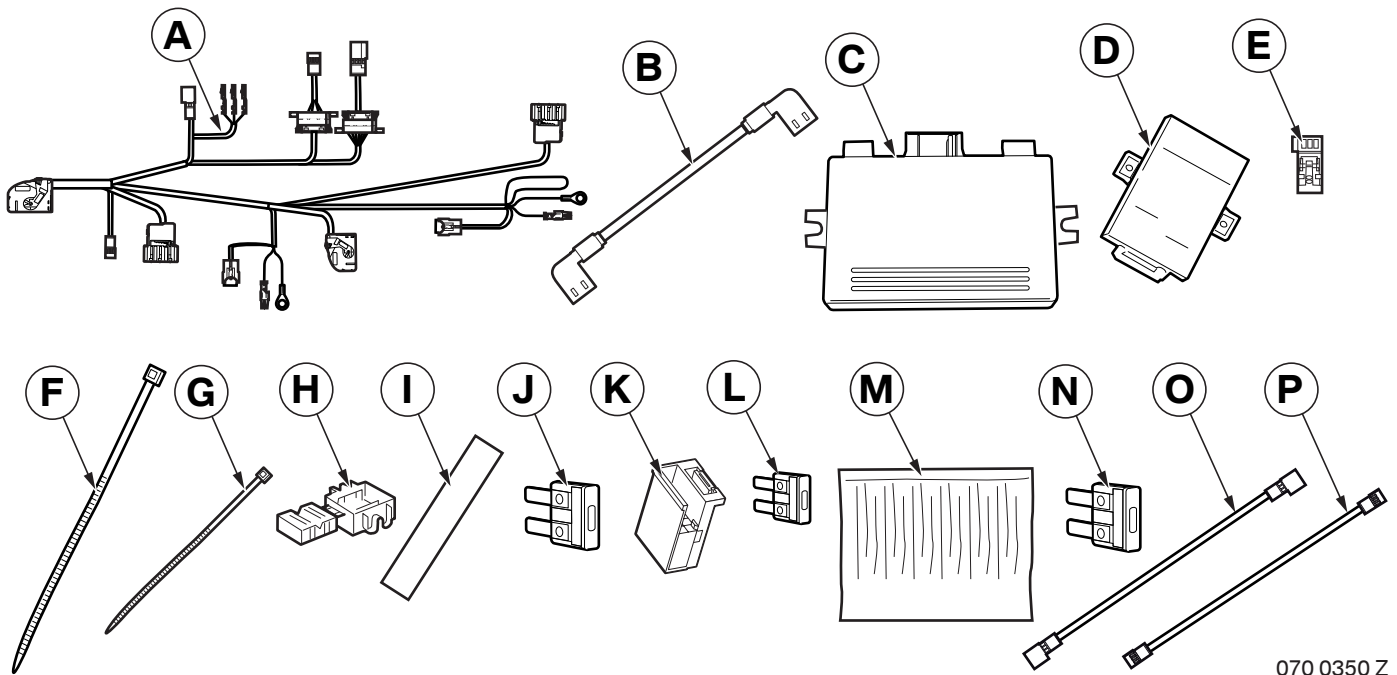
Special tools required

00 9 317 Trim wedge

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1. Parts list



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Legend

- A** Retrofit cable
- B** Connection cable
- C** ACM Unit
- D** Universal CAN Interface
- E** Socket casing 3-pin SW (cars with AUX socket only)
- F** Cable tie 445 x 4.8 mm (4x)
- G** Cable tie 200 x 3.6 mm (25x)
- H** Miniature connector (4x)
- I** Sealing strip (5x)
- J** Fusible link 7.5 A (large, for E60, E61, E63, E64 cars only)
- K** Socket casing 12-pin SW
- L** Fusible link 7.5 A (small, for E81, E82, E87, E90, E91, E92, E93 cars only)
- M** Protective strips (for E70, E71 cars only)
- N** Fusible link 5 A (for E70, E71 cars only)
- O** Auxiliary cable (cars with SA 6FL only)
- P** Auxiliary cable (cars with SA 6FL only)

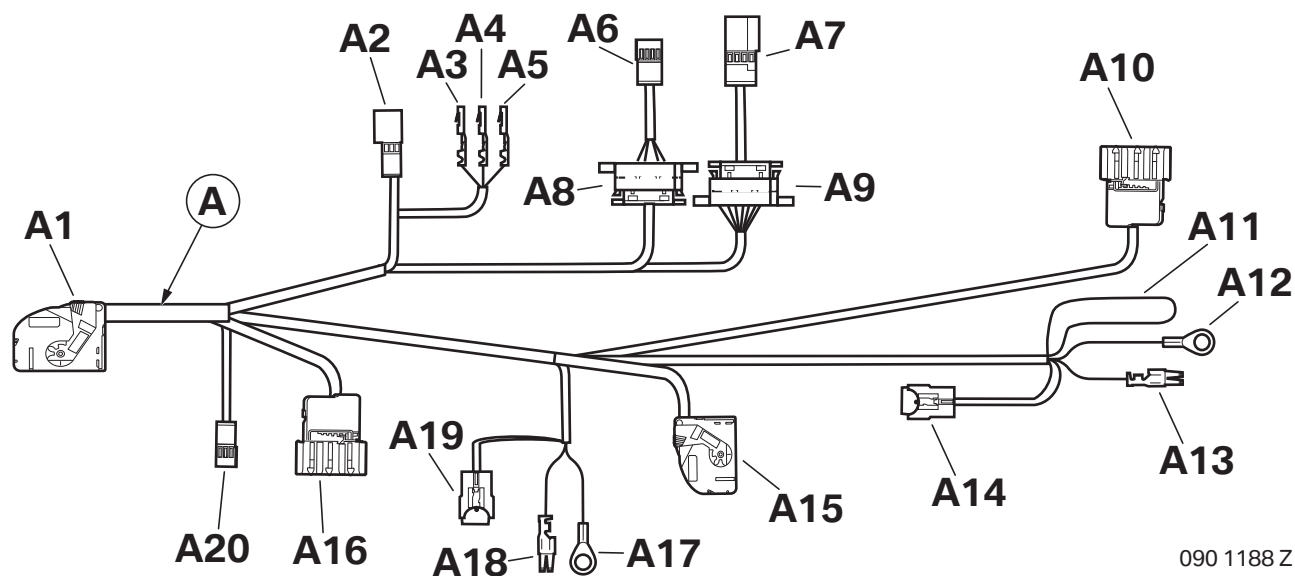
2. Preparatory work for E81, E82, E87, E90, E91, E92, E93, E60, E61, E63, E64, E70 cars

	ISTA no.
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
The following components must be removed first of all for E60, E61, E63, E64, E70 cars	
Left backrest side section on the rear seat or backrest (E60, E61, E63, E64 cars only)	52 ...
Left boot wheel arch trim (E60, E61, E63, E64 cars only)	51 47 151
Door sill strip from the rear left (interior)	51 47 030
Door sill strip at the front left (interior)	51 47 000
Trim on A-pillar, bottom left	51 43 070
Trim on the bottom left door pillar	51 43 150
Pedal trim	51 45 185
Control display	65 82 050
Insert for right glove compartment (for E70 cars only)	51 16 ...
M-ASK/CCC/CHAMP	65 83 010
Unfasten the storage compartment (E60, E61, E63, E64 cars only)	51 16 200
Centre console trim (E70 cars only)	51 16 160
Controller (E70 cars only)	---
Right side trims on the storage compartment (E70 cars only)	51 16 ...
Trim on bottom left of C-pillar (E70 cars with third row of seats only)	51 43 230
Backrest side part, left (E70 cars without third row of seats only)	---
USB / AUX socket (cars with SA 6FL only)	---
The following components must be removed first of all for E81, E82, E87, E90, E91, E92, E93 cars	
Backrest side section on the rear seat, left	52 ...
Luggage compartment trim, left wheel arch	51 47 151
Door sill strip from the rear left (interior)	51 47 030
Door sill strip at the front left (interior)	51 47 000
Trim on A-pillar, bottom left	51 43 070
Trim on the bottom left door pillar	51 43 150
Pedal trim	51 45 185
M-ASK/CCC/CHAMP	65 83 010
Release controller (for E81, E82, E87 cars only)	61 31 195
Release trim for oddments box (E90, E91 cars only)	51 16 212
Trim at the bottom right of the dashboard	51 45 181
Glovebox with casing	51 16 366
Undo the fuse holder on the right	---
USB / AUX socket (cars with SA 6FL only)	---

3. Preparatory work for E71 cars

	ISTA no.
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
The following components must be removed first of all	
Rear seat backrest side section, right	52 ...
Boot wheel arch trim, right	51 47 151
Door sill strip, rear (interior) right	51 47 030
Door sill strip, front (interior) right	51 47 000
Trim on A pillar, bottom right	51 43 070
Door pillar trim, bottom right	51 43 150
Pedal trim	51 45 185
Insert for right glove compartment	51 16 ...
Control display	65 82 050
M-ASK/CCC/CHAMP	65 83 010
Centre console trim	51 16 160
Controller	---
Right side trims on the storage compartment	51 16 ...
USB / AUX socket (cars with SA 6FL only)	---

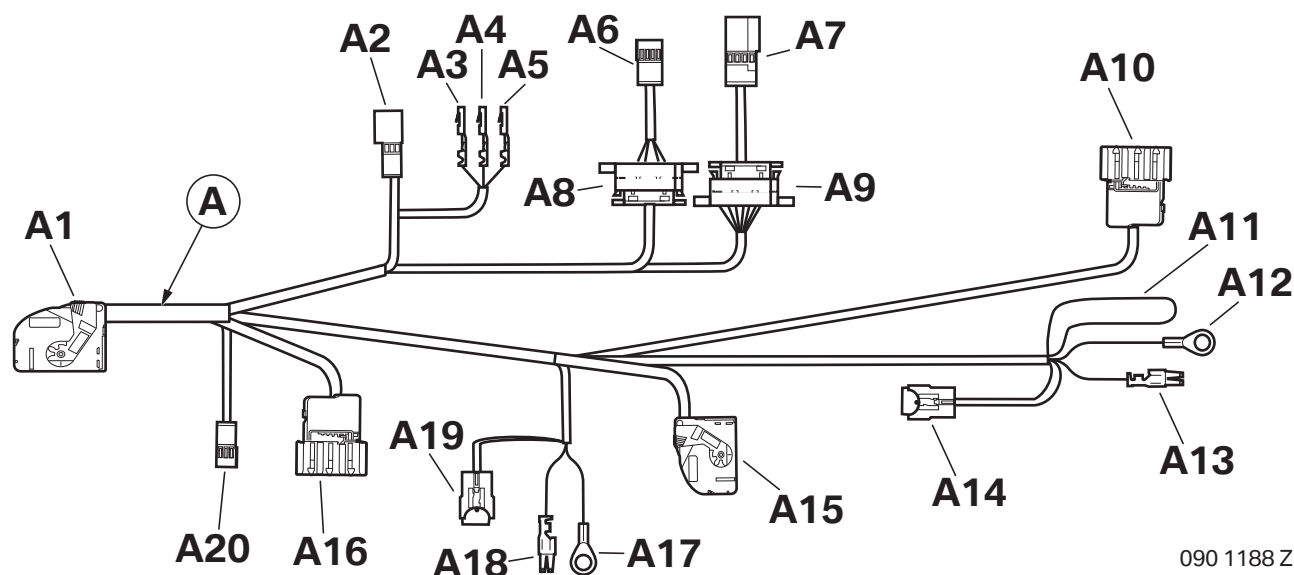
4. Retrofit cable connection diagram



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Item	Designation	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Retrofit cable	---	---	---	---
A1	Socket casing 32-pin SW	---	---	To the Universal Can Interface D	---
A2	Plug casing 3-pin SW	---	---	Cars with AUX jack and without SA 6FL only With socket casing E on cable of AUX socket Cars with SA 6FL only On branch P1 of auxiliary cable P	---
A3	Socket contact	Audio L	SW 0.5 mm ²	Cars without SA 6FL only On radio plug Cars with SA 6FL only With socket casing E on branch O1 of auxiliary cable O	X13813 PIN 2 PIN 1
A4	Socket contact	Audio R	GE 0.5 mm ²	Cars without SA 6FL only On radio plug Cars with SA 6FL only With socket casing E on branch O1 of auxiliary cable O	X13813 PIN 7 PIN 2
A5	Socket contact	Audio GND	WS 0.5 mm ²	Cars without SA 6FL only On radio plug Cars with SA 6FL only With socket casing E on branch O1 of auxiliary cable O	X13813 PIN 8 PIN 3
A6	Socket casing 4-pin SW	---	---	For E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only On controller E60, E61, E63, E64 cars only Not required	X10387
A7	Plug casing 4-pin SW	---	---	For E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only On connector of cable to controller E60, E61, E63, E64 cars only Not required	X10387
A8	Plug 8-pin SW	---	---	For E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only Leave connector plugged in E60, E61, E63, E64 cars only Remove connector and plug it into controller	X10387
A9	Plug 8-pin SW	---	---	For E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only Leave connector plugged in E60, E61, E63, E64 cars only Remove connector and plug it into connector of cable to controller	X10387
A10	Plug casing 18-pin SW	---	---	In the boot on the left	---

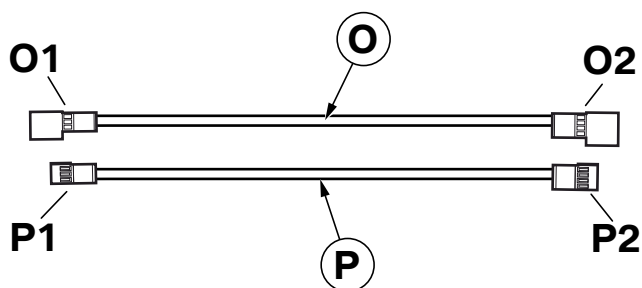
4. Retrofit cable connection diagram



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Item	Designation	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A11	Cable loop	Terminal 31	GE/RT 0.5 mm ²	Only cars with CHAMP, CCC and all E81, E82, E87 with high controller (magnetic engagement) Tie back Only cars with M-ASK and all E81, E82, E87 with basic controller (mechanical engagement) Cut, insulate and tie back	---
A12	Ring eyelet, 6 mm	Terminal 31	BR 1.0 mm ²	For E81, E82, E87, E90, E91, E92, E93 cars only In footwell on the right E60, E61, E63, E64, E70, E71 cars only Disconnect ring eyelet and connect with miniature connector H on the display	X490 X13822 PIN 3
A13	Socket contact	Terminal 30g	RT 1.0 mm ²	E81, E82, E87, E90, E91, E92, E93 cars before 03/07 only On front right of fuse holder E81, E82, E87, E90, E91, E92, E93 cars built after 03/07 only On front right of fuse holder E60, E61, E63, E64, E70, E71 cars only Disconnect socket contact and connect with miniature connector H on the display	X11003 PIN 3 X11002 PIN 9 X13822 PIN 1
A14	Fuse holder	---	---	Tie back on wiring harness	---
A15	Socket casing 26-pin BL	---	---	To ACM unit C	---
A16	Plug casing 18-pin SW	---	---	For connection of camera systems Tie back on wiring harness	---
A17	Ring eyelet, 6 mm	Terminal 31	BR 0.5 mm ²	For E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only In footwell on the right E60, E61, E63, E64 cars only Disconnect ring eyelet and connect with miniature connector H on branch A12	X490
A18	Socket contact	Terminal 30g	RT/BL 0.5 mm ²	For E81, E82, E87, E90, E91, E92, E93 cars only On right of fuse holder, connect with miniature connector H on branch A13 E60, E61, E63, E64 cars only Disconnect socket contact and connect with miniature connector H on branch A13 For E70, E71 cars only On front right of fuse holder	X11003 PIN 5
A19	Fuse holder	---	---	Tie back on wiring harness	---
A20	Socket casing 3-pin SW	---	---	Power supply to camera systems and / or USB interface Tie back on wiring harness	---

5. Connection diagram for auxiliary cable and connection cable



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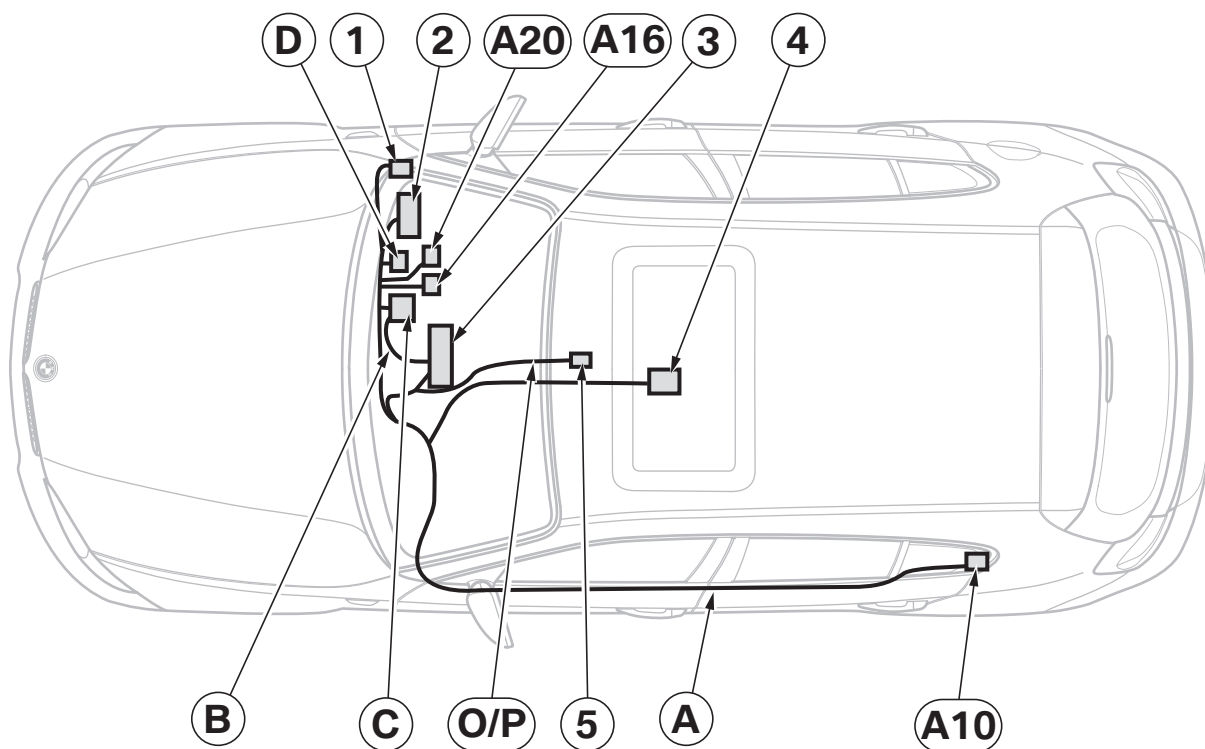
Item	Designation	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
O/P	Additional cable	---	---	Cars with SA 6FL only	---
O1	Plug casing 3-pin SW	---	---	With socket casing E on branches A3, A4 and A5 of retrofit cable A	---
O2	Plug casing 4-pin SW	---	---	For E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only On the disconnected plug of the USB / AUX socket For E60, E61 cars only On the disconnected plug of the USB / AUX socket	X14118 X18849
P1	Socket casing 3-pin SW	---	---	On branch A2 of retrofit cable A	---
P2	Socket casing 4-pin SW	---	---	On AUX socket	---



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Item	Designation	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
B	Connection cable	---	---	---	---
B1	Socket casing 10-pin VI	---	---	For E81, E82, E87, E90, E91, E92, E93 cars only To ACM unit C E60, E61, E63, E64, E70, E71 cars only On control display	---
B2	Socket casing 10-pin WS	---	---	For E81, E82, E87, E90, E91, E92, E93 cars with M-ASK only to M-ASK For E81, E82, E87, E90, E91, E92, E93 with CCC cars only On CCC with coding removed E60, E61, E63, E64, E70, E71 cars only To ACM unit C	X13820 X13820 ---

6. Installation and cabling diagram for E81, E82, E87 cars



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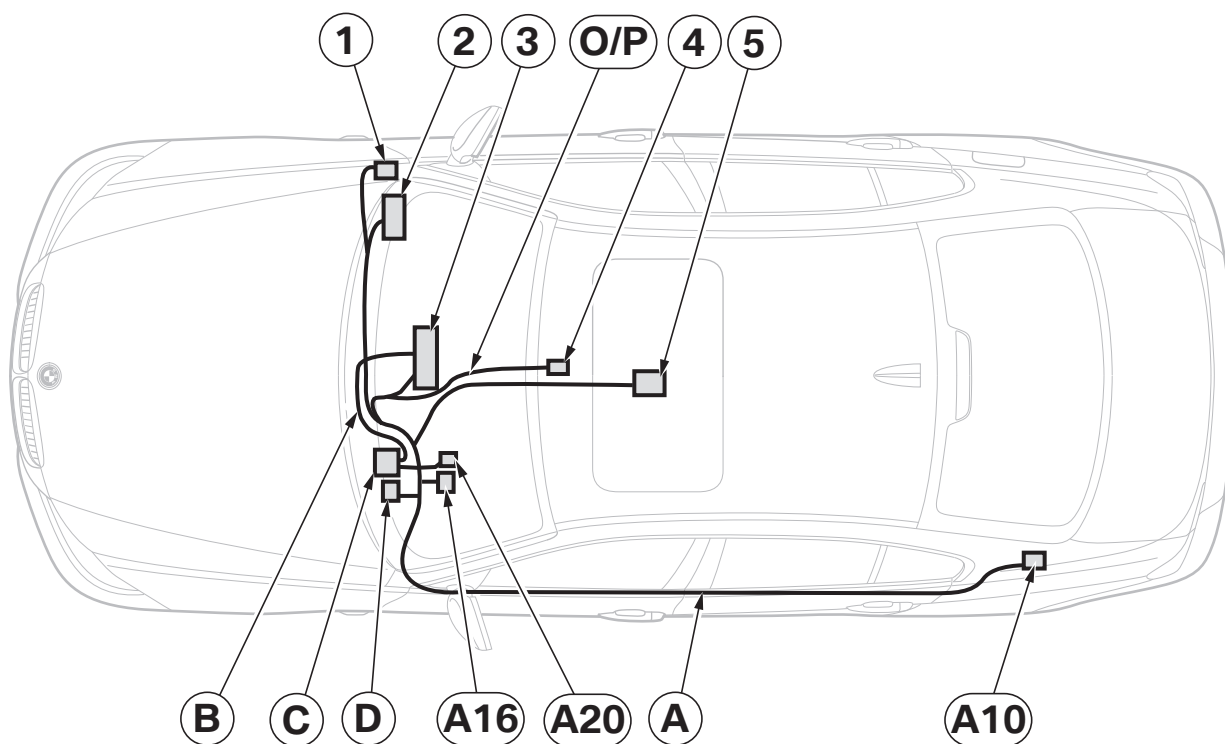
Legend

- A** Retrofit cable
- B** Connection cable
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA 6FL only)

- A10** Plug casing 18-pin SW
- A16** Plug casing 18-pin SW
- A20** Socket casing 3-pin SW

- 1** Earth post **X490**
- 2** Fuse holder
- 3** Radio reception unit
- 4** Controller
- 5** USB / AUX socket (cars with SA 6FL only)

7. Installation and cabling diagram for E90, E91, E92, E93 cars



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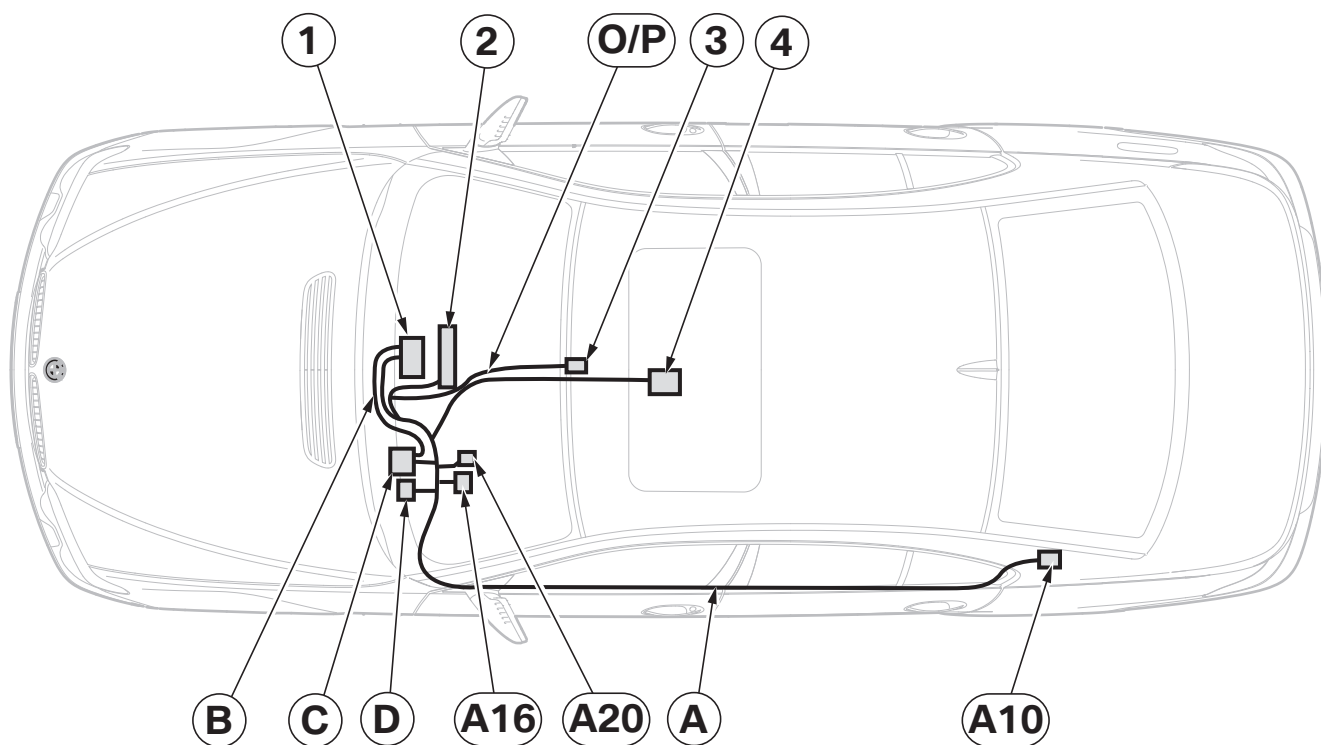
Legend

- A** Retrofit cable
- B** Connection cable
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA 6FL only)

- A10** Plug casing 18-pin SW
- A16** Plug casing 18-pin SW
- A20** Socket casing 3-pin SW

- 1** Earth post **X490**
- 2** Fuse holder
- 3** Radio reception unit
- 4** USB / AUX socket (cars with SA 6FL only)
- 5** Controller

8. Installation and cabling diagram for E60, E61, E63, E64 cars



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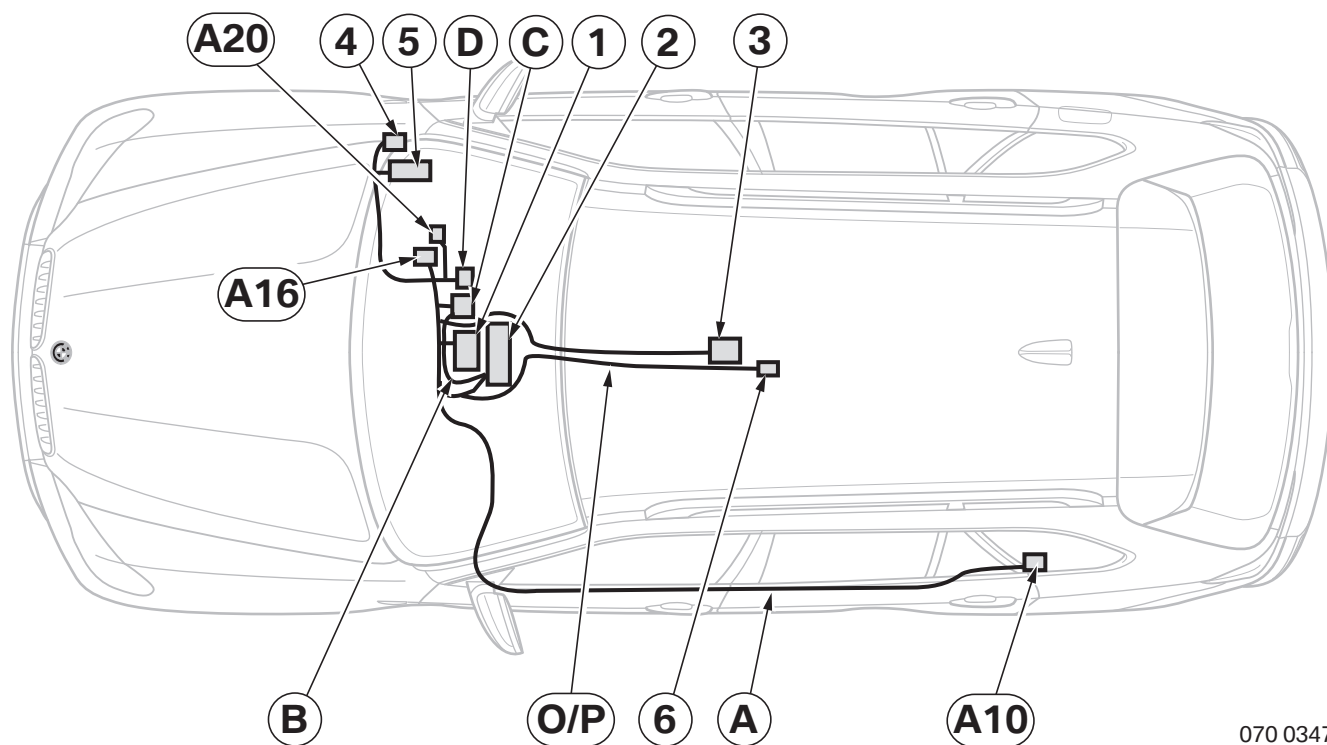
Legend

- A** Retrofit cable
- B** Connection cable
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA 6FL only)

- A10** Plug casing 18-pin SW
- A16** Plug casing 18-pin SW
- A20** Socket casing 3-pin SW

- 1** Control display
- 2** Radio reception unit
- 3** USB / AUX socket (cars with SA 6FL only)
- 4** Controller

9. Installation and cabling diagram for E70 cars



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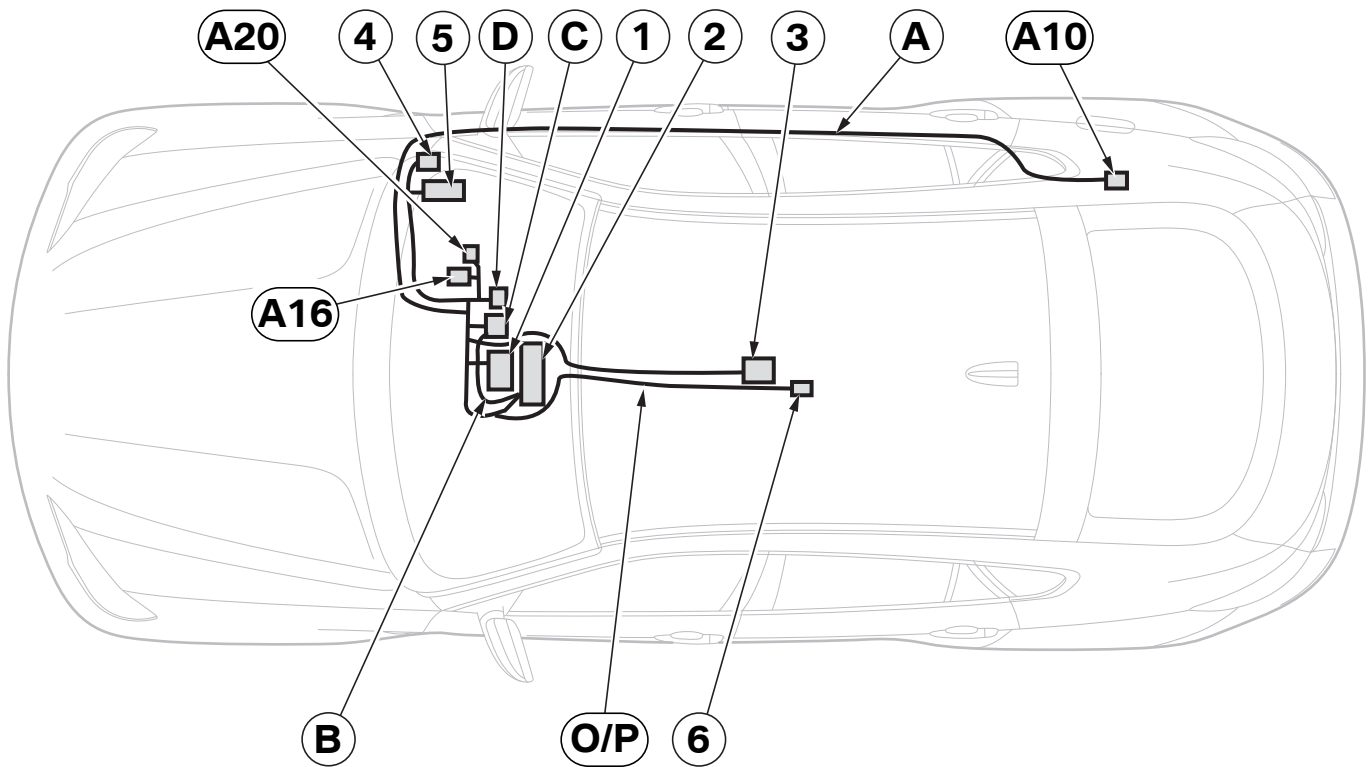
Legend

- A** Retrofit cable
- B** Connection cable
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA 6FL only)

- A10** Plug casing 18-pin SW
- A16** Plug casing 18-pin SW
- A20** Socket casing 3-pin SW

- 1** Radio reception unit
- 2** Control display
- 3** Controller
- 4** Earth post **X490**
- 5** Fuse holder
- 6** USB / AUX socket (cars with SA 6FL only)

10. Installation and cabling diagram for E71 cars



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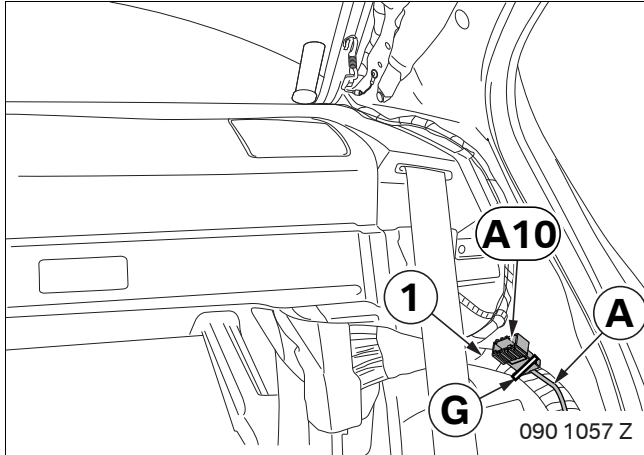
Legend

- A** Retrofit cable
- B** Connection cable
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA 6FL only)

- A10** Plug casing 18-pin SW
- A16** Plug casing 18-pin SW
- A20** Socket casing 3-pin SW

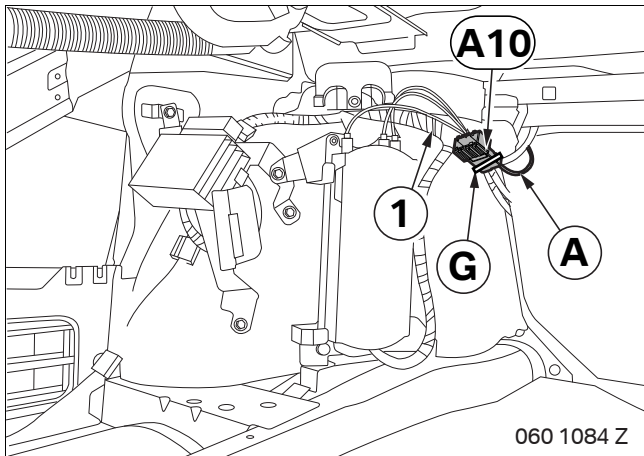
- 1** Radio reception unit
- 2** Control display
- 3** Controller
- 4** Earth post **X490**
- 5** Fuse holder
- 6** USB / AUX socket (cars with SA 6FL only)

11. To install and connect the retrofit cable

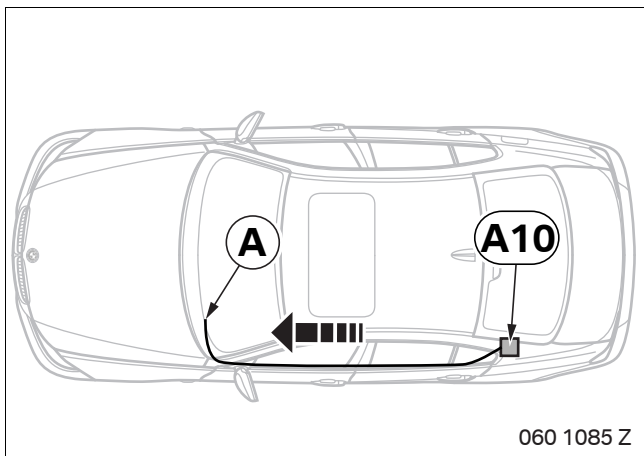


For E81, E82, E87, E90, E92, E93, E70 cars only
▶ Illustration shows the **E60** car. Proceed similarly in all other cars. ◀

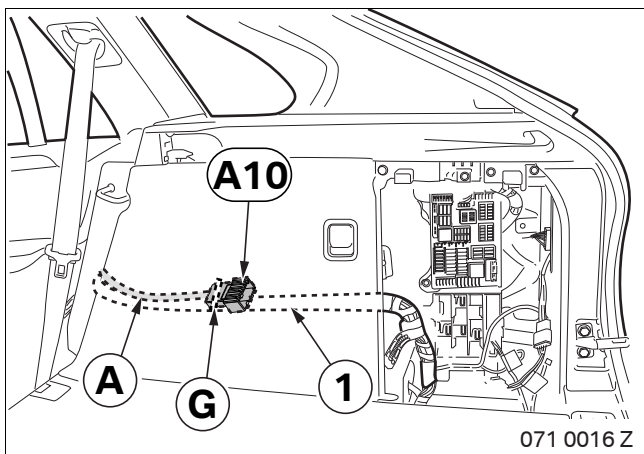
Attach branch **A10**, SW 18-pin plug casing, of the retrofit cable **A** to the standard wiring harness (1) on the left of the C pillar using cable tie **G**.



For E91, E60, E61, E63, E64 cars only
Attach branch **A10**, SW 18-pin plug casing, of the retrofit cable **A** to the standard wiring harness (1) in the boot on the left using cable tie **G**.

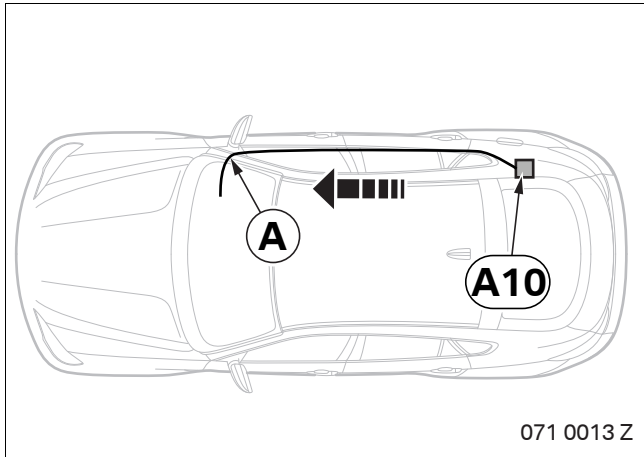


All cars except E71
Route all branches except branch **A10** of the retrofit cable **A** along the standard wiring harness into the footwell on the driver's side.

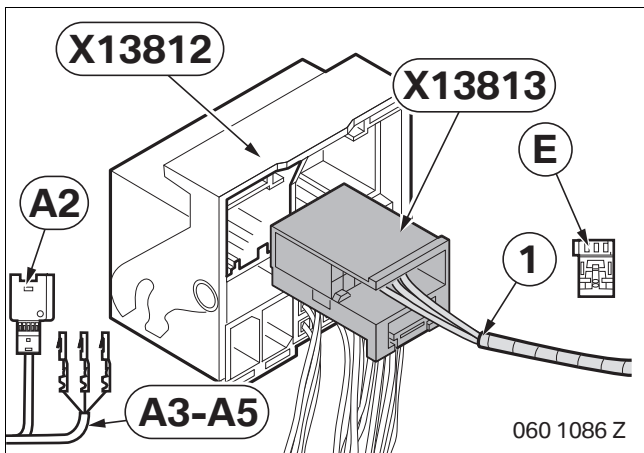


For E71 cars only
Attach branch **A10**, SW 18-pin plug casing, of the retrofit cable **A** to the standard wiring harness (1) in the boot on the right using cable tie **G**.

11. To install and connect the retrofit cable



Route all branches except branch **A10** of the retrofit cable **A** along the standard wiring harness into the footwell on the front passenger side.

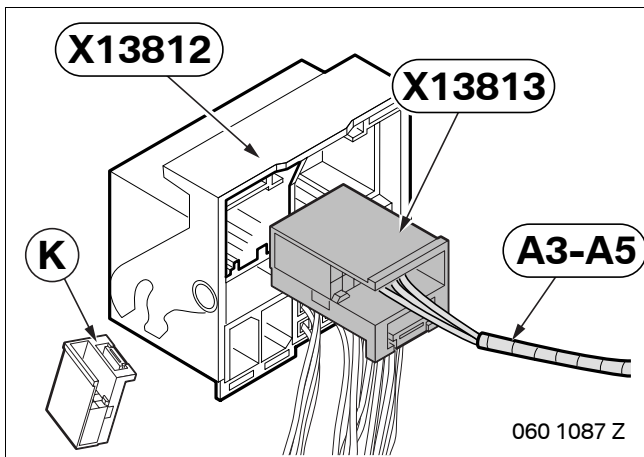


Cars with AUX jack and without SA 6FL only
Route branches **A2-A5** to radio connector **X13812**.

Disconnect AUX cable (1) from plug **X13813**, SW 12-pin, and connect to SW 3-pin socket casing **E** with following PIN assignments.

- WS/BL, WS/RT, BL or SW cable from PIN 2, to PIN 1
- WS/BR or TR cable from PIN 8, to PIN 3
- WS/RT, WS/GN, WS or GE cable from PIN 7, to PIN 2

Connect socket casing **E** to branch **A2**, SW 3-pin plug casing.



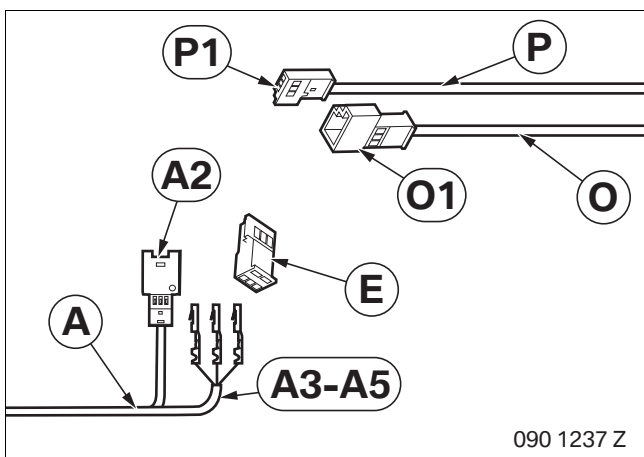
All cars without SA 6FL

▶ If no **X13813** plug is available, connect branches **A3-A5** in the same way to socket casing **K**. ◀

Route branches **A3-A5** to radio connector **X13812** and connect **X13813** plug as follows:

- Branch **A3**, SW cable, to PIN 2
- Branch **A4**, GE cable, to PIN 7
- Branch **A5**, WS cable, to PIN 8

Lock plug **X13813** shut and insert into plug **X13812**.



Cars with SA 6FL only

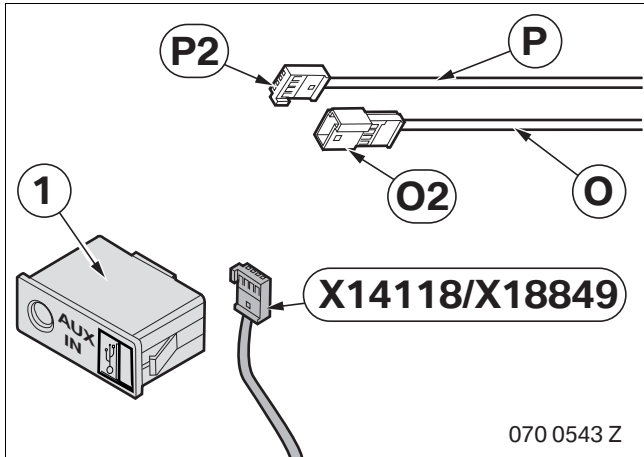
Connect branches **A3-A5** of the retrofit cable **A** as follows to socket casing **E**, 3-pin, SW:

- Branch **A3**, SW cable, to PIN 1
- Branch **A4**, GE cable, to PIN 2
- Branch **A5**, WS cable, to PIN 3

with socket casing **E** on branch **O1** of auxiliary cable **O**

Connect branch **A2**, plug casing 3-pin SW, to branch **P1** of auxiliary cable **P**.

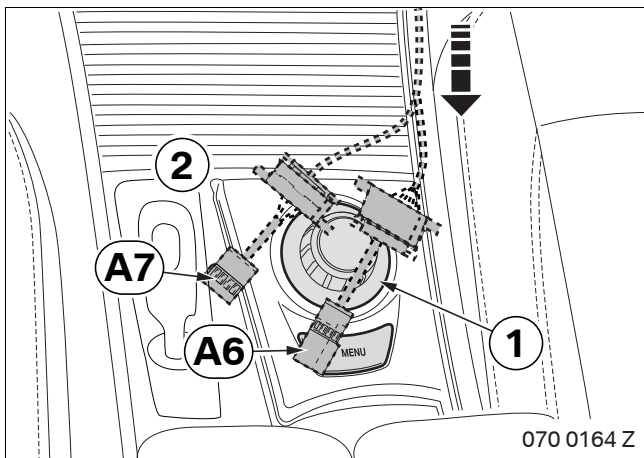
11. To install and connect the retrofit cable



Route auxiliary cable **O** and **P** to the USB/AUX socket.

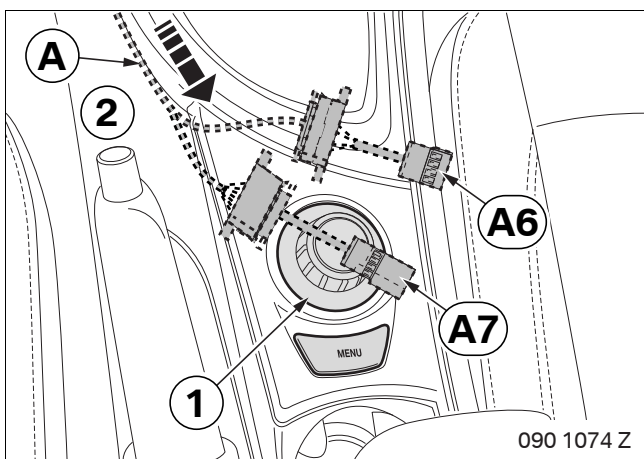
Disconnect branch **X14118/X18849**, socket casing 4-pin SW, from USB/AUX socket (1) and connect to branch **O2**.

Connect branch **P2**, plug casing 4-pin SW, to USB/AUX socket (1).



For E70/E71 cars only

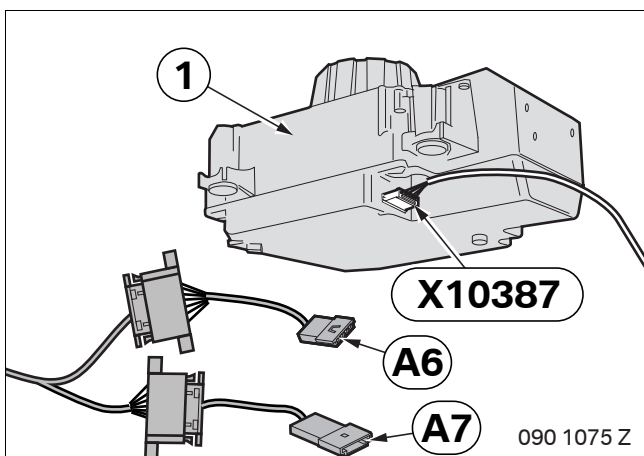
Route branches **A6** and **A7** on the right-hand side under the centre console (2) to the controller (1).



For E81, E82, E87, E90, E91, E92, E93 cars only

Ensure that the retrofit cable **A** cannot chafe on the gear lever or selector lever. ◀

Route branches **A6** and **A7** under the centre console (2) along the standard wiring harness to the controller (1).

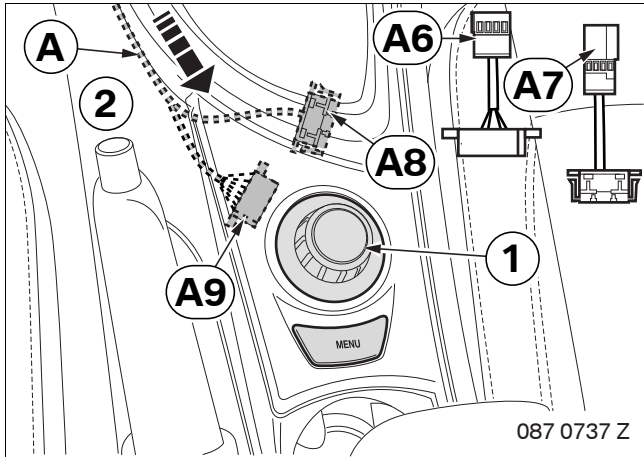


For E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only

Disconnect plug **X10387** from controller (1) and connect to branch **A7**, SW 4-pin plug casing.

Connect branch **A6** 4-pin SW socket casing, to controller (1).

11. To install and connect the retrofit cable

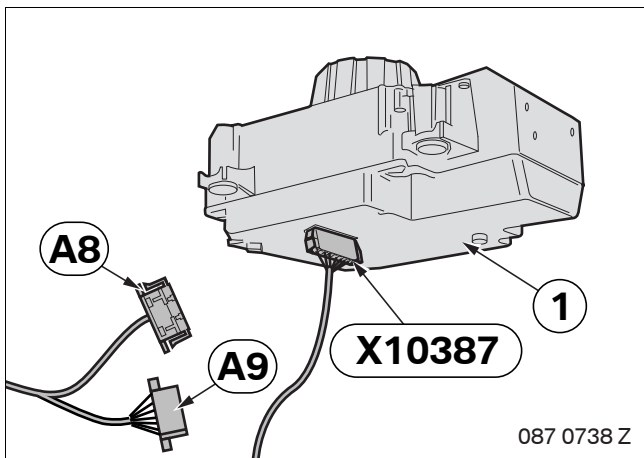


E60, E61, E63, E64 cars only

▶ Ensure that the retrofit cable **A** cannot chafe on the gear lever or selector lever. ◀

Disconnect branches **A6** and **A7** from branches **A8** and **A9** (not required).

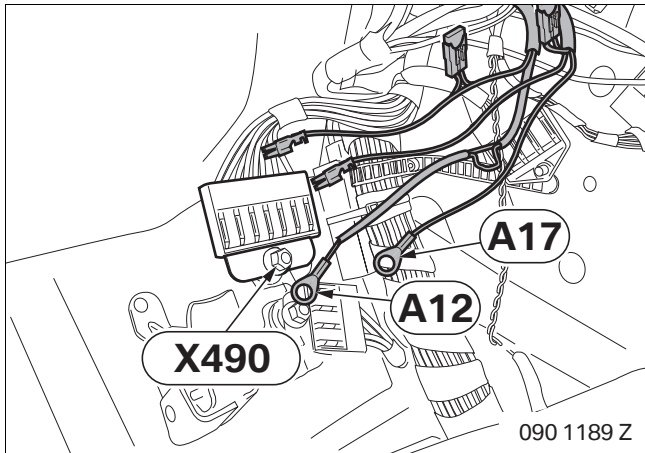
Route branches **A8** and **A9** under the centre console (2) along the standard wiring harness to the controller (1).



Disconnect plug **X10387** from controller (1) and connect to branch **A9**, SW 8-pin plug casing.

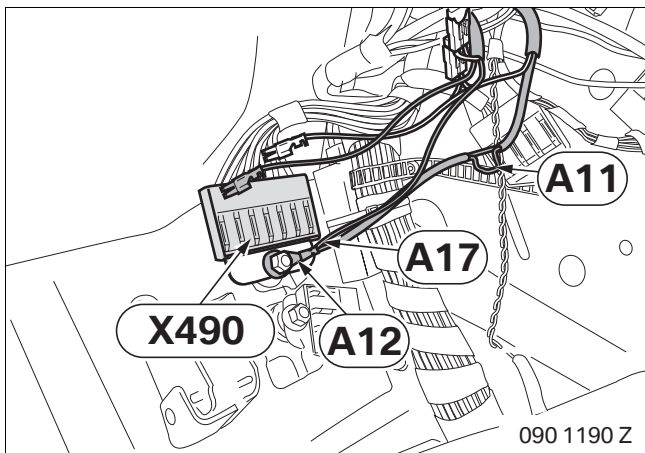
Connect branch **A8** 8-pin SW socket casing, to controller (1).

12. To connect the power supply and connection cable for E81, E82, E87 cars



Route branches **A11–A20** and branch **A1** under the M-ASK/CCC through the centre tunnel to the passenger footwell.

Route branches **A12** and **A17**, BR cable, to the earth post **X490**.



Screw branches **A12** and **A17**, BR cable, to the earth post **X490**.

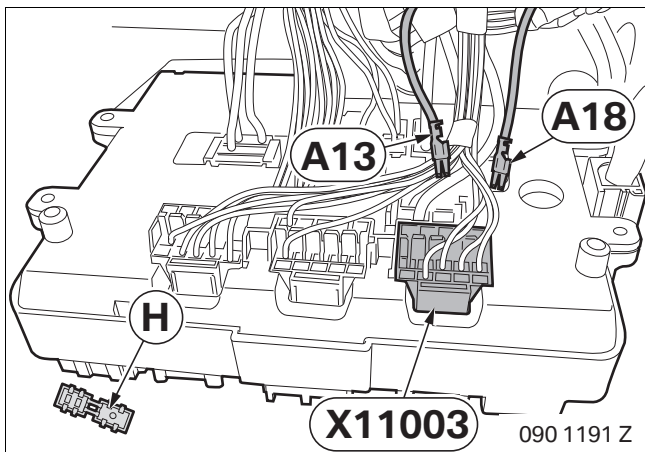
☐ For E81, E82, E87 cars, there is only a distinction between the high and low controller **A11**. ◀

Cars with high controller (magnetic engagement) only

Tie back cable loop **A11** to retrofit cable.

Cars with basic controller (mechanical engagement) only

Cut cable loop **A11**, insulate and tie back to retrofit cable.

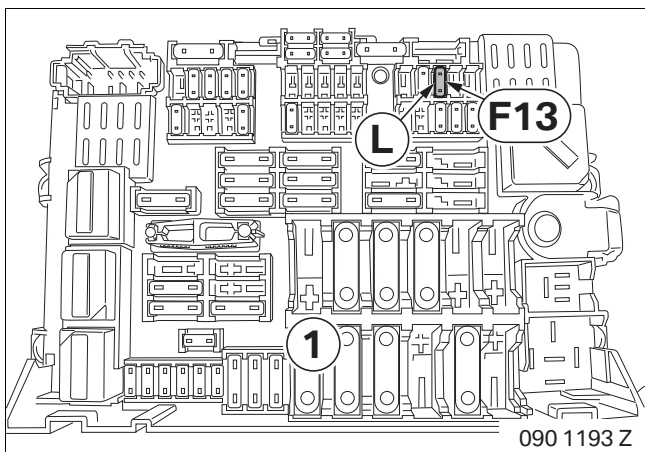


Cars built before 03/07 only

☐ If PIN 3 on connector **X11003** is already occupied, cut the socket contact off branch **A13** and connect branch **A13** to the cable from PIN 3 with miniature connector **H**. ◀

Connect branch **A13** to plug **X11003**, BL 15-pin socket casing, PIN 3.

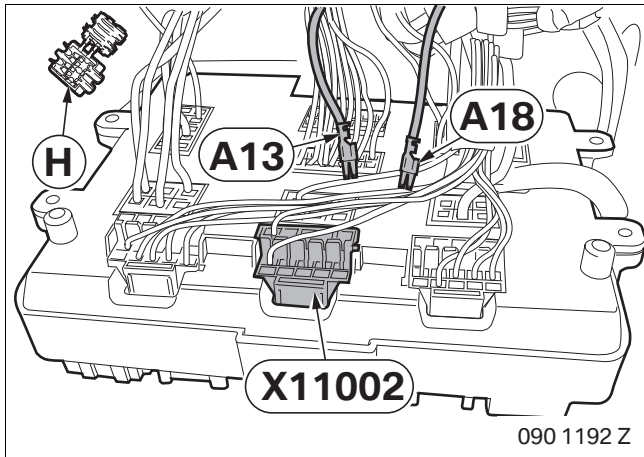
Separate socket contact from branch **A18**, RT/BL cable, and using miniature connector **H** to branch **A13**.



Fit the fuse holder (1).

If there is no fusible link or a fusible link with less than 7.5 A in slot **F13**, fusible link **L** must be inserted.

12. To connect the power supply and connection cable for E81, E82, E87 cars

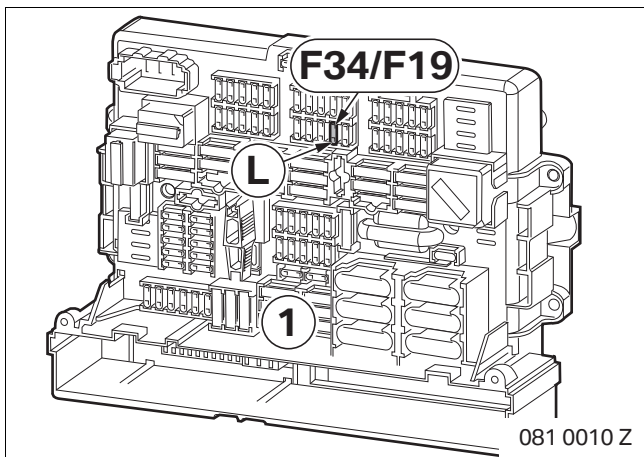


Cars built after 03/07 only

▶ If PIN 9 on connector **X11002** is already occupied, cut the socket contact off branch **A13** and connect branch **A13** to the cable from PIN 9 with miniature connector **H**. ◀

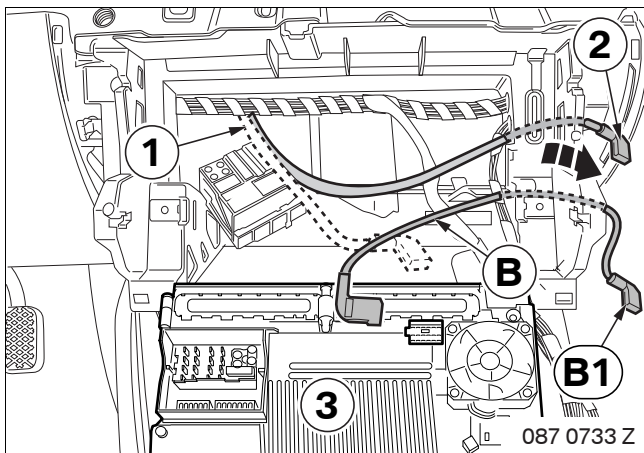
Connect branch **A13**, RT cable, to connector **X11002**, green 15-pin socket casing, PIN 9.

Separate socket contact from branch **A18**, RT/BL cable, and using miniature connector **H** to branch **A13**.



Fit the fuse holder (1).

If in slot **F34** for cars built from 03/07 to 09/07 and in slot **F19** for cars built after 09/07 there is no fusible link or a fusible link with less than 7.5 A, fusible link **L** must be inserted.

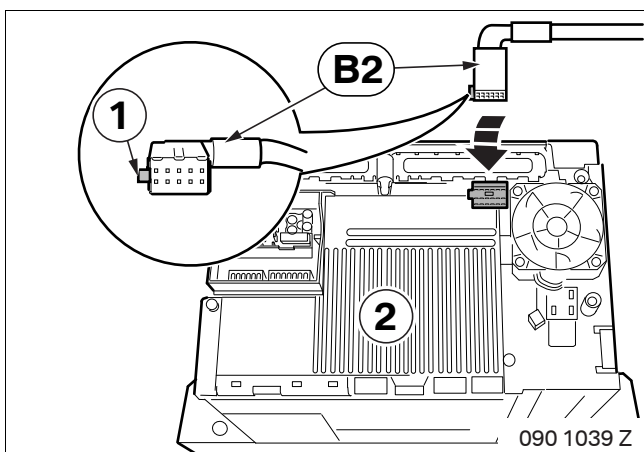


Cars with CCC only

Disconnect the existing signal cable (1) from the CCC (3).

Route the plug (2) on the existing signal cable (1) to the ACM unit.

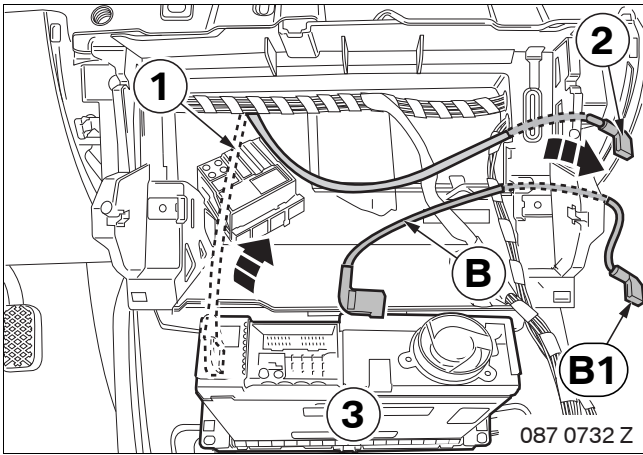
Route branch **B1** (10-pin VI connector) on the connection cable **B** to the installation site of the ACM unit.



Remove coding (1) from branch **B2** (WS 10-pin plug).

Connect branch **B2** to the CCC (2) as shown.

12. To connect the power supply and connection cable for E81, E82, E87 cars

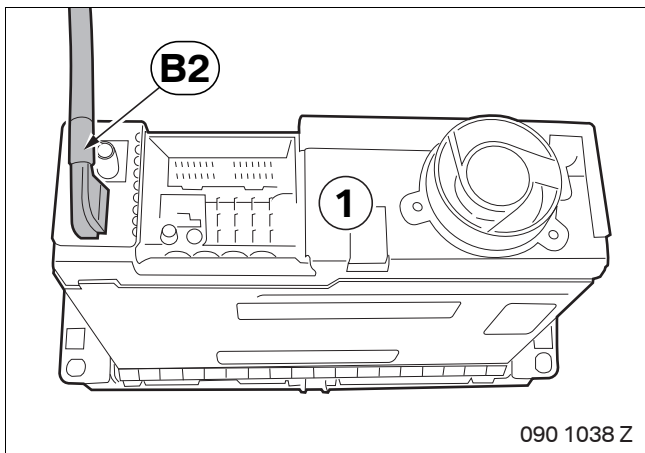


Cars with M-ASK only

Disconnect the existing signal cable (1) from the M-ASK (3).

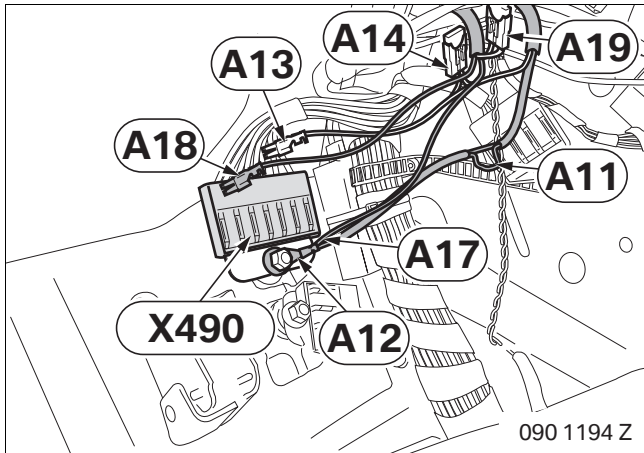
Route the plug (2) on the existing signal cable (1) to the ACM unit.

Route branch **B1** (10-pin VI connector) on the connection cable **B** to the installation site of the ACM unit.



Connect branch **B2** (10-pin WS connector) to M-ASK (1).

13. To connect the power supply and connection cable for E90, E91, E92, E93 cars only



Route branches **A11–A14** and **A17–A19** to the passenger footwell.

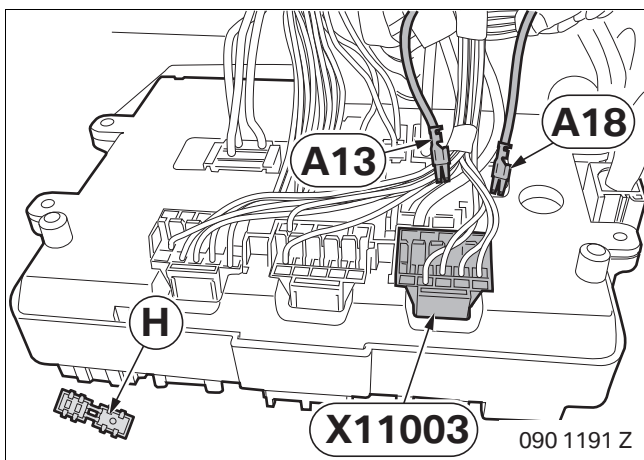
Screw branches **A12** and **A17**, BR cable, to the earth post **X490**.

Cars with M-ASK only

Cut cable loop **A11**, insulate and tie back to retrofit cable.

Cars with CCC only

Tie back cable loop **A11** to retrofit cable.

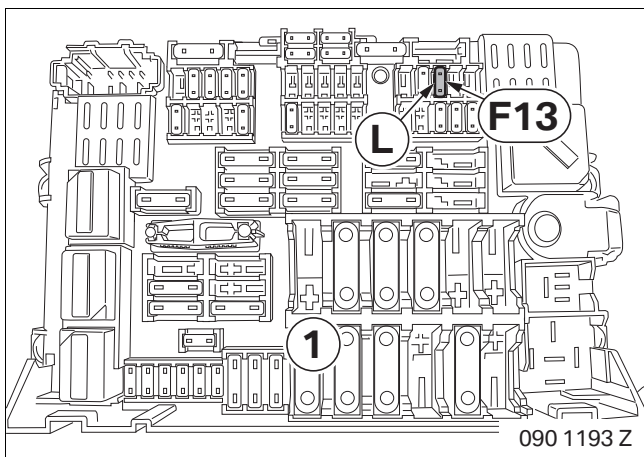


Cars built before 03/07 only

▶ If PIN 3 on connector **X11003** is already occupied, cut the socket contact off branch **A13** and connect branch **A13** to the cable from PIN 3 with miniature connector **H**. ◀

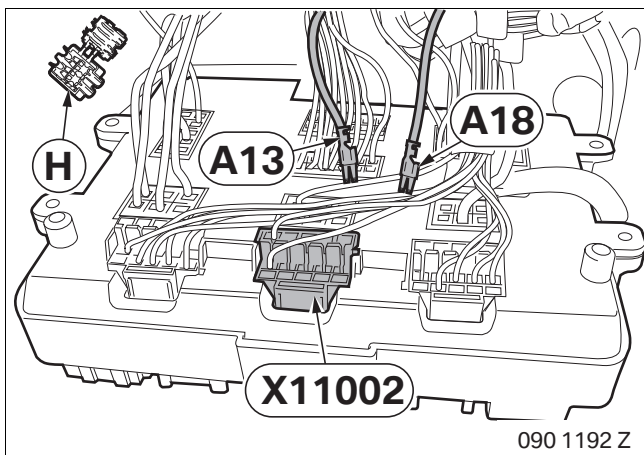
Connect branch **A13** to connector **X11003**, SW 15-pin socket casing, PIN 3.

Separate socket contact from branch **A18**, RT/BL cable, and using miniature connector **H** to branch **A13**.



Fit the fuse holder (1).

If there is no fusible link or a fusible link with less than 7.5 A in slot **F13**, fusible link **L** must be inserted.



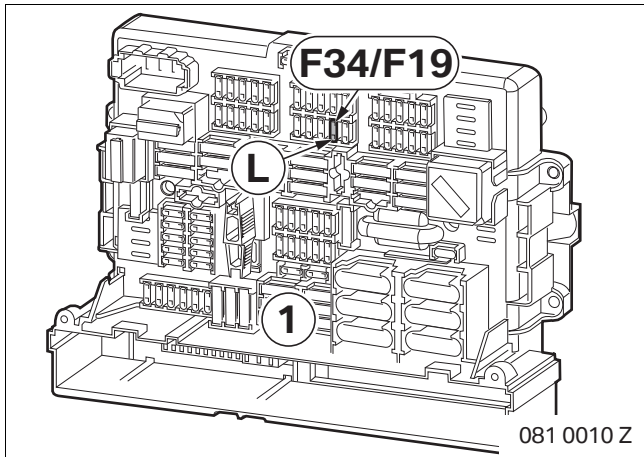
Cars built after 03/07 only

▶ If PIN 9 on connector **X11002** is already occupied, cut the socket contact off branch **A13** and connect branch **A13** to the cable from PIN 9 with miniature connector **H**. ◀

Connect branch **A13**, RT cable, to connector **X11002**, green 15-pin socket casing, PIN 9.

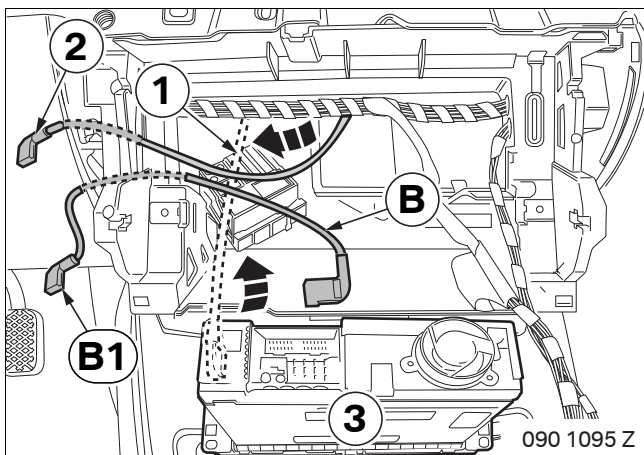
Separate socket contact from branch **A18**, RT/BL cable, and using miniature connector **H** to branch **A13**.

13. To connect the power supply and connection cable for E90, E91, E92, E93 cars only



Fit the fuse holder (1).

If in slot **F34** for cars built from 03/07 to 09/07 and in slot **F19** for cars built after 09/07 there is no fusible link or a fusible link with less than 7.5 A, fusible link **L** must be inserted.

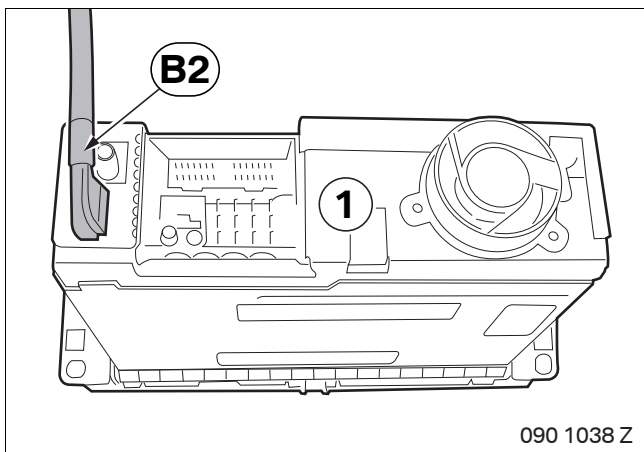


Cars with M-ASK only

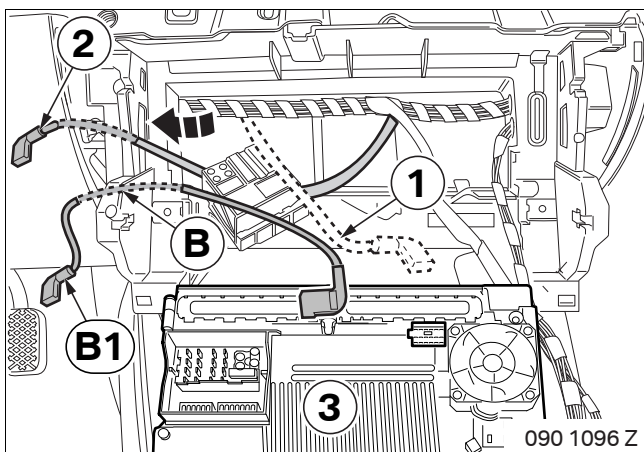
Disconnect the existing signal cable (1) from the M-ASK (3).

Route the plug (2) on the existing signal cable (1) to the ACM unit.

Route branch **B1** (10-pin VI connector) on the connection cable **B** to the installation site of the ACM unit.



Connect branch **B2** (WS 10-pin plug) to the M-ASK (1).



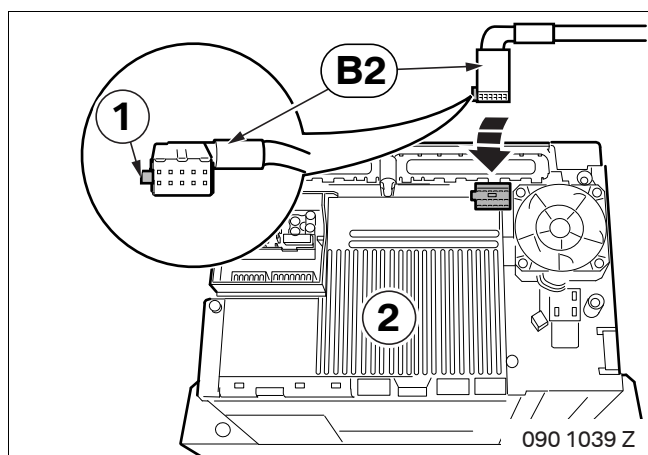
Cars with CCC only

Disconnect the existing signal cable (1) from the CCC (3).

Route the plug (2) on the existing signal cable (1) to the ACM unit.

Route branch **B1** (10-pin VI connector) on the connection cable **B** to the installation site of the ACM unit.

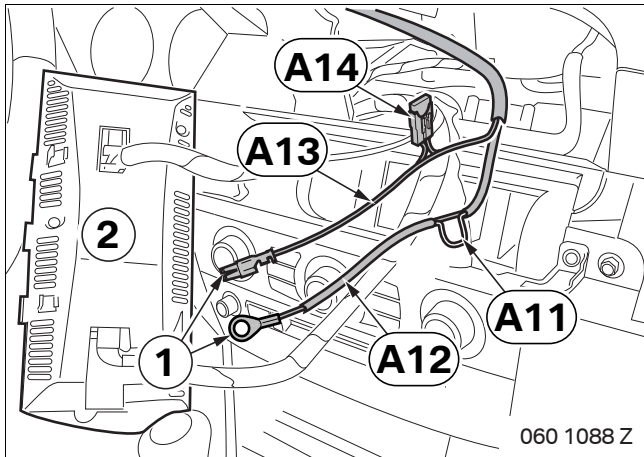
**13. To connect the power supply and connection cable
for E90, E91, E92, E93 cars only**



Remove coding (1) from branch **B2** (WS 10-pin plug).

Connect branch **B2** (WS 10-pin plug) to the CCC (2) as shown.

14. To connect the power supply and connection cable for E60, E61, E63, E64 cars



Route branches **A11–A14** to the control display (2).

Tie back fuse holder **A14** to retrofit cable.

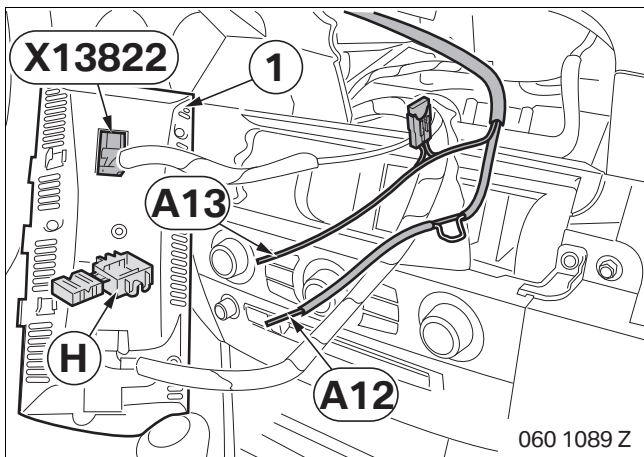
Detach contacts (1) from branches **A12** and **A13**.

Cars with M-ASK only

Cut cable loop **A11**, insulate and tie back to retrofit cable.

Cars with CCC or CHAMP only

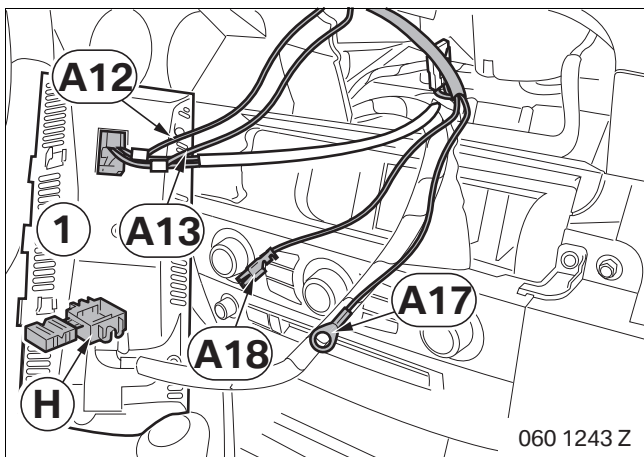
Tie back cable loop **A11** to retrofit cable.



All cars

Connect branches **A12** and **A13** as follows to plug **X13822** (12-pin SW) on the control display (1) using miniature connectors **H**:

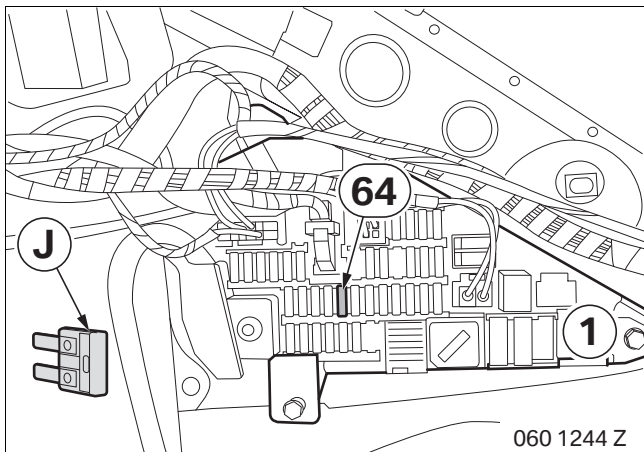
- Branch **A12**, BR cable, to BR/SW cable from PIN 3
- Branch **A13**, RT cable, to RT/VI cable from PIN 1



Route branches **A17** and **A18** to the control display (1) and disconnect the contacts.

Connect branches **A17** and **A18** to branches **A12** and **A13** using miniature connector **H** as follows:

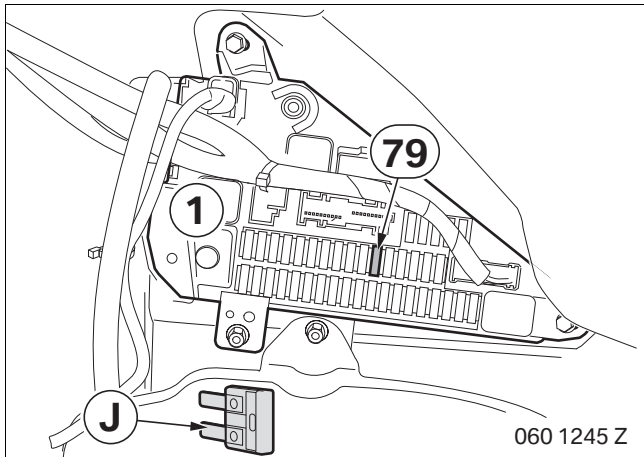
- Branch **A17**, BR cable, to branch **A12**, BR cable
- Branch **A18**, RT/BL cable, to branch **A13**, RT cable



Cars built before 09/05 only

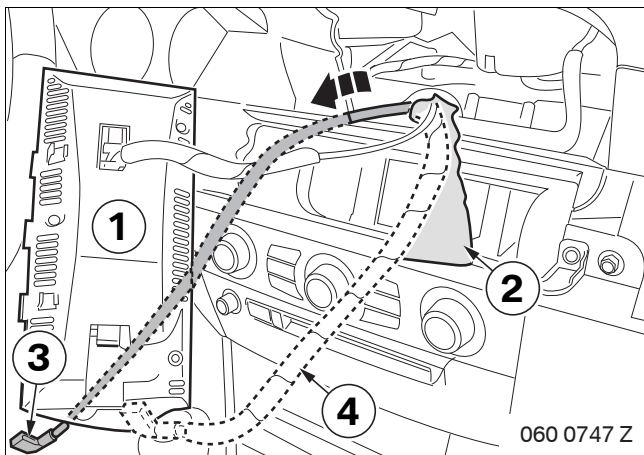
If a fusible element of less than 7.5 A is present in slot 64 of the fuse holder (1) in the luggage compartment, fusible link **J** must be inserted.

14. To connect the power supply and connection cable for E60, E61, E63, E64 cars



Cars built after 09/05 only

If a fusible element of less than 7.5 A is present in slot 79 of the fuse holder (1) in the luggage compartment, fusible link **J** must be inserted.

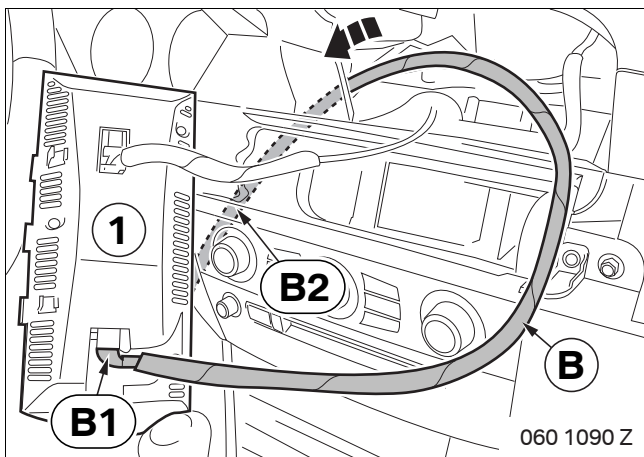


All cars

Disconnect the existing signal cable (4) from the control display (1).

Remove the sheath (2) from the existing signal cable (4) as far as possible.

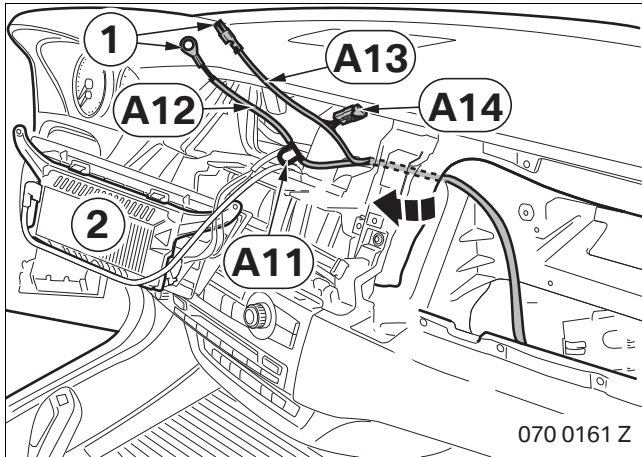
Route the plug (3) on the existing signal cable (4) into the footwell on the driver's side.



Connect branch **B1** (10-pin VI plug) of connection cable **B** on the control display (1).

Route branch **B2** (WS 10-pin plug) to the footwell on the driver's side.

15. Connecting voltage supply and connecting cable for E70, E71 cars



Route branches **A11–A14** to the control display (2).

Tie back fuse holder **A14** to retrofit cable.

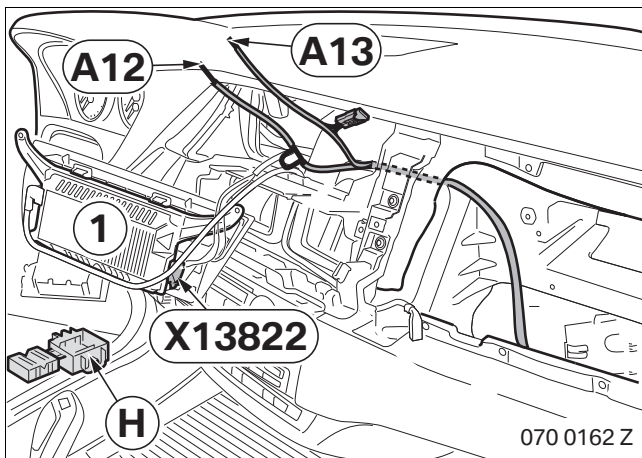
Detach contacts (1) from branches **A12** and **A13**.

Cars with M-ASK only

Cut cable loop **A11**, insulate and tie back to retrofit cable.

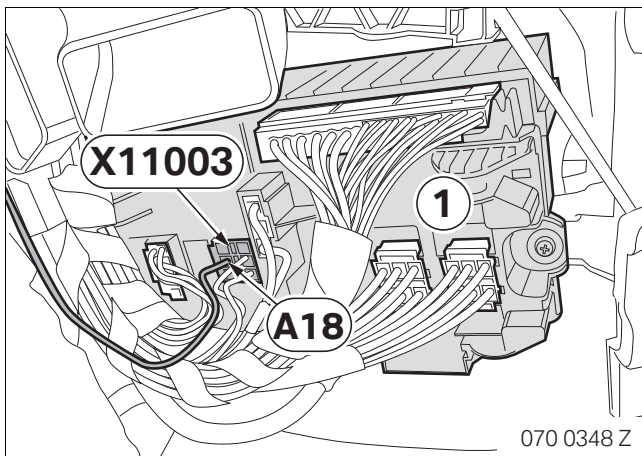
Cars with CCC or CHAMP only

Tie back cable loop **A11** to retrofit cable.




Connect branches **A12** and **A13** as follows to plug **X13822** (12-pin SW) on the control display (1) using miniature connectors **H**:

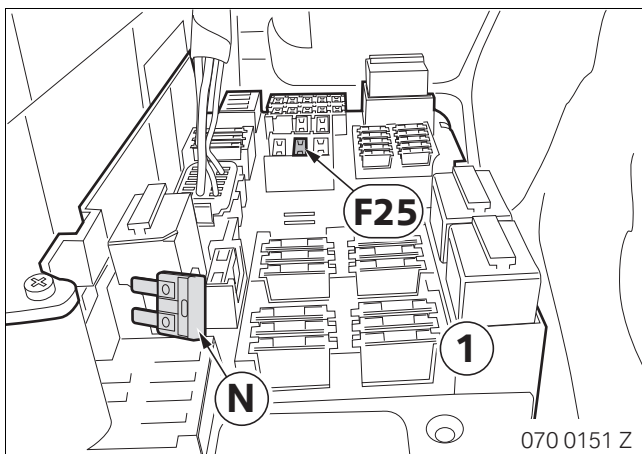
- Branch **A12**, BR cable, to BR/SW cable from PIN 3
- Branch **A13**, RT cable, to RT/VI cable from PIN 1



Route branches **A17** and **A18** into the passenger footwell.

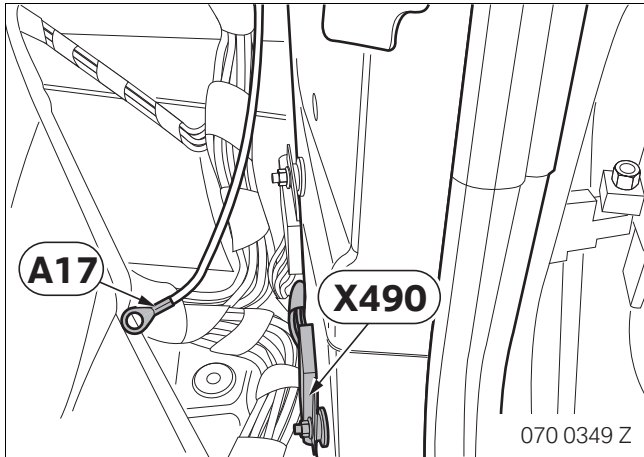
 Fusible inserts can fall out when connectors are connected to the fuse holder (1). Ensure that all the fusible inserts are replaced in their correct position. ◀

Connect branch **A18**, RT/BL cable, to PIN 5 of plug **X11003** (SW 6-pin).

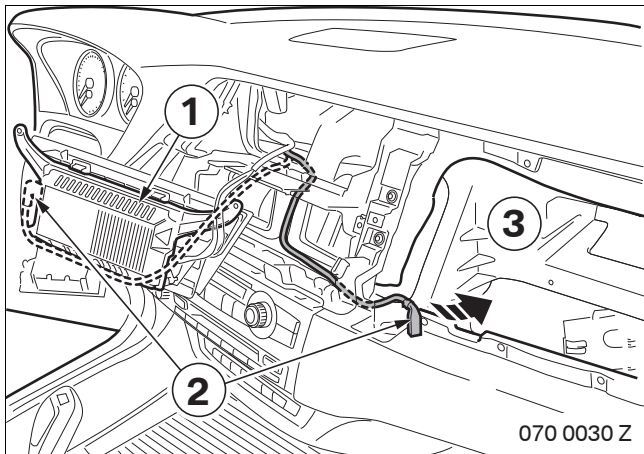


Insert fusible link **N** (5A) into slot **F25** of the fuse holder (1).

15. Connecting voltage supply and connecting cable for E70, E71 cars

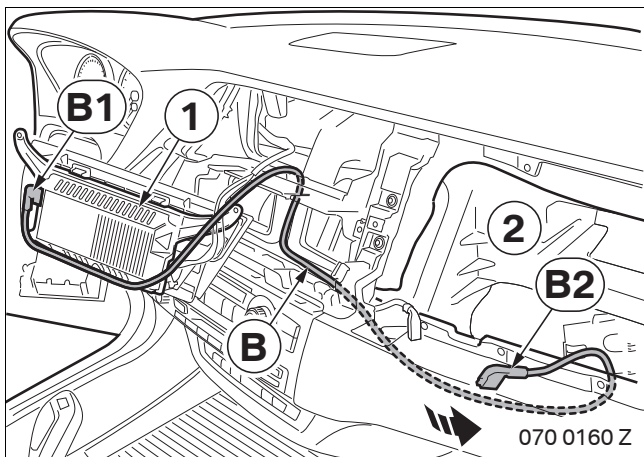


Screw branch **A17**, BR cable, to earth post **X490**.



Disconnect the existing signal cable (2) from the control display (1).

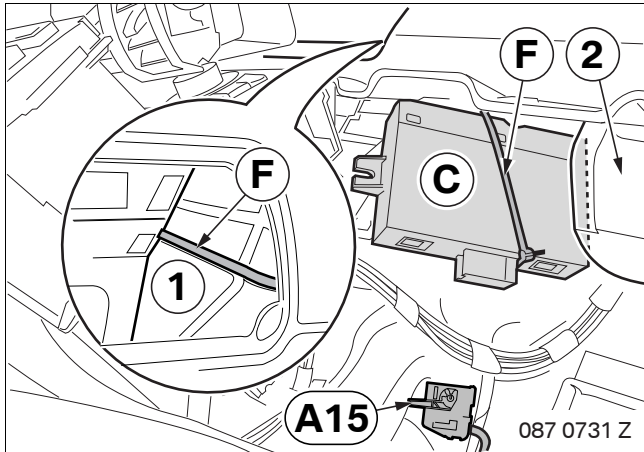
Route the plug on the existing signal cable (2) into the cutout of the glove compartment (3).



Connect branch **B1**, 10-pin VI plug of connection cable **B** on the control display (1).

Route branch **B2**, 10-pin WS plug into the cutout of the glove compartment (2).

16. Fitting ACM Unit and Universal Can Interface for E81, E82, E87 cars



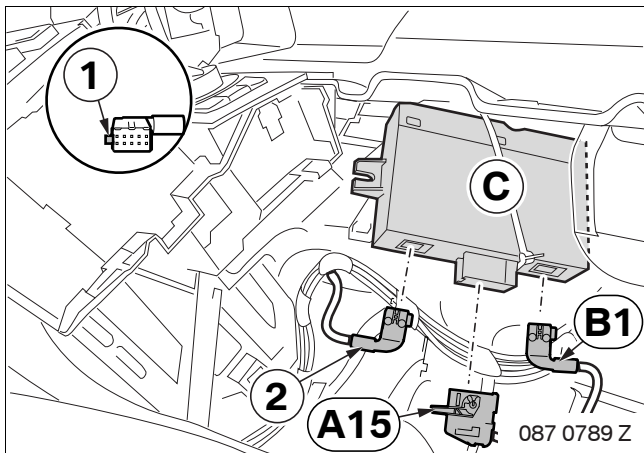
⚠ The deployment of the airbag (2) must not be impaired by the ACM unit **C**. ◀

Secure the ACM unit **C** to the heating duct (1) behind the glove compartment using cable ties **F**.

Cars with high controller (magnetic engagement) only

Disconnect, insulate and tie back PIN 12, grey cable, on branch **A15**, BL 26-pin plug.

◻ In all other cars, PIN 12 remains connected in branch **A15**. ◀

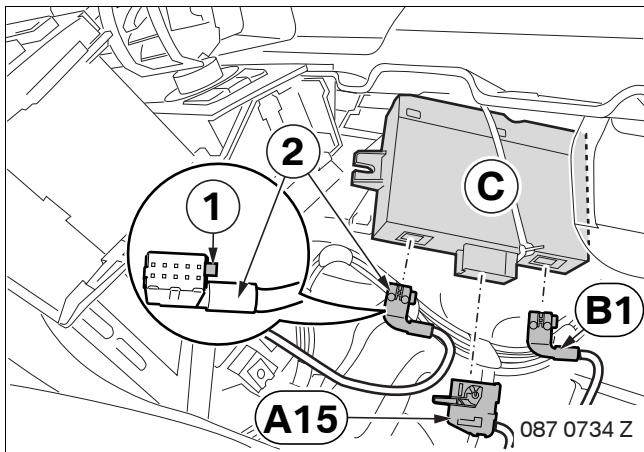


Cars with M-ASK only

◻ Use the coding (1) on the plugs to connect them correctly. ◀

Connect plug to ACM Unit **C** as shown:

- Plug (2) on the existing signal cable (WS 10-pin)
- Branch **A15** (BL 26-pin plug)
- Branch **B1** (VI 10-pin plug)

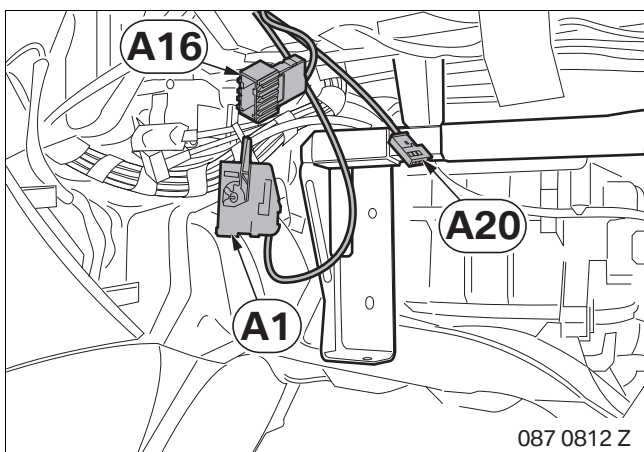


Cars with CCC only

Remove coding (1) from plug (2) on the existing signal cable (BL 10-pin).

Connect plug to ACM Unit **C** as shown:

- Plug (2) on the existing signal cable (BL 10-pin)
- Branch **A15** (BL 26-pin plug)
- Branch **B1** (VI 10-pin plug)



Cars built after 03/07 only

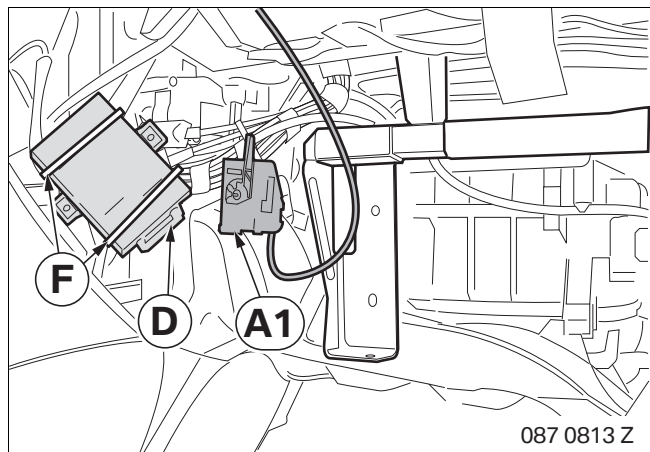
On branch **A1**, disconnect SW socket casing 32-pin, grey cable from PIN 1, insulate and tie back.

All cars

◻ In countries in which the picture playback is permitted up to a certain speed, the red cable from PIN 2 to branch **A1** must be disconnected, insulated and tied back. ◀

Tie back branch **A16**, SW 18-pin plug casing, branch **A20**, SW 3-pin socket casing and possible excess cable lengths to the standard wiring harness.

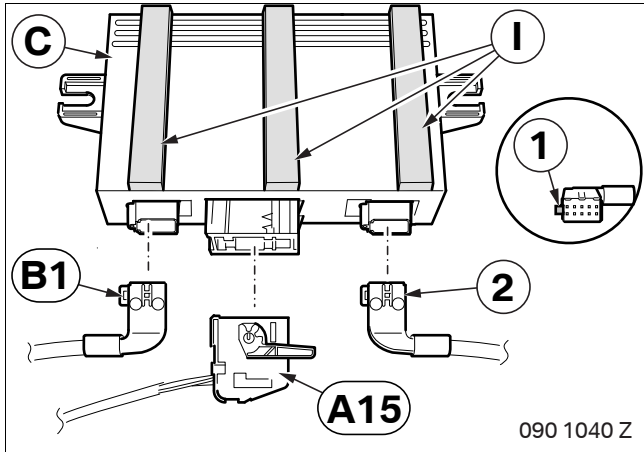
16. Fitting ACM Unit and Universal Can Interface for E81, E82, E87 cars



Secure Universal Can Interface **D** to the standard wiring harness using cable ties **F**.

Connect branch **A1**, SW 32-pin socket casing, to Universal Can Interface **D**.

17. Fitting ACM Unit and Universal Can Interface for E90, E91, E92, E93 cars



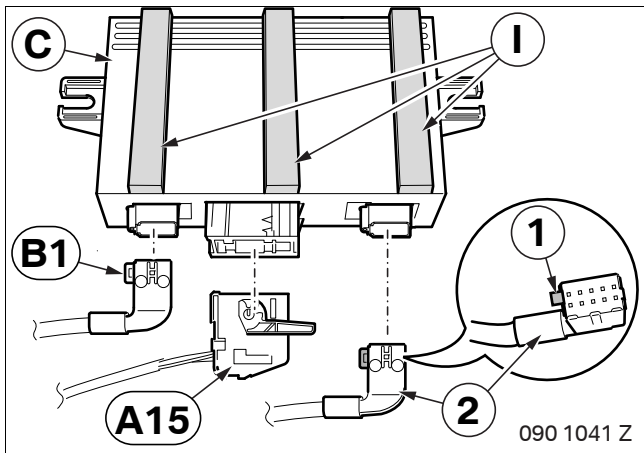
Cars with M-ASK only

Use the coding (1) on the plugs to connect them correctly. ◀

Connect plug to ACM Unit **C** as follows:

- Plug (2) on the existing signal cable (WS 10-pin)
- Branch **A15** (BL 26-pin socket casing)
- Branch **B1** (VI 10-pin plug)

Affix sealing strip **I** to ACM Unit **C**.



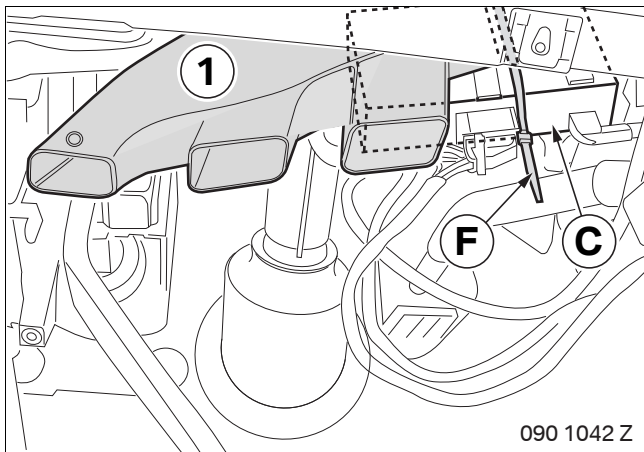
Cars with CCC only

Remove coding (1) from plug (2) on the existing signal cable (10-pin BL).

Connect plug to ACM Unit **C** as shown:

- Plug (2) on the existing signal cable (BL 10-pin)
- Branch **A15** (BL 26-pin socket casing)
- Branch **B1** (VI 10-pin plug)

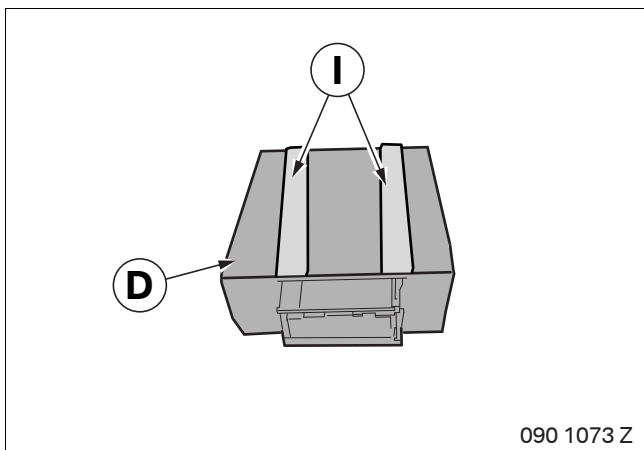
Affix sealing strip **I** to ACM Unit **C**.



All cars

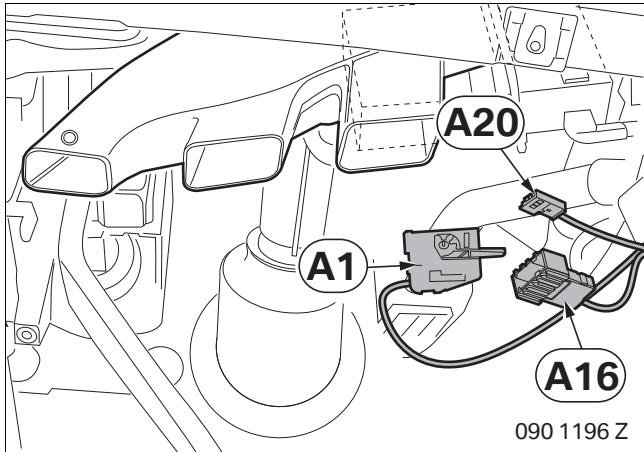
Secure ACM unit **C** to the rear of the heating duct (1) using cable ties **F**.

Ensure that the steering column can still move freely as required. ◀



Affix the sealing strip **I** to the Universal Can Interface **D**.

17. Fitting ACM Unit and Universal Can Interface for E90, E91, E92, E93 cars



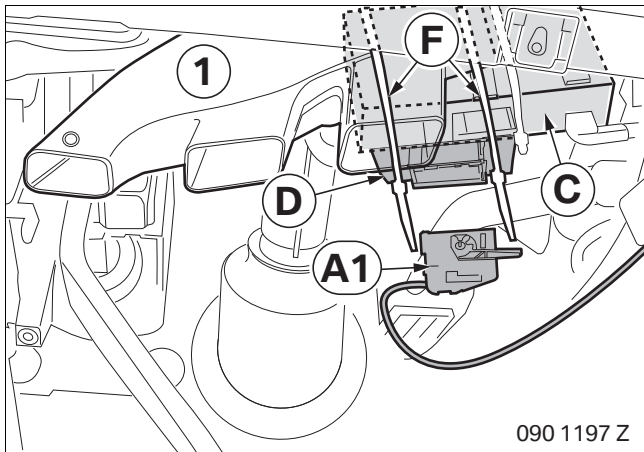
For cars built after 03/07 without SA866 (China language version) SA867 (Korea language version) or LA807 (Japan national version)

On branch **A1**, disconnect SW socket casing 32-pin, grey cable from PIN 1, insulate and tie back.

All cars

▶ In countries in which the picture playback is permitted up to a certain speed, the red cable from PIN 2 to branch **A1** must be disconnected, insulated and tied back. ◀

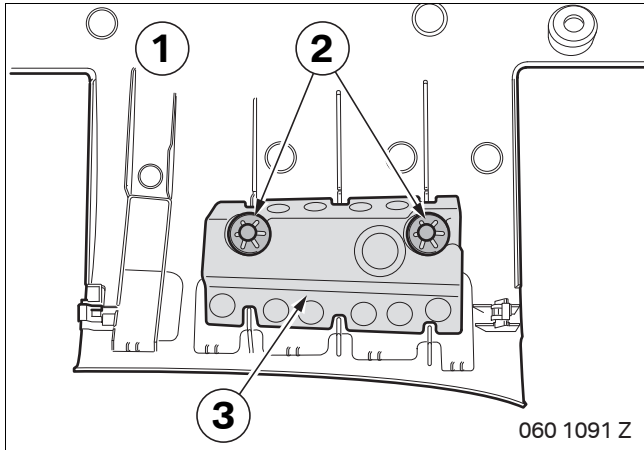
Tie back branch **A16**, SW 18-pin plug casing, branch **A20**, SW 3-pin socket casing and possible excess cable lengths to the standard wiring harness.



Attach Universal Can Interface **D** to the heating duct (1) behind the ACM Unit **C** using cable ties **F**.

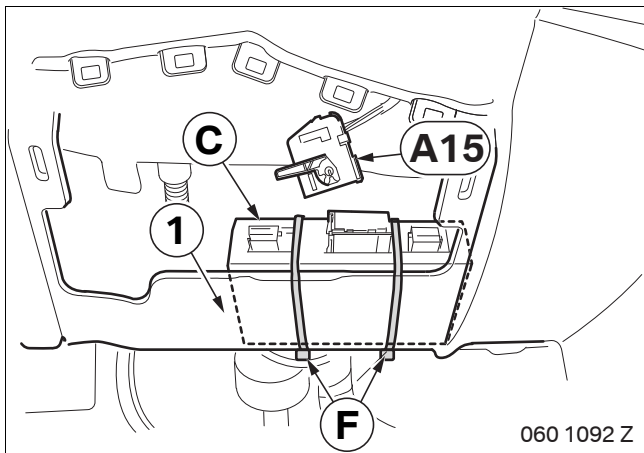
Connect branch **A1**, SW 32-pin socket casing, to Universal Can Interface **D**.

18. Fitting ACM Unit and Universal Can Interface for E60, E61, E63, E64 cars



Prepare the pedal trim (1) as follows:

- Remove the lock washers (2)
- Remove the polystyrene (3)

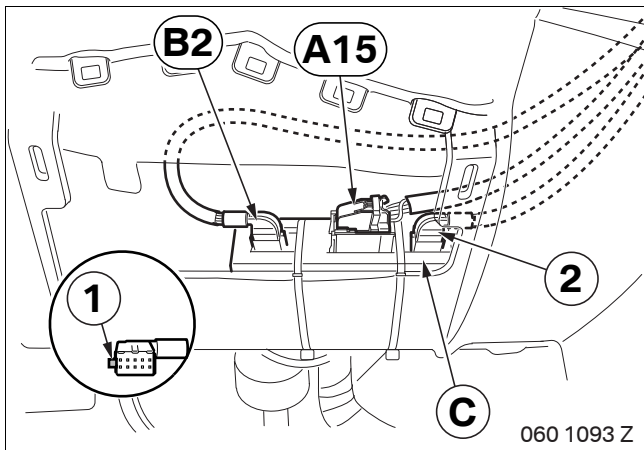


▶ Ensure that the steering column can still move freely as required. ◀

Secure the ACM unit **C** to the trim (1) below the steering column using cable ties **F**.

Cars with CHAMP only

Unlock branch **A15**, 26-pin. BL socket casing, disconnect grey cable from PIN 12 and connect in PIN 25.



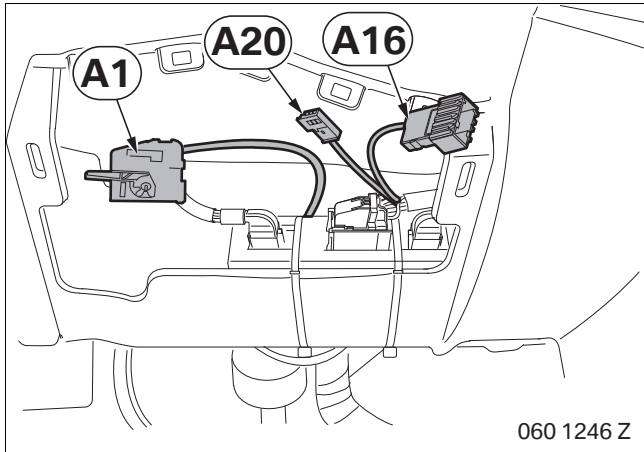
All cars

▶ Use the coding (1) on the plugs to connect them correctly. ◀

Connect plug to ACM Unit **C** as follows:

- Plug (2) on the existing signal cable (VI 10-pin)
- Branch **A15** (BL 26-pin socket casing)
- Branch **B2** (WS 10-pin plug)

18. Fitting ACM Unit and Universal Can Interface for E60, E61, E63, E64 cars




Cars

- built after 03/07 without SA866 (China language version) SA867 (Korea language version) or LA807 (Japan national version) only
- with CHAMP

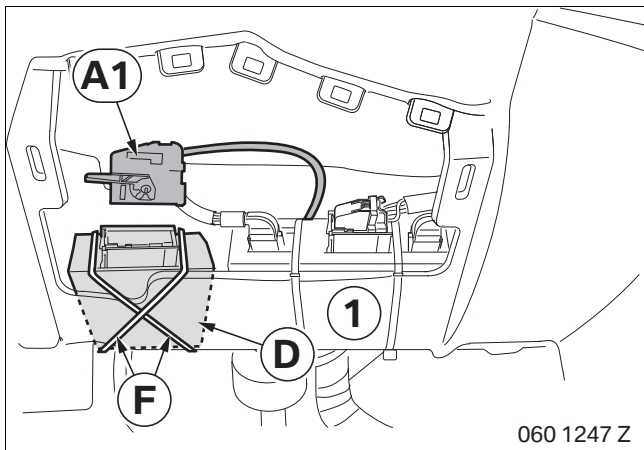
On branch **A1**, disconnect SW socket casing 32-pin, grey cable from PIN 1, insulate and tie back.

All cars

 In countries in which the picture playback is permitted up to a certain speed, the red cable from PIN 2 to branch **A1** must be disconnected, insulated and tied back.

Ensure that the steering column can still move freely as required. ◀

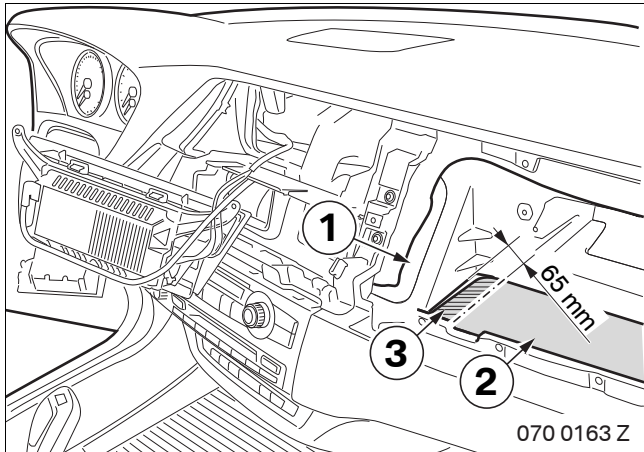
Tie back branch **A16**, SW 18-pin plug casing, branch **A20**, SW 3-pin socket casing and possible excess cable lengths to the standard wiring harness.



Secure the Universal Can Interface **D** to the trim (1) below the steering column using cable ties **F**.

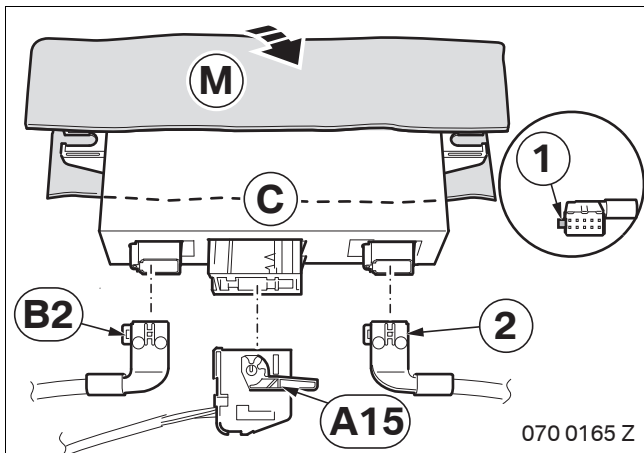
Connect branch **A1** (SW 32-pin socket casing) to Universal Can Interface **D**.

19. Fitting ACM Unit and Universal Can Interface for E70, E71 cars



Cars with polystyrene insert under the glove compartment only

Cut section (3) from the polystyrene insert (2) in the glove compartment cut-out (1) using the dimensions shown.



Cars with CHAMP only

Unlock branch **A15**, 26-pin. BL socket casing, disconnect grey cable from PIN 12 and connect in PIN 25.

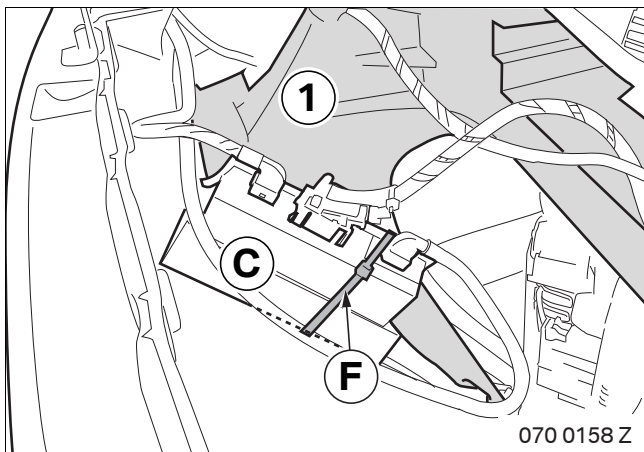
All cars

▶ Use the coding (1) on the plugs to connect them correctly. ◀

Connect plug to ACM Unit **C** as follows:

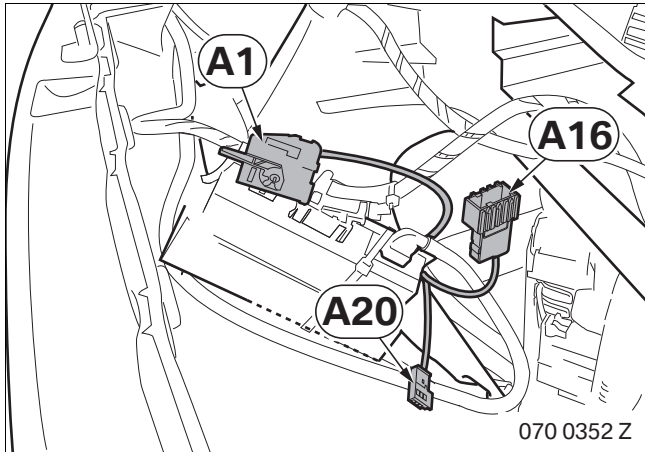
- Plug (2) on the existing signal cable (VI 10-pin)
- Branch **A15** (BL 26-pin socket casing)
- Branch **B2** (WS 10-pin plug)

Wrap the ACM unit **C** with protective strips **M**.



Secure ACM unit **C** to the instrument panel (1) using cable ties **F**.

19. Fitting ACM Unit and Universal Can Interface for E70, E71 cars




Cars

- built after 03/07 without SA866 (China language version) SA867 (Korea language version) or LA807 (Japan national version) only
- with CHAMP

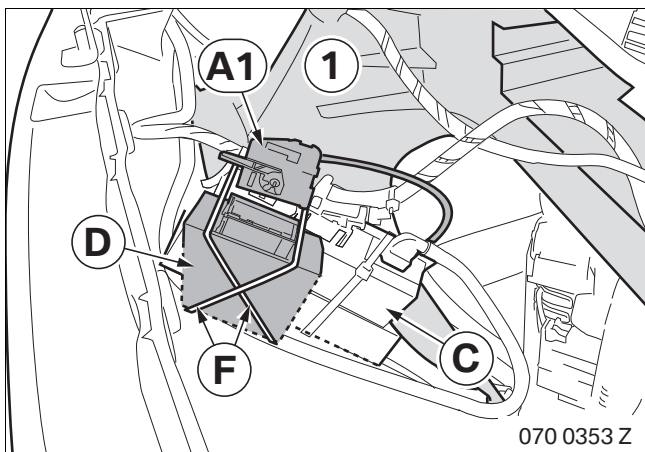
On branch **A1**, disconnect SW socket casing 32-pin, grey cable from PIN 1, insulate and tie back.

All cars

 In countries in which the picture playback is permitted up to a certain speed, the red cable from PIN 2 to branch **A1** must be disconnected, insulated and tied back.

Ensure that the steering column can still move freely as required. ◀

Tie back branch **A16**, SW 18-pin plug casing, branch **A20**, SW 3-pin socket casing and possible excess cable lengths to the standard wiring harness.



Attach Universal Can Interface **D** to the instrument panel (1) in front of the ACM unit **C** using cable ties **F**.

Connect branch **A1**, SW 32-pin socket casing, to Universal Can Interface **D**.

20. Concluding work and coding

For cars with SA6FL only (USB/audio interface)

To play ACM audio through the car's speakers, no device can be connected to the USB interface.

Cars without AUX socket only

This retrofit system requires coding.

- Connect the battery
- Conduct a brief test
- Program/encode the retrofit with SSS (Software Service Station) via the **CIP, AUX IN connection retrofit** path

Cars with AUX jack only

This retrofit system does not require coding.

- Connect the battery
- Conduct a brief test

Make settings in the ACM Service Menu for all cars

The systems installed in the car must be selected in the ACM Service Menu.

Systems that are not selected are skipped when scrolling or are hidden from the customer.

To call up the ACM Service Menu:

- Press and hold the "Menu" button to bring up the accessory menu
- Move the controller once to the right
- Move the controller 3 times to the left
- Press controller once

The ACM Service Menu is displayed on the control display.

By turning and pressing the controller, you can now select or disable systems that have or have not been installed. Selected and unselected systems are shown in SW.

Selectable systems are shown in WS.

For cars with ACM software version older than C23i05V1 only

For cars with CCC, the ACM unit **C** may need to be initialised after installation, repair or software update of the car.

If picture interference occurs, proceed as follows:

- Disconnect branch **A15**, BL 26-pin, on the ACM unit **C** and disconnect cable from PIN 12
- Reconnect branch **A15** and switch on the ignition, the displayed image is now shifted by approx. 1/3 of the screen
- Switch off the ignition
- Disconnect branch **A15** and reconnect the previously disconnected cable to PIN 12
- Connect branch **A15** to the ACM unit **C** and switch on the ignition

The initialisation is complete.

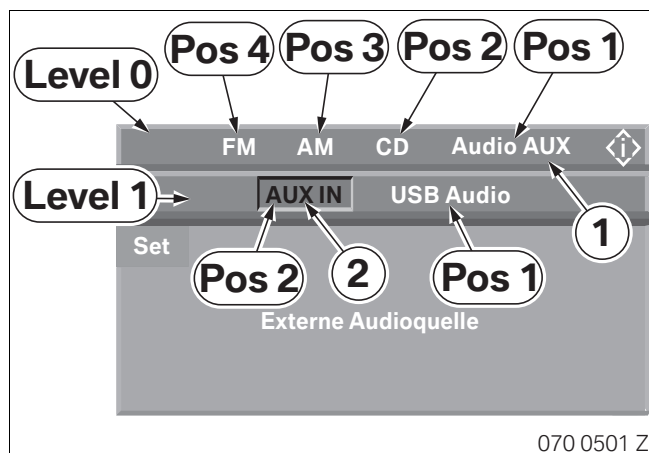
20. Concluding work and coding

For cars with ACM software version older than C23i05V1 only

There is an "Auto Position" button in the ACM Service Menu under "Setup" after this version.

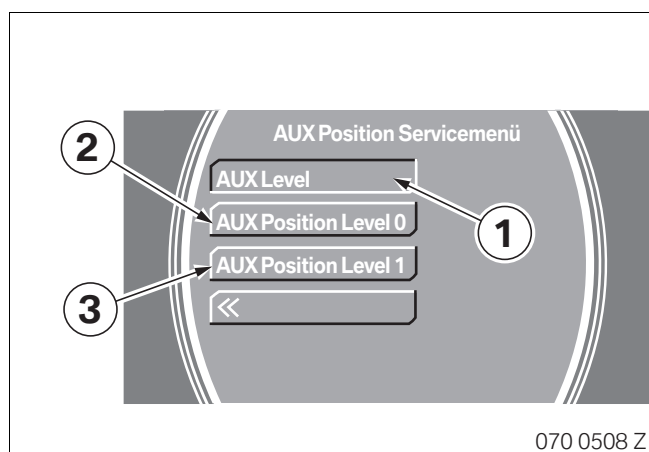
In order to ensure the correct display, this function must be activated after installation, repairs or a software update of the car.

In addition, the exact position of the "AUX IN" button in the Entertainment Menu of the car is to be set in the ACM Service Menu under "Setup", "AUX Position".



Call up Entertainment Menu.

Check the level (0 or 1) and position of the "Audio AUX" button (1) and/or the "AUX IN" button (2) in the respective line.



Call up the ACM Service Menu (press and hold the Menu button, move controller 1 once to the right and 3 times to the left, press the controller).

Using the "AUX Level" (1) button, select the line (level 0 or 1) in which the "AUX IN" button is located.

Cars with "AUX IN" button in level 0 only

Using the "AUX Pos Level 0" button, select the position of the "AUX IN" button.

Cars with "AUX IN" button in level 1 only

Using the "AUX Pos Level 0" button, select the position of the "Audio AUX" button.

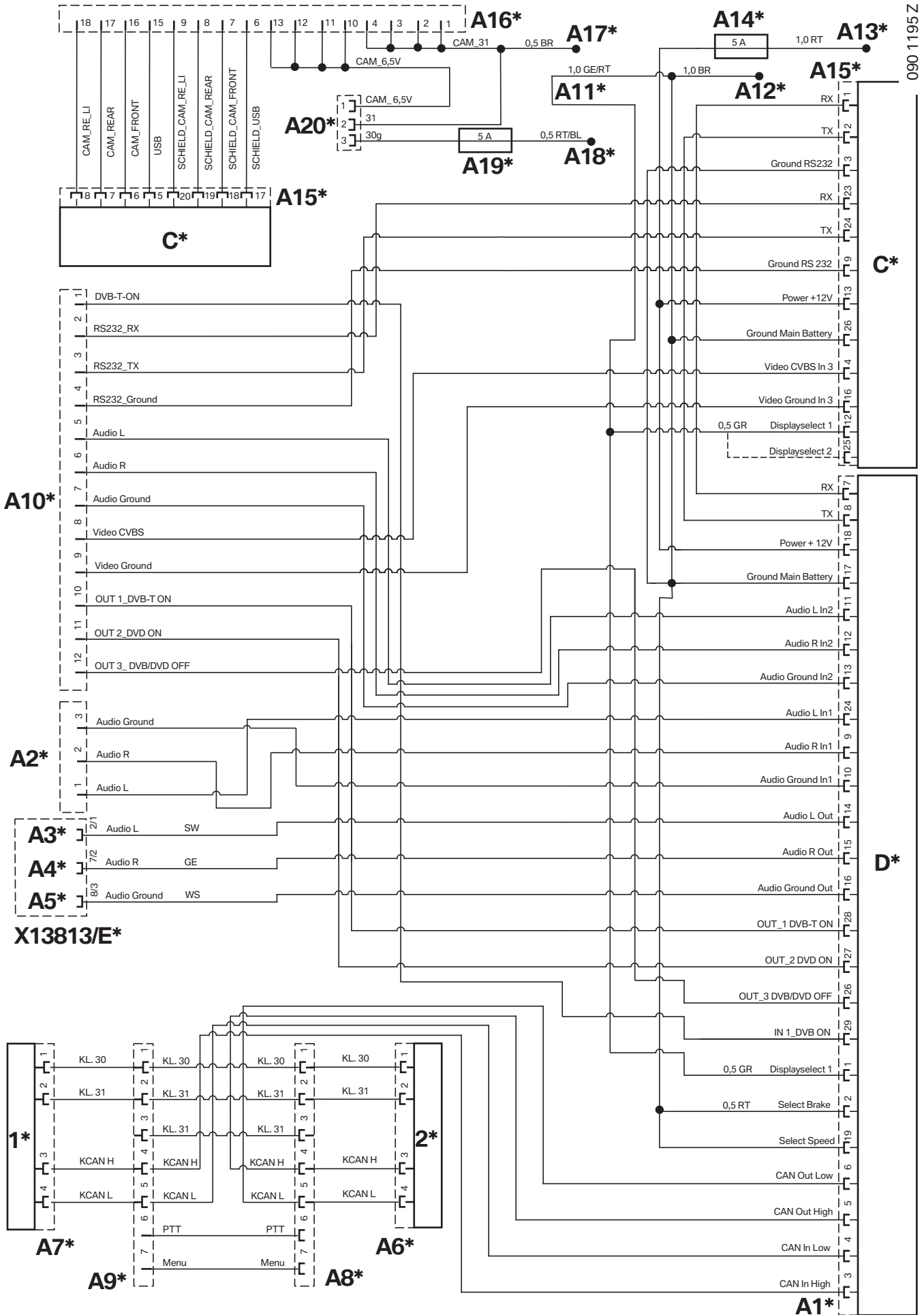
Using the "AUX Pos Level 1" button, select the position of the "AUX IN" button.

Exit ACM Service Menu.

All cars


- Conduct a function test
- Re-fit the car components as required

21. Retrofit cable circuit diagram



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21. Retrofit cable circuit diagram

 For cars **built after 03/07 without SA866** (China language version), **SA867** (Korea language version) **or LA807** (Japan national version) **except E81, E82, E87** and cars **with CHAMP**, the grey cable must be disconnected, insulated and tied back from PIN 1 on branch **A1**, SW 32-pin socket casing.

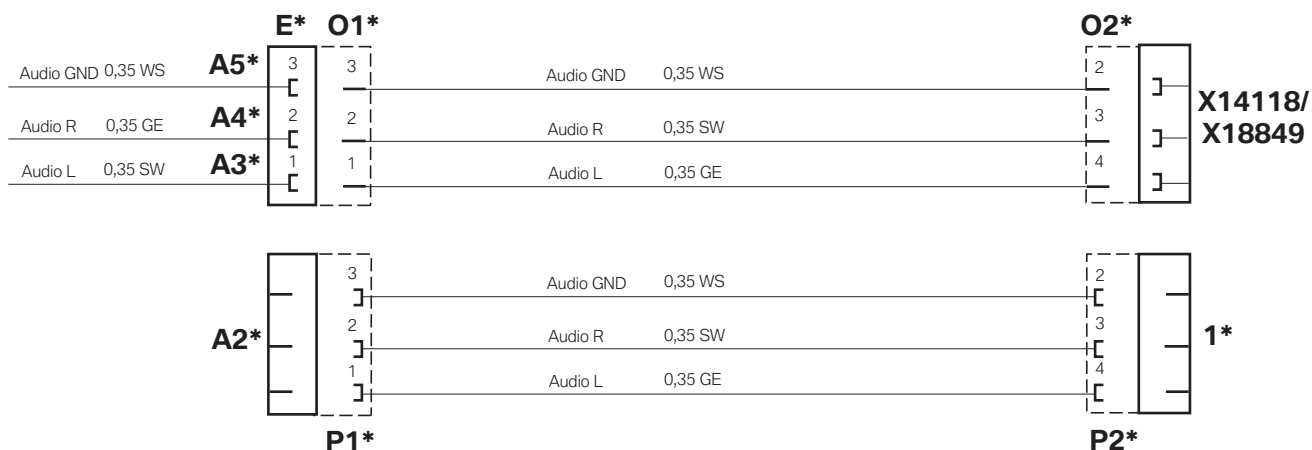
For cars **with CHAMP** the grey cable must be disconnected from PIN 12 and connected to PIN 25 at branch **A15**, 26-pin BL socket casing.

Legend

A1*	Socket casing 32-pin SW
A2*	Plug casing 3-pin SW
A3*	Socket contact
A4*	Socket contact
A5*	Socket contact
A6*	Socket casing 4-pin SW
A7*	Plug casing 4-pin SW
A8*	Plug 8-pin SW
A9*	Plug 8-pin SW
A10*	Plug casing 18-pin SW
A11*	Cable loop
A12*	Ring eyelet, 6 mm
A13*	Socket contact
A14*	Fuse holder
A15*	Socket casing 26-pin BL
A16*	Plug casing 18-pin SW
A17*	Ring eyelet, 6 mm
A18*	Socket contact
A19*	Fuse holder
A20*	Socket casing 3-pin SW
C*	ACM Unit
D*	Universal CAN Interface
E*	Socket casing 3-pin SW
1*	Plug X10387
2*	Controller
X13813	Socket casing 12-pin SW

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

22. Auxiliary cable circuit diagram (cars with SA 6FL only)



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Legend

- O1*** Plug casing 3-pin SW, with socket casing **E*** to branches **A3***, **A4***, **A5***
- O2*** Plug casing 4-pin SW, to disconnected plug of the USB/AUX socket **X14118/X18849**
- P1*** Socket casing 3-pin SW, to branch **A2***
- P2*** Socket casing 4-pin SW, to USB/AUX socket **1***

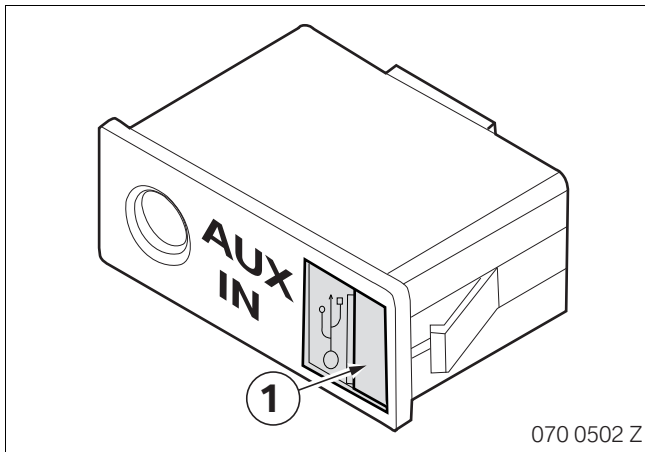
All the designations marked with an asterisk (*) apply only to these installation instructions or this circuit diagram.

Cable colours

BL	Blue
BR	Brown
GE	Yellow
GR	Grey
RT	Red
SW	Black
TR	Transparent
VI	Violet
WS	White

23. Customer information

For cars with SA6FL only (USB/audio interface)



To play ACM audio through the car's speakers, please disconnect any devices that may be connected to the USB interface (1).