

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 kit BMW Accessory Menu ACM
	65 50 0 422 701	Retrofit kit BMW Accessory Menu ACM
	65 50 0 431 544	Retrofit kit BMW Accessory Menu ACM
	65 50 0 441 372	Retrofit kit BMW Accessory Menu ACM
	65 50 0 445 716	Retrofit kit BMW Accessory Menu ACM
	65 50 0 443 573	Retrofit kit Round Vision
	65 50 0 420 510	Retrofit kit Round Vision

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. Differing programming times may be necessary depending on the production age of the vehicle and on work previously performed on the vehicle.

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

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

Important information

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 safety regulations.

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


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


Quote the following information:

- Chassis number,
- Retrofit kit part number,
- Detailed description of the problem,
- Any work already carried out.

Do not archive the hard copy of these installation instructions since daily updates are provided via 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" chapter at the end of the 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. The costs incurred as a result 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

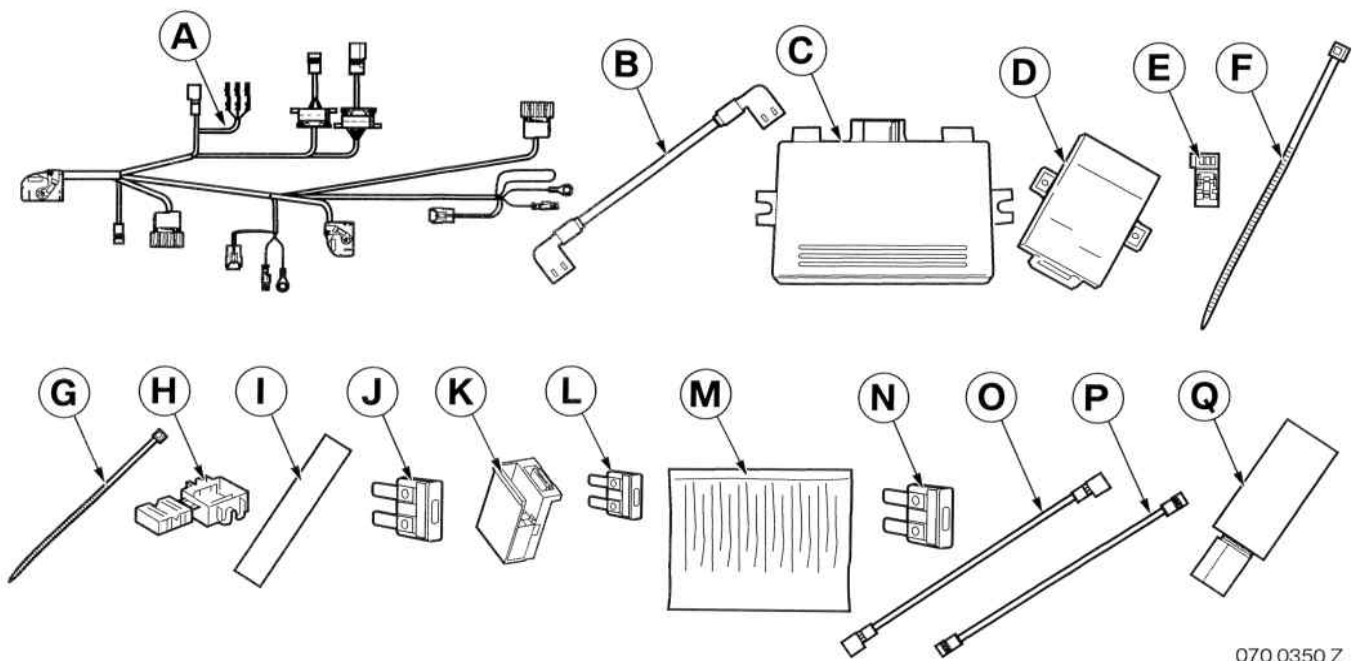
Special tools required

00 9 317, Trim wedge

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1. Parts list



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Legend

- A** Retrofit cable
- B** Connecting wire
- C** ACM Unit
- D** Universal CAN Interface
- E** SW 3-pin socket casing (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** Fuse link 7.5 A (large, for E60, E61, E63, E64 cars only)
- K** SW 12-pin socket casing
- L** Fuse link 7.5 A (small, for E81, E82, E87, E90, E91, E92, E93 cars only)
- M** Protective strips (for E70, E71 cars only)
- N** Fuse link 5 A (for E70, E71 cars only)
- O** Auxiliary cable (cars with SA6FL only)
- P** Auxiliary cable (cars with SA6FL only)
- Q** Switching regulator (only where at least one camera is installed in conjunction with ACM, included in the relevant camera system's retrofit kit)

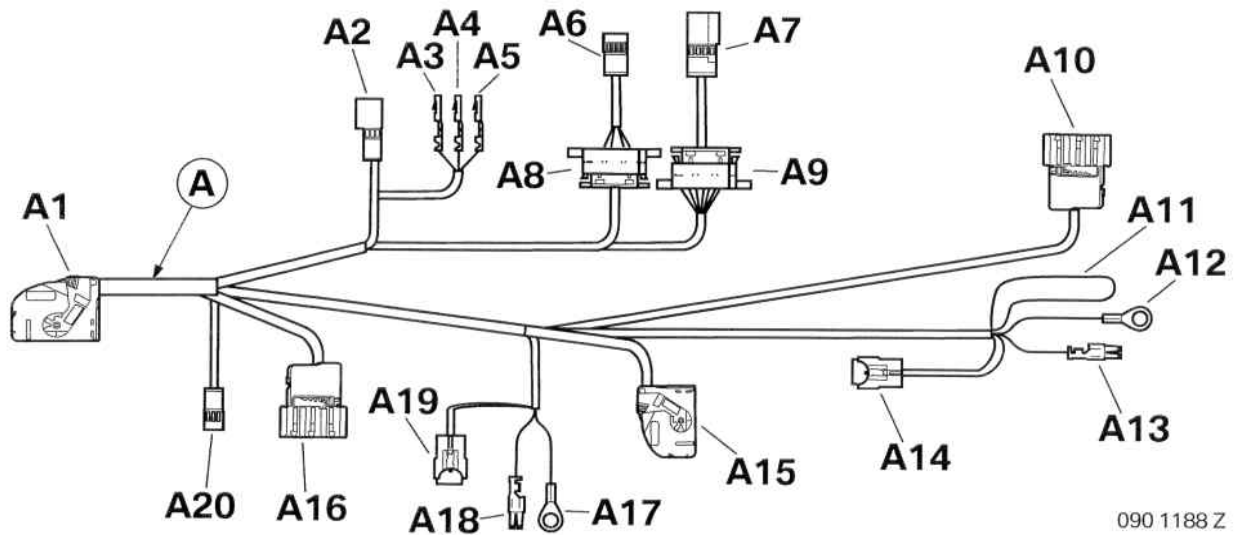
2. Preparatory work for E81, E82, E87, E90, E91, E92, E93, E60, E61, E63, E64, E70 cars

	ISTA No.
Conduct a brief test	---
Disconnect the negative pole of the 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 at the rear left (interior)	51 47 030
Door sill strip at the front left (interior)	51 47 000
Trim on bottom left A-pillar	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 glove box on the right (E70 cars only)	51 16 ...
M-ASK/CCC/CHAMP	65 83 010
Unfasten the storage bin (E60, E61, E63, E64 cars only)	51 16 200
Centre console trim (E70 cars only)	51 16 160
Controller (E70 cars only)	---
Right side finishers on the storage bin (E70 cars only)	51 16 ...
Finisher 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 SA6FL 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 ...
Left boot wheel arch trim	51 47 151
Door sill strip at the rear left (interior)	51 47 030
Door sill strip at the front left (interior)	51 47 000
Trim on bottom left A-pillar	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
Undo the storage bin finisher (E90, E91 cars only)	51 16 212
Trim at the bottom right of the instrument panel	51 45 181
Glove box with casing	51 16 366
Undo the fuse holder on the right	---
USB/AUX socket (cars with SA6FL only)	---

3. Preparatory work for E71 cars

	ISTA No.
Conduct a brief test	---
Disconnect the negative pole of the battery	12 00 ...
The following components must be removed first	
Rear seat backrest side section, right	52 ...
Right boot wheel arch trim	51 47 151
Door sill strip, rear (interior) right	51 47 030
Door sill strip, front (interior) right	51 47 000
Trim on bottom right A-pillar	51 43 070
Trim on bottom right door pillar	51 43 150
Pedal trim	51 45 185
Insert for right-hand glove box	51 16 ...
Control display	65 82 050
M-ASK/CCC/CHAMP	65 83 010
Centre console finisher	51 16 160
Controller	---
Right side finisher on the storage bin	51 16 ...
USB/AUX socket (cars with SA6FL only)	---

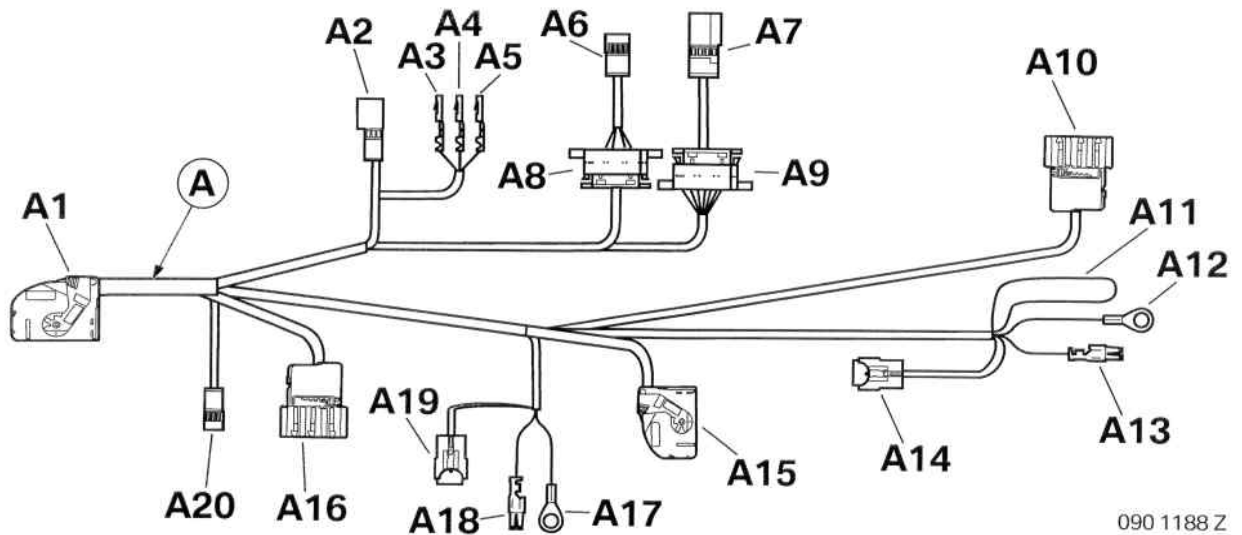
4. Retrofit cable connection diagram



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Item	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
A	Retrofit cable	---	---	---	---
A1	SW 32-pin socket casing	---	---	To the Universal Can Interface D	---
A2	SW 3-pin plug casing	---	---	Cars with AUX socket and without SA6FL only With socket casing E to cable of AUX socket Cars with SA6FL only To branch P1 of auxiliary cable P	---
A3	Socket contact	Audio L	SW 0.35 mm ²	Cars without SA6FL only To radio plug (multi-part or single-part) Cars with SA6FL only With socket casing E to branch O1 of auxiliary cable O	X13813/X13812 PIN 2/PIN 30 PIN 1
A4	Socket contact	Audio R	GE 0.35 mm ²	Cars without SA6FL only To radio plug (multi-part or single-part) Cars with SA6FL only With socket casing E to branch O1 of auxiliary cable O	X13813/X13812 PIN 7/PIN 35 PIN 2
A5	Socket contact	Audio GND	WS 0.35 mm ²	Cars without SA6FL only To radio plug (multi-part or single-part) Cars with SA6FL only With socket casing E to branch O1 of auxiliary cable O	X13813/X13812 PIN 8/PIN 36 PIN 3
A6	SW 4-pin socket casing	---	---	E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only To the controller E60, E61, E63, E64 cars only Not required	X10387
A7	SW 4-pin plug casing	---	---	E81, E82, E87, E90, E91, E92, E93, E70, E71 cars only To the plug of the controller cable E60, E61, E63, E64 cars only Not required	X10387
A8	SW 8-pin plug connector	---	---	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 the controller	X10387
A9	SW 8-pin plug connector	---	---	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	SW 18-pin plug casing	---	---	In the boot on the left	---

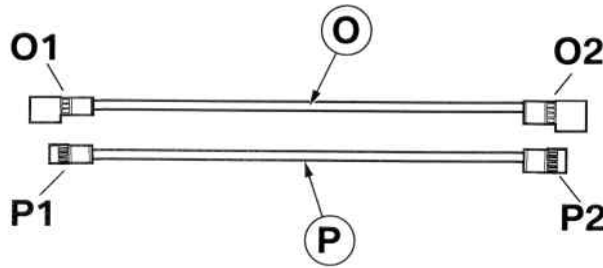
4. Retrofit cable connection diagram



090 1188 Z

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 cars with high controller (magnetic engagement) Tie back Only cars with M-ASK and all E81, E82, E87 cars with basic controller (mechanical engagement) Cut, insulate and tie back	---
A12	Eyelet, 6 mm	Terminal 31	BR 1.0 mm ²	E81, E82, E87, E90, E91, E92, E93 cars only In the right-hand footwell E60, E61, E63, E64, E70, E71 cars only Disconnect the eyelet and connect with miniature connector H to 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 To front right fuse holder E81, E82, E87, E90, E91, E92, E93 cars before 03/07 only To front right fuse holder E60, E61, E63, E64, E70, E71 cars only Disconnect socket contact and connect with miniature connector H to the display	X11003 PIN 3 X11002 PIN 9 X13822 PIN 1
A14	Fuse holder	---	---	Tie back on wiring harness	---
A15	BL 26-pin socket casing	---	---	To ACM Unit C	---
A16	SW 18-pin plug casing	---	---	For connecting camera systems Tie back on wiring harness	---
A17	Eyelet, 6 mm	Terminal 31	BR 0.5 mm ²	E81, E82, E87, E90, E91, E92, E93, E70, E71 only In the right-hand footwell E60, E61, E63, E64 cars only Disconnect the eyelet and connect with miniature connector H to branch A12	X490
A18	Socket contact	Terminal 30g	RT/BL 0.5 mm ²	E81, E82, E87, E90, E91, E92, E93 cars only Connect to right-hand fuse holder using miniature connector H on branch A13 E60, E61, E63, E64 cars only Disconnect socket contact and connect with miniature connector H on branch A13 E70, E71 only To front right fuse holder	X11003 PIN 5
A19	Fuse holder	---	---	Tie back on wiring harness	---
A20	SW 3-pin socket casing	---	---	For power supplies to camera systems and/or USB interface, switching regulator Q connection When installing at least one camera system, connect the switching regulator Q from the camera retrofit kit, otherwise tie back	---

5. Connection diagram for auxiliary cable and connecting wire



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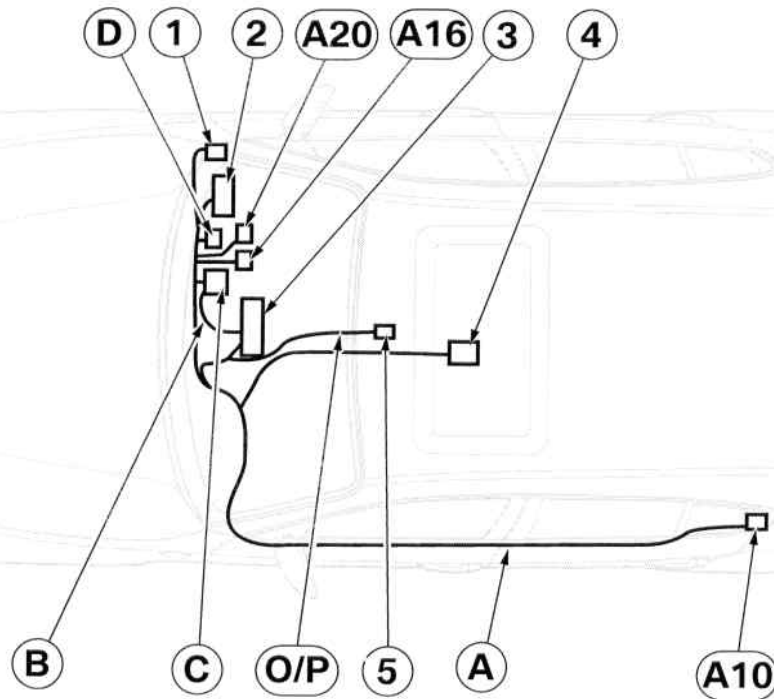
Item	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
O/P	Auxiliary cable	---	---	For cars with SA6FL only	---
O1	SW 3-pin plug casing	---	---	With socket casing E on branches A3, A4 and A5 of retrofit cable A	---
O2	SW 4-pin plug casing	---	---	Cars with 4-pin plug on the USB/AUX socket only E81, E82, E87, E90, E91, E92, E93, E70, E71 To the disconnected plug of the USB/AUX socket E60, E61 To the disconnected plug of the USB/AUX socket Cars with 6-pin plug on the USB/AUX socket only To the disconnected cable of the plug from the USB/AUX socket	X14118 X18849
P1	SW 3-pin socket casing	---	---	To branch A2 of retrofit cable A	---
P2	SW 4-pin socket casing	---	---	To AUX socket	---



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Item	Designation	Signal	Cable colour/ cross-section	Connection location in the car	Abbreviation/ slot
B	Connecting wire	---	---	---	---
B1	VI 10-pin socket casing	---	---	E81, E82, E87, E90, E91, E92, E93 cars only To ACM Unit C E60, E61, E63, E64, E70, E71 cars only To control display	X13823
B2	WS 10-pin socket casing	---	---	E81, E82, E87, E90, E91, E92, E93 cars with M-ASK only To M-ASK Only E81, E82, E87, E90, E91, E92, E93 with CCC To 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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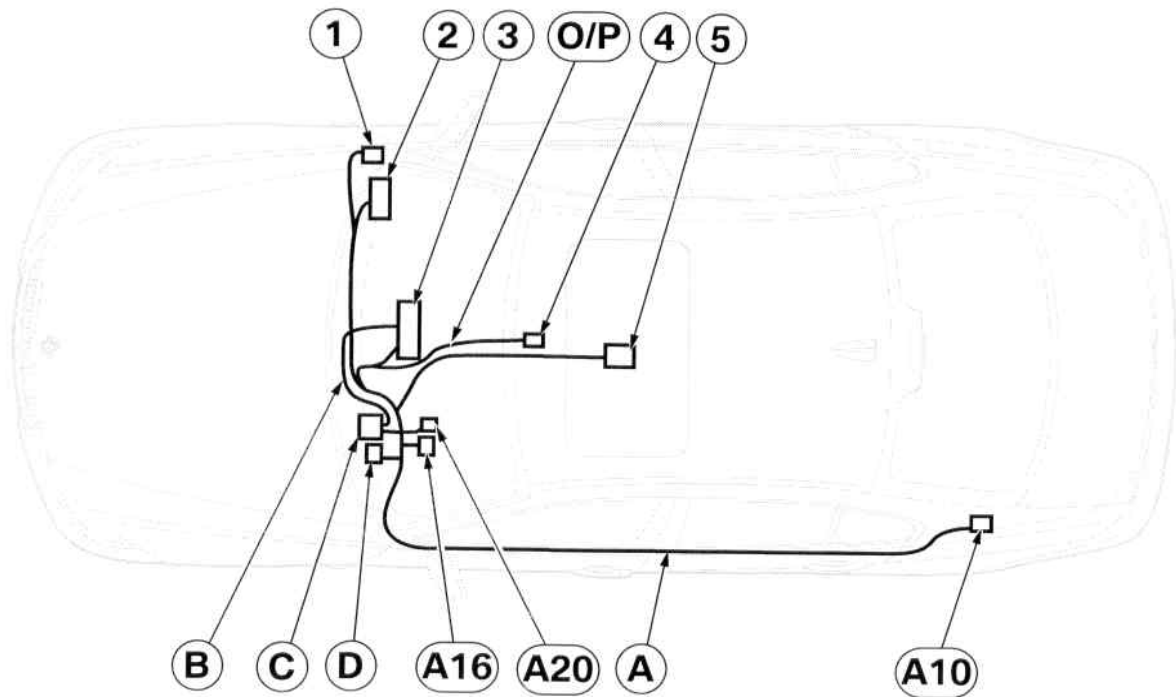
Legend

- A** Retrofit cable
- B** Connecting wire
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA6FL only)

- A10** SW 18-pin plug casing
- A16** SW 18-pin plug casing
- A20** SW 3-pin socket casing, switching regulator **Q** connection

- 1** Earth post **X490**
- 2** Fuse holder
- 3** Radio reception unit
- 4** Controller
- 5** USB/AUX socket (cars with SA6FL only)

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



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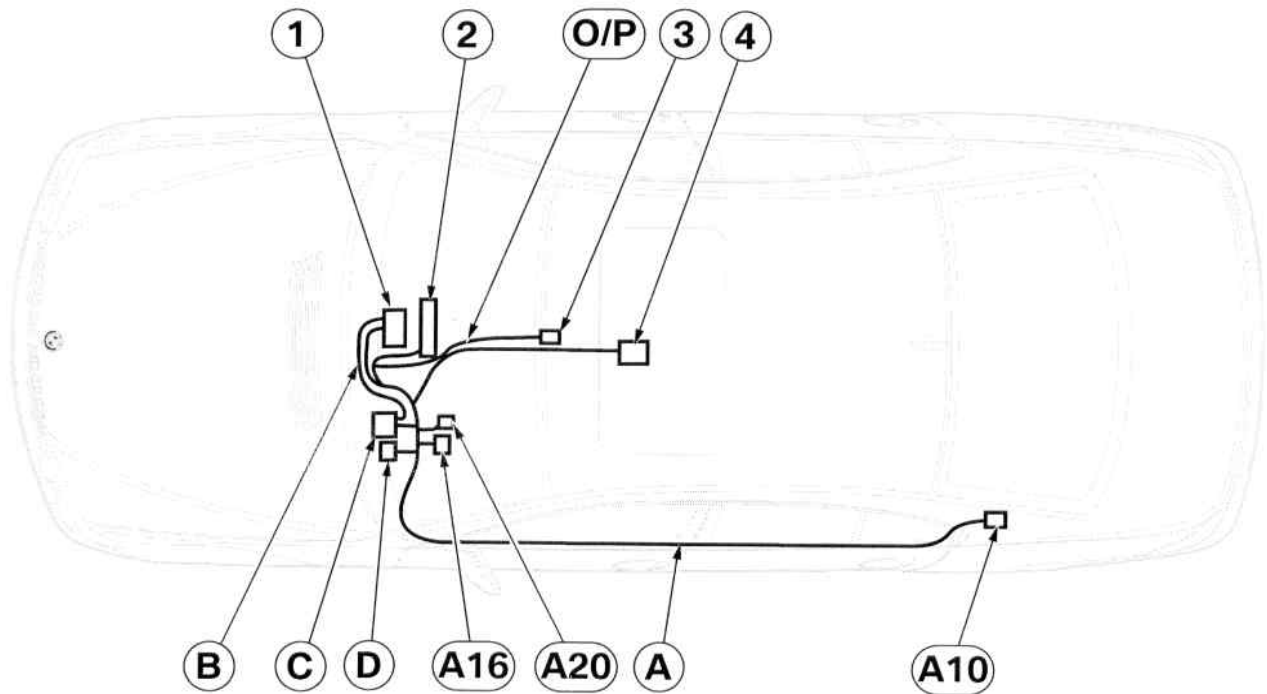
Legend

- A** Retrofit cable
- B** Connecting wire
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA6FL only)

- A10** SW 18-pin plug casing
- A16** SW 18-pin plug casing
- A20** SW 3-pin socket casing, switching regulator **Q** connection

- 1** Earth post **X490**
- 2** Fuse holder
- 3** Radio reception unit
- 4** USB/AUX socket (cars with SA6FL only)
- 5** Controller

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



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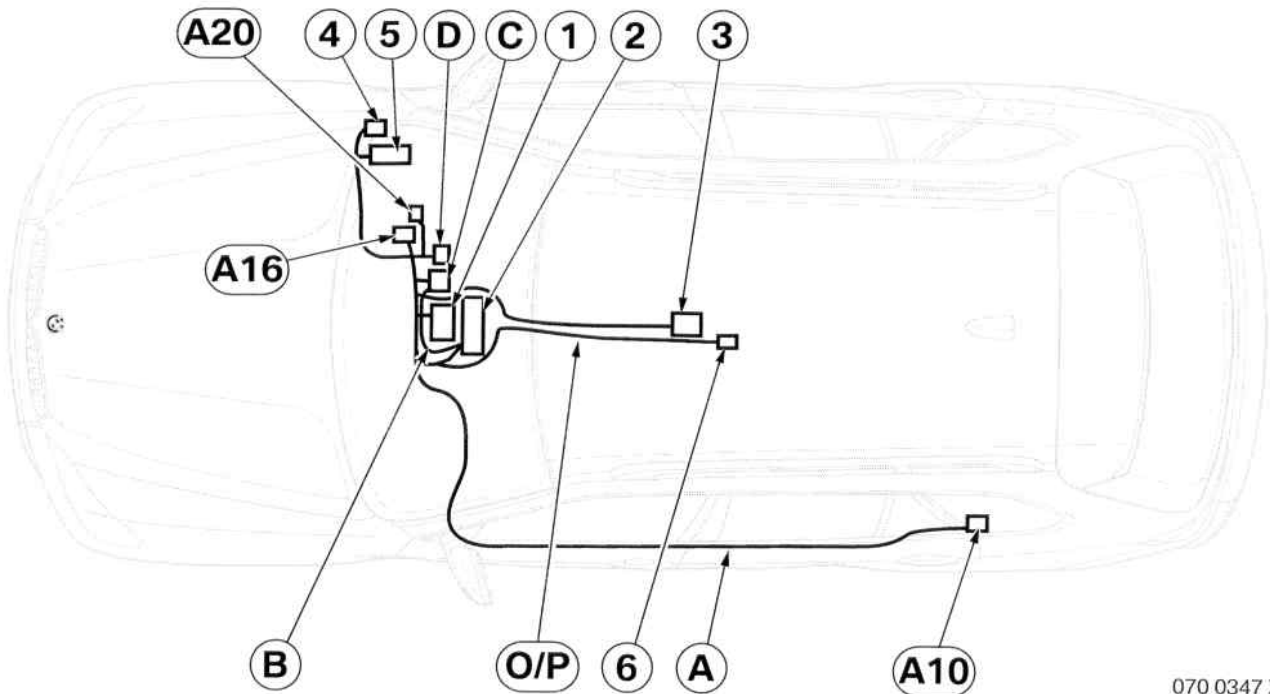
Legend

- A** Retrofit cable
- B** Connecting wire
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA6FL only)

- A10** SW 18-pin plug casing
- A16** SW 18-pin plug casing
- A20** SW 3-pin socket casing, switching regulator **Q** connection

- 1** Control display
- 2** Radio reception unit
- 3** USB/AUX socket (cars with SA6FL only)
- 4** Controller

9. Installation and cabling diagram for E70 cars



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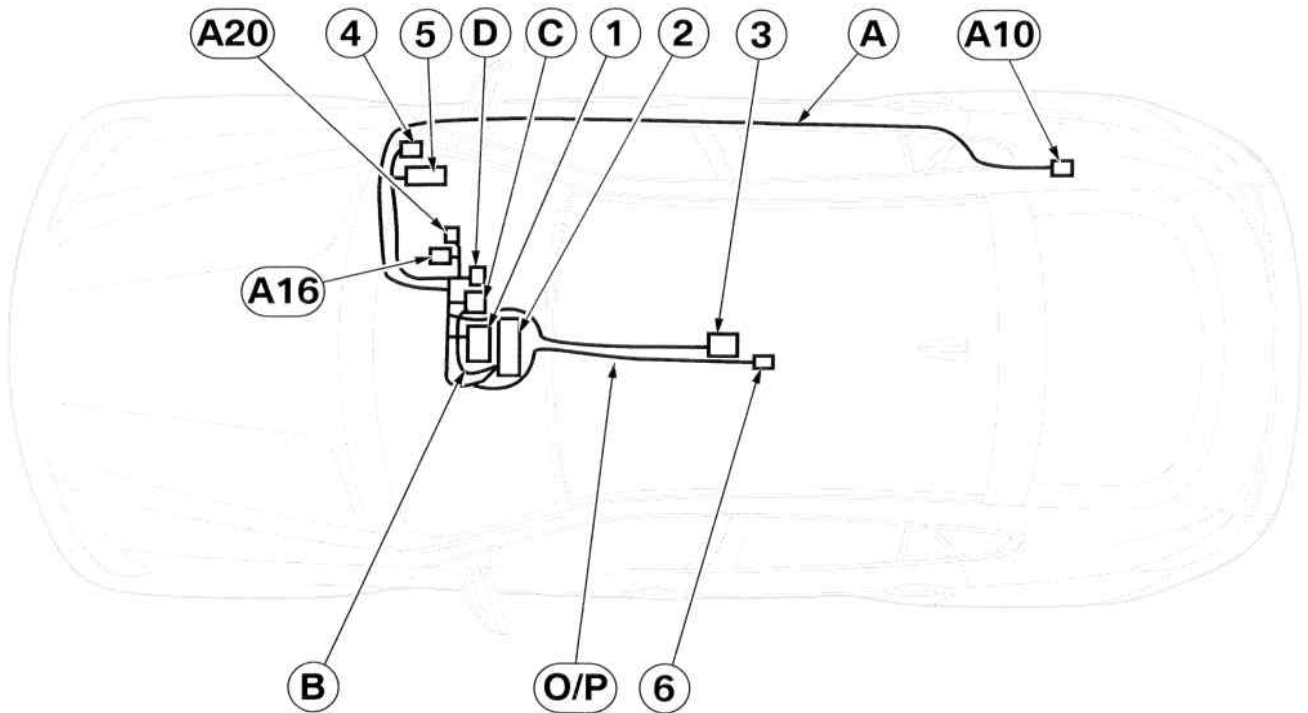
Legend

- A** Retrofit cable
- B** Connecting wire
- C** ACM Unit
- D** Universal CAN Interface
- O/P** Auxiliary cable (cars with SA6FL only)

- A10** SW 18-pin plug casing
- A16** SW 18-pin plug casing
- A20** SW 3-pin socket casing, switching regulator **Q** connection

- 1** Radio reception unit
- 2** Control display
- 3** Controller
- 4** Earth post **X490**
- 5** Fuse holder
- 6** USB/AUX socket (cars with SA6FL only)

10. Installation and cabling diagram for E71 cars

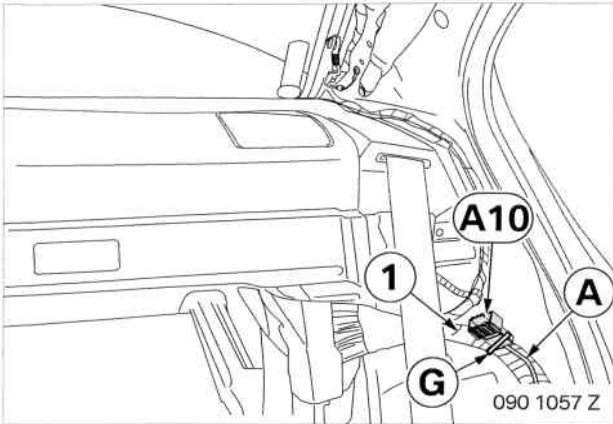


071 0017 Z

Legend

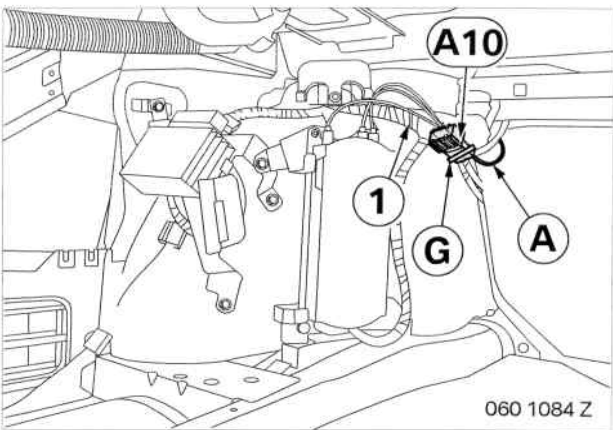
- A** Retrofit cable
 - B** Connecting wire
 - C** ACM Unit
 - D** Universal CAN Interface
 - O/P** Auxiliary cable (cars with SA6FL only)
-
- A10** SW 18-pin plug casing
 - A16** SW 18-pin plug casing
 - A20** SW 3-pin socket casing, switching regulator **Q** connection
-
- 1** Radio reception unit
 - 2** Control display
 - 3** Controller
 - 4** Earth post **X490**
 - 5** Fuse holder
 - 6** USB/AUX socket (cars with SA6FL only)

11. To install and connect the retrofit cable

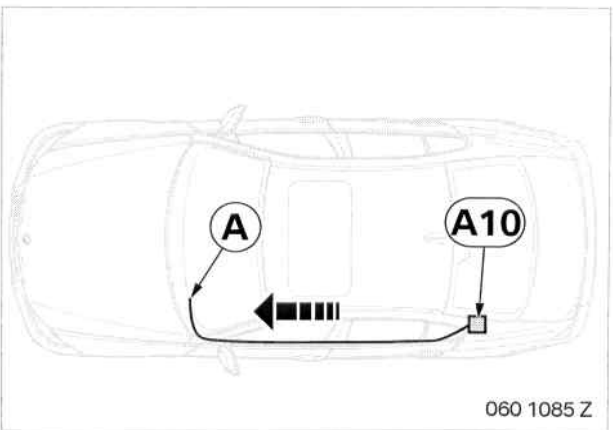


For E81, E82, E87, E90, E92, E93, E70 cars only
▶ Illustration shows the **E90** car. Proceed similarly in all other cars. ◀

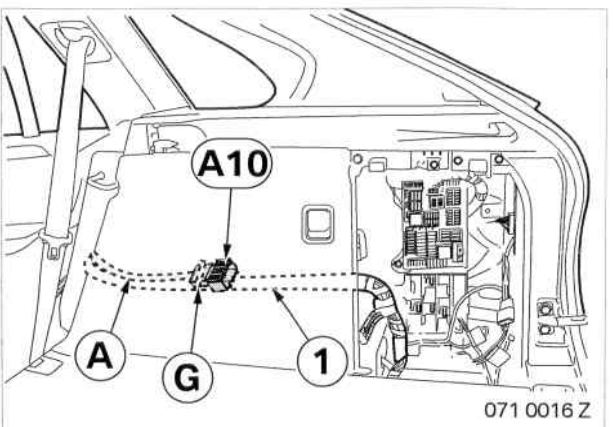
Attach branch **A10**, SW 18-pin plug casing of the retrofit cable **A** to the standard wiring harness (1) on the left of the C pillar using cable tie **G**.



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**.

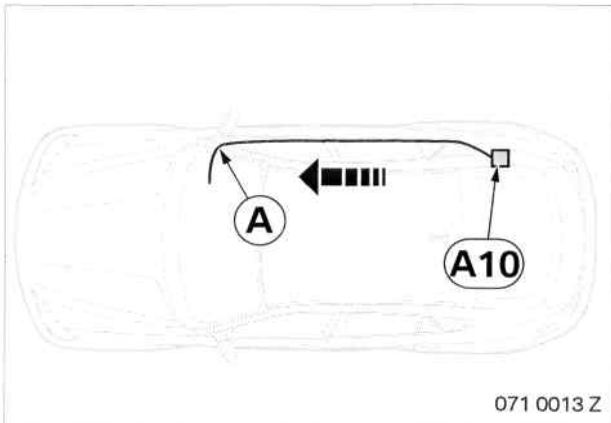


All cars except E71
Route all branches except branch **A10** of the retrofit cable **A** along the standard wiring harness into the footwell on the driver's side.

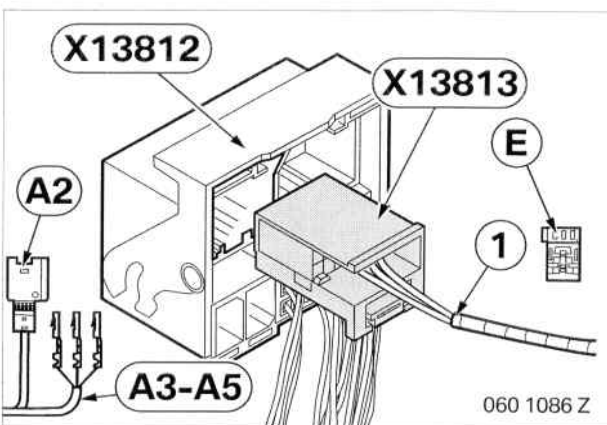


For E71 cars only
Attach branch **A10** SW 18-pin plug casing of the retrofit cable **A** to the standard wiring harness (1) in the boot on the right using cable tie **G**.

11. Installing and connecting the retrofit cable



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



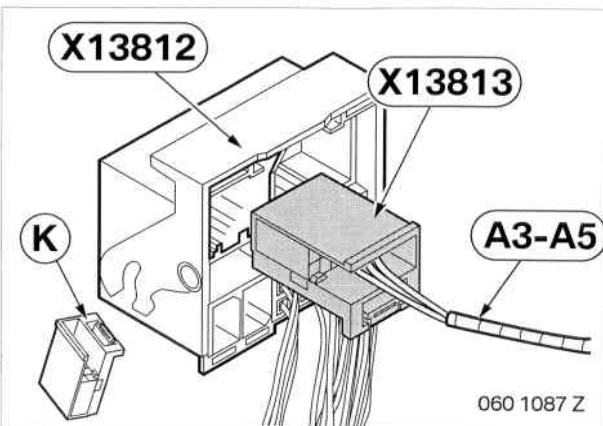
Only cars with AUX socket without SA6FL and with multi-part radio connectors

Route branches **A2–A5** to radio connector **X13812**.

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

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

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



Only cars without AUX socket and without SA6FL with multi-part radio connectors

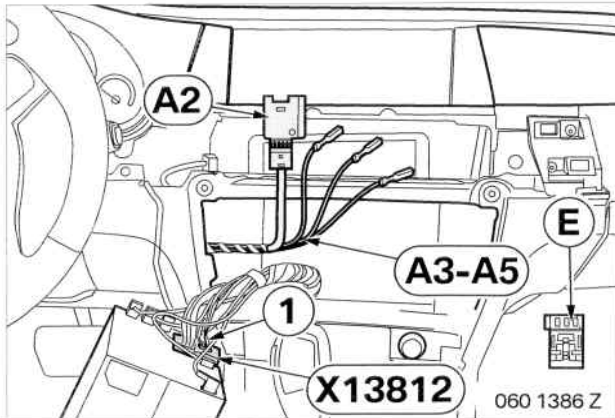
☐ If no **X13813** plug is available, connect branches **A3–A5** in the same way to socket casing **K**. ◀

Route branches **A3–A5** to radio connector **X13812** and connect to **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**.

11. Installing and connecting the retrofit cable



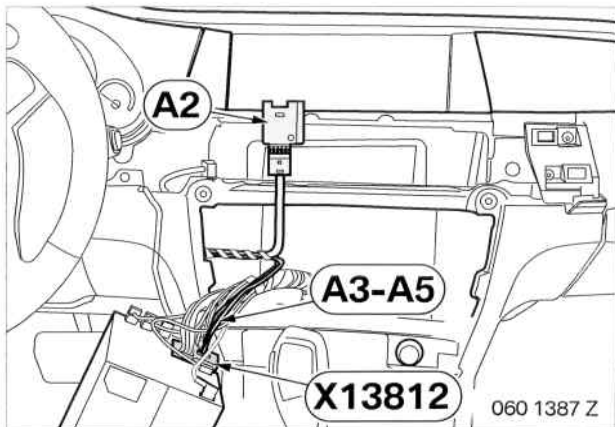
Only cars with AUX socket without SA6FL and with single-part radio connectors

Route branches **A2-A5** to radio connector **X13812**.

Disconnect AUX cable (1) from plug **X13812** (SW 40-pin) and connect to socket casing **E** (SW 3-pin) with the following pin assignments:

- WS/BL, WS/RT, BL, GR or SW cable from PIN 30 to PIN 1
- WS/RT, WS/GN, WS, BL or GE cable from PIN 35 to PIN 2
- WS/BR, BR or TR cable from PIN 36 to PIN 3

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



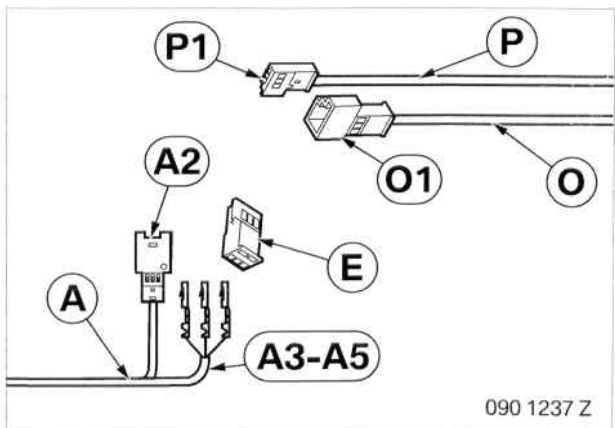
Only cars without AUX socket and without SA6FL with single-part radio connectors

Route branches **A3-A5** to radio connector **X13812** and connect with the following pin assignments:

- Branch **A3**, SW cable, to PIN 30
- Branch **A4**, GE cable, to PIN 35
- Branch **A5**, WS cable, to PIN 36

Lock plug **X13812** shut and connect it.

Tie back branch **A2**.



Cars with SA6FL only

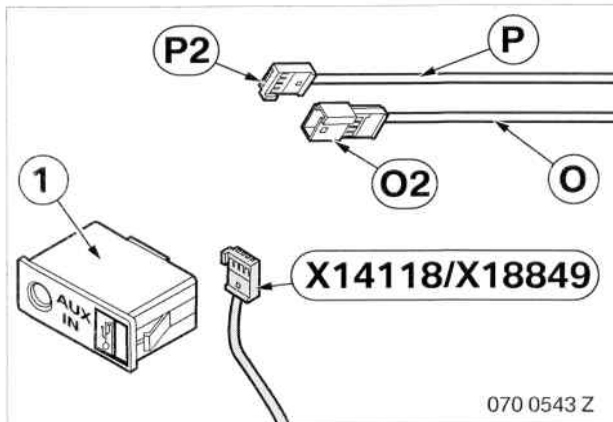
Connect branches **A3-A5** of the retrofit cable **A** as follows to socket casing **E**, SW 3-pin:

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

Connect socket casing **E** to branch **O1** of auxiliary cable **O**.

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

11. Installing and connecting the retrofit cable



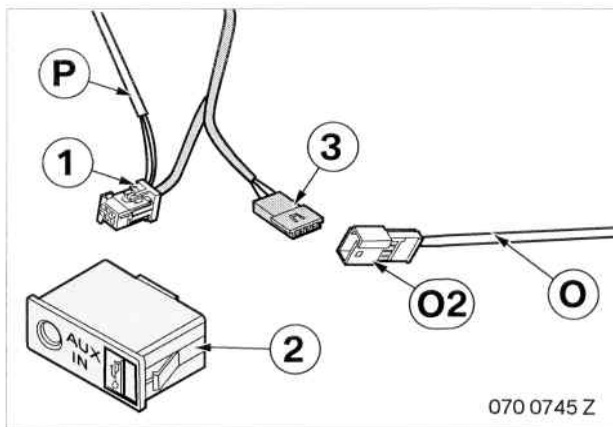
Cars with 4-pin connector on the USB/AUX socket only

⚠ If a cable is connected to PIN 4 of branch **Z14118/X18849**, disconnect the cable and connect it to PIN 4 of branch **P2**. ⚠

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

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

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



Cars with 6-pin connector on the USB/AUX socket only

Route auxiliary cables **O** and **P** to the USB/AUX socket (2) and disconnect the cable from branch **P2** (SW 4-pin socket casing is still required).

Disconnect branch (1) of the SW 6-pin socket casing from the USB/AUX socket (2).

Disconnect the cable from PIN 1, 3 and 4 and connect as follows to SW 4-pin socket casing (3):

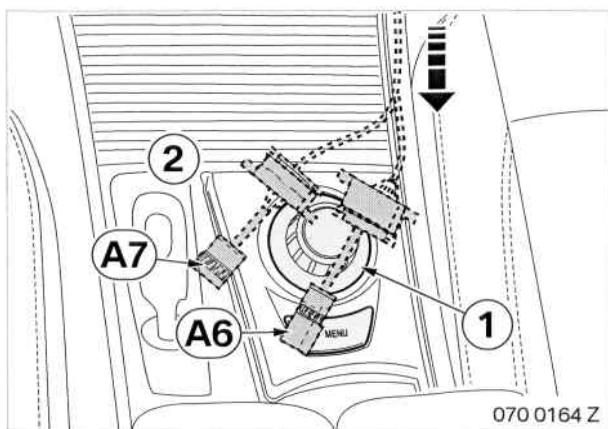
- WS/RT cable from PIN 1 to PIN 4
- VI cable from PIN 3 to PIN 2
- WS/GN cable from PIN 4 to PIN 3

Connect socket casing (3) to branch **O2**.

Connect the disconnected cable from branch **P2** as follows to branch (1):

- WS cable from PIN 2 to PIN 3
- SW cable from PIN 3 to PIN 4
- GE cable from PIN 4 to PIN 1

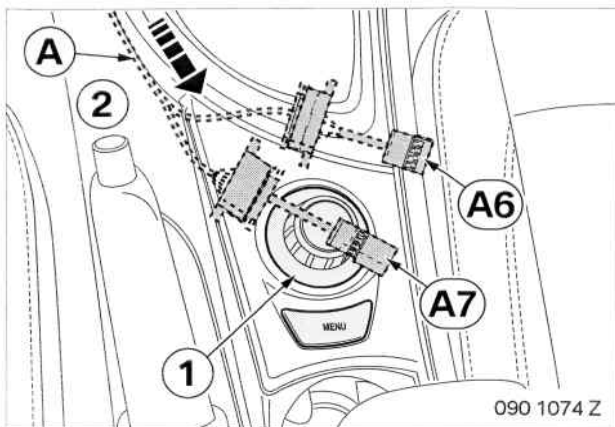
Connect branch (1) to USB/AUX socket (2).



E70/E71 cars only

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

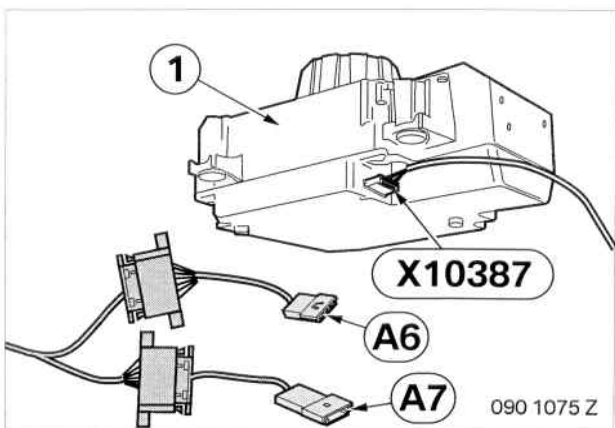
11. Installing and connecting the retrofit cable



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

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

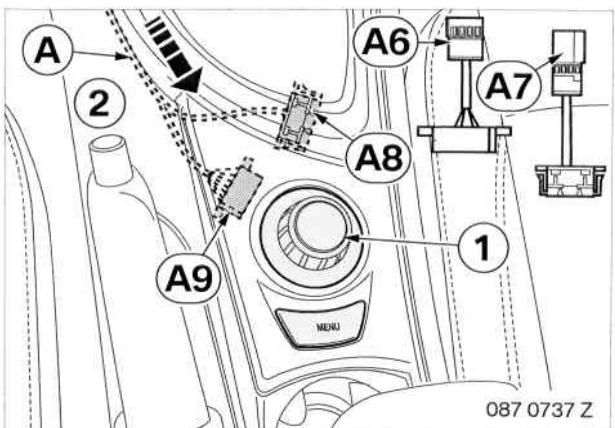
Route branches **A6** and **A7** under the centre console (2) along the standard wiring harness to the controller (1).



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

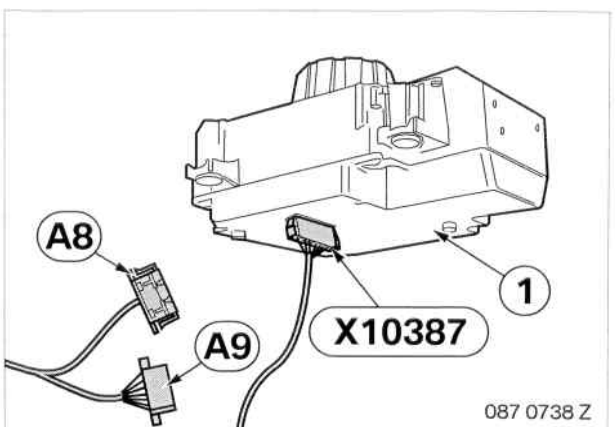


E60, E61, E63, E64 cars only

▶ 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).

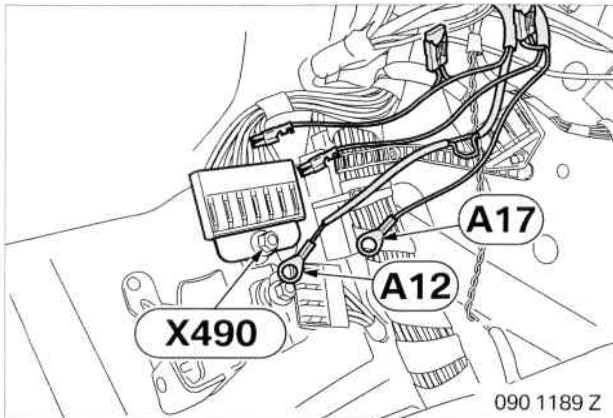
Route branches **A8** and **A9** under the centre console (2) along the standard wiring harness to the controller (1).



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

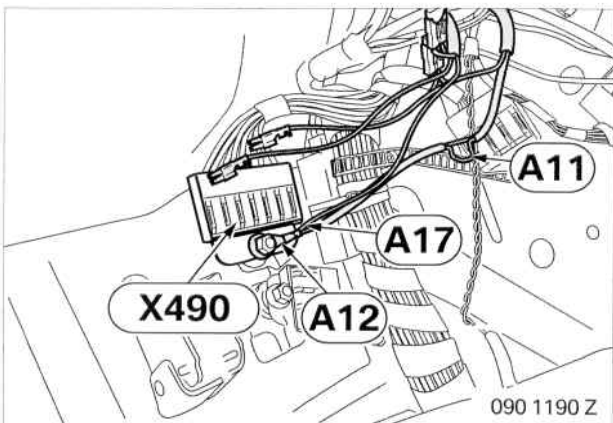
Connect branch **A8** SW 8-pin socket casing, to controller (1).

12. To connect the power supply and connecting wire 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**.

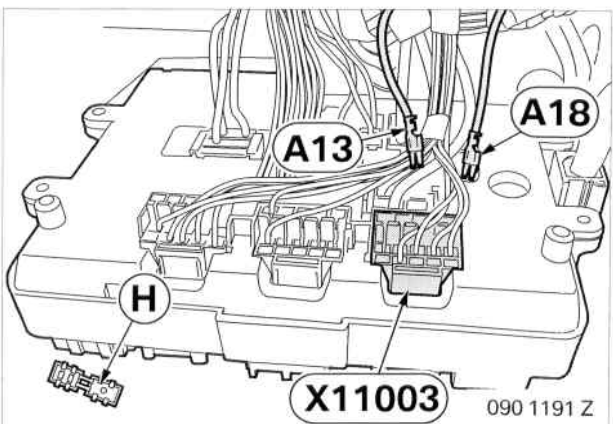
In E81, E82, E87 cars, when the cable loop **A11** is cut through, there is only a distinction between the high and low controller. ◀

Cars with high controller (magnetic engagement) only

Tie back cable loop **A11** on the retrofit cable.

Cars with basic controller (mechanical engagement) only

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

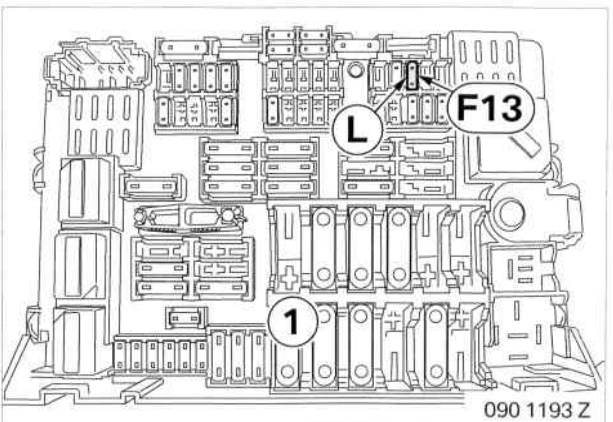


Cars built before 03/07 only

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**, BL 15-pin socket casing, PIN 3.

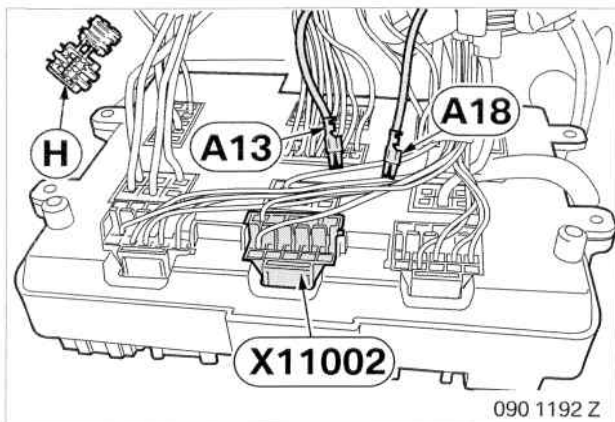
Separate socket contact from branch **A18**, RT/BL cable, and using miniature connector **H** connect to branch **A13**.



Fit the fuse holder (1).

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

12. Connecting the power supply and connecting wire for E81, E82, E87 cars

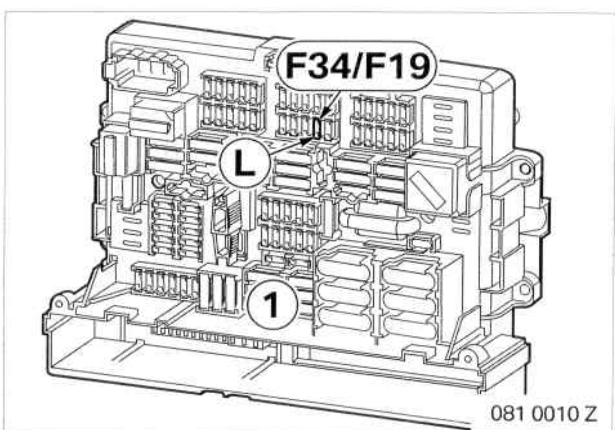


Cars built after 03/07 only

☐ 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**. ◀

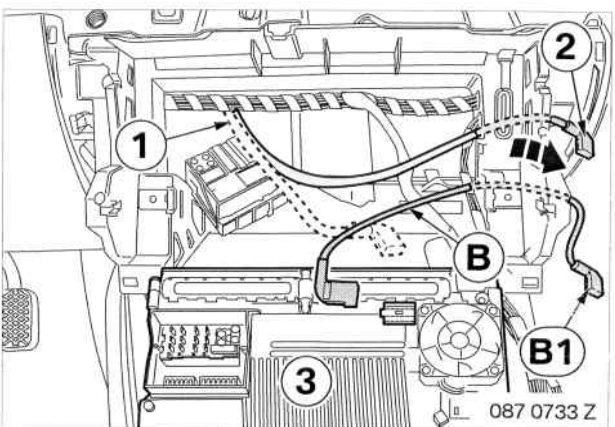
Connect branch **A13**, RT cable, to connector **X11002**, GR 15-pin socket casing, PIN 9.

Separate socket contact from branch **A18**, RT/BL cable, and using miniature connector **H** connect 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 fuse link or a fuse link with less than 7.5 A, fuse link **L** must be inserted.

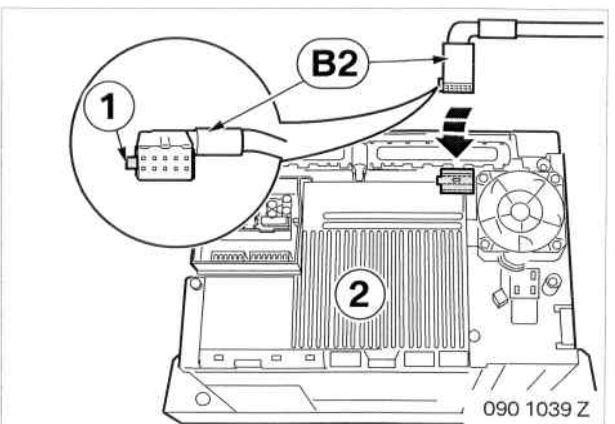


Cars with CCC only

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

Route the plug (2) on the existing signal cable (1) to the installation point for the ACM Unit.

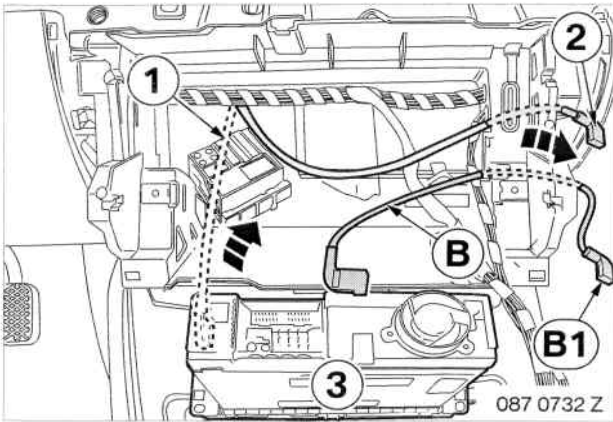
Route branch **B1** (VI 10-pin connector) on the connecting wire **B** to the installation site of the ACM Unit.



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

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

12. Connecting the power supply and connecting wire for E81, E82, E87 cars

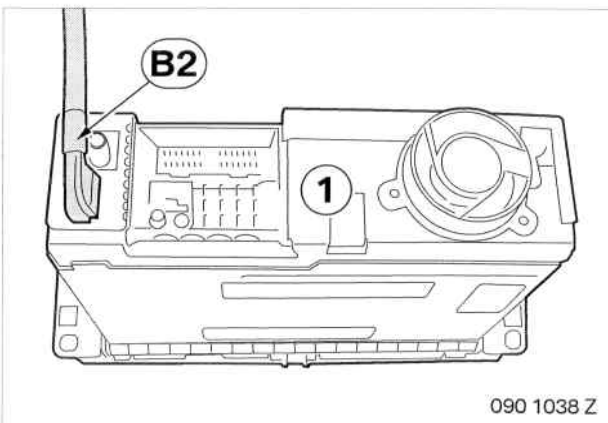


Cars with M-ASK only

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

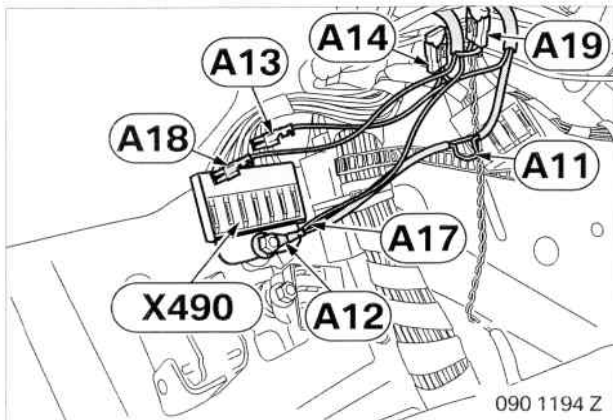
Route the plug (2) on the existing signal cable (1) to the installation point for the ACM Unit.

Route branch **B1** (VI 10-pin connector) on the connecting wire **B** to the installation site of the ACM Unit.



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

13. Connecting the power supply and connecting wire for E90, E91, E92, E93 cars



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

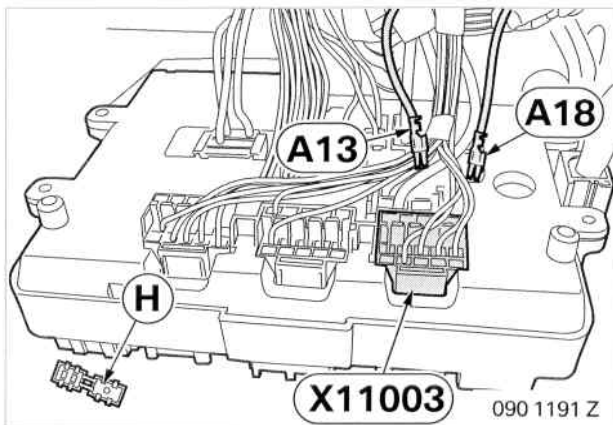
Screw branches **A12** and **A17**, BR cable, to the earth post **X490**.

Cars with M-ASK only

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

Cars with CCC only

Tie back cable loop **A11** on the retrofit cable.

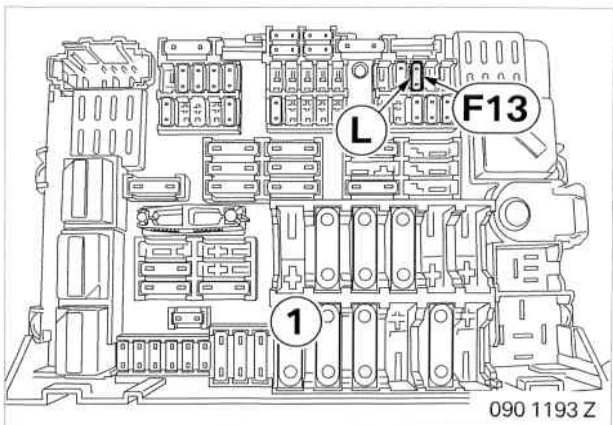


Cars built before 03/07 only

▶ 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**. ◀

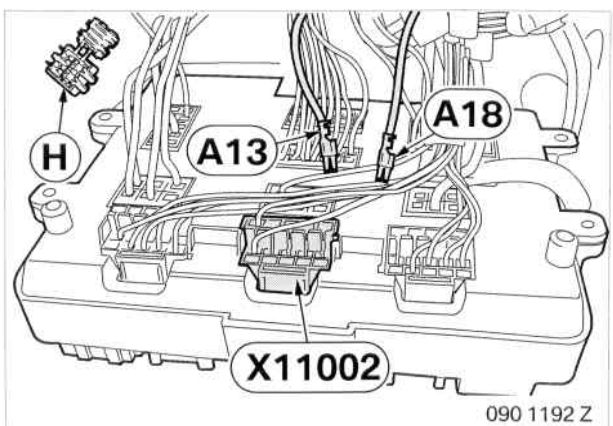
Connect branch **A13** to connector **X11003**, BL 15-pin socket casing, PIN 3.

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



Fit the fuse holder (1).

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



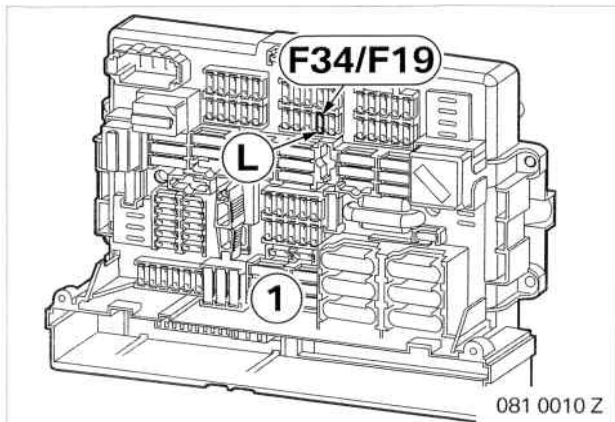
Cars built after 03/07 only

▶ 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**, GR 15-pin socket casing, PIN 9.

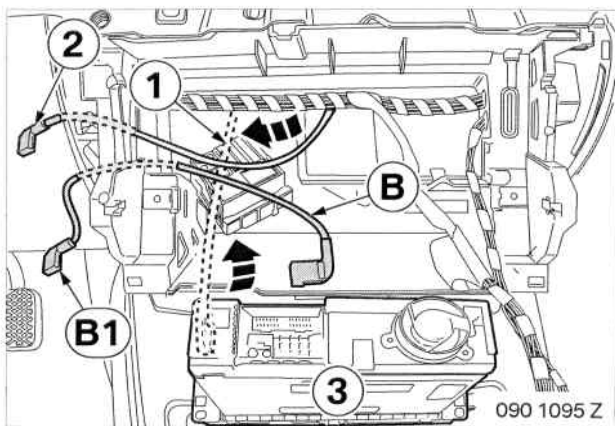
Separate socket contact from branch **A18**, RT/BL cable, and using miniature connector **H** connect to branch **A13**.

13. Connecting the power supply and connecting wire for E90, E91, E92, E93 cars



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 fuse link or a fuse link with less than 7.5 A, fuse link **L** must be inserted.

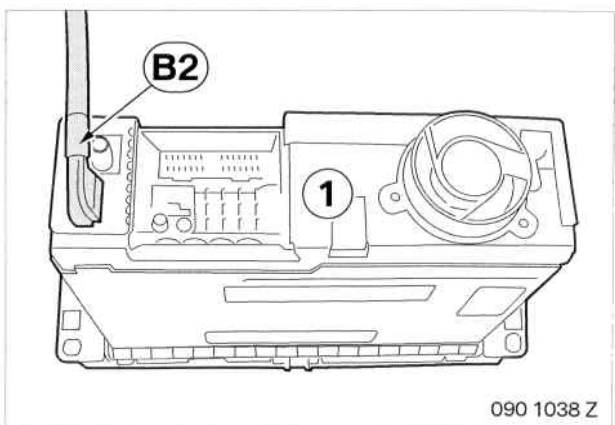


Cars with M-ASK only

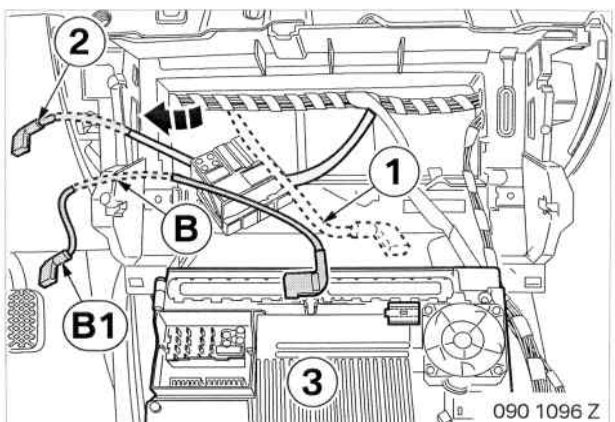
Disconnect the existing signal cable (1) from the M-ASK (3).

Route the plug (2) on the existing signal cable (1) to the installation point for the ACM Unit.

Route branch **B1** (VI 10-pin connector) on the connecting wire **B** to the installation site of the ACM Unit.



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



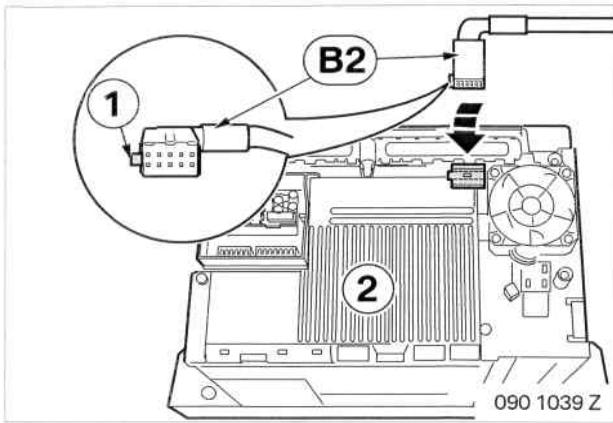
Cars with CCC only

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

Route the plug (2) on the existing signal cable (1) to the installation point for the ACM Unit.

Route branch **B1** (VI 10-pin connector) on the connecting wire **B** to the installation site of the ACM Unit.

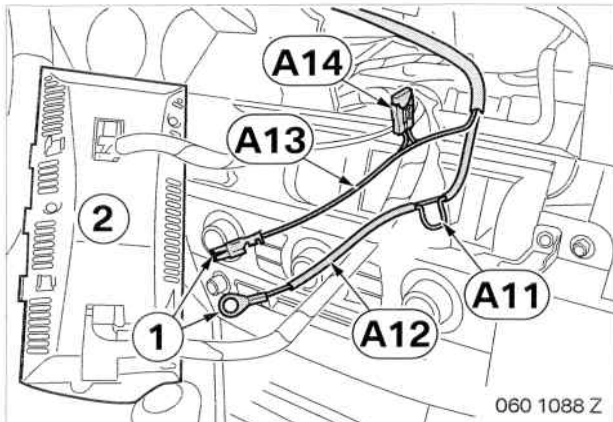
13. Connecting the power supply and connecting wire for E90, E91, E92, E93 cars



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

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

14. Connecting the power supply and connecting wire for E60, E61, E63, E64 cars



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

Tie back fuse holder **A14** on the retrofit cable.

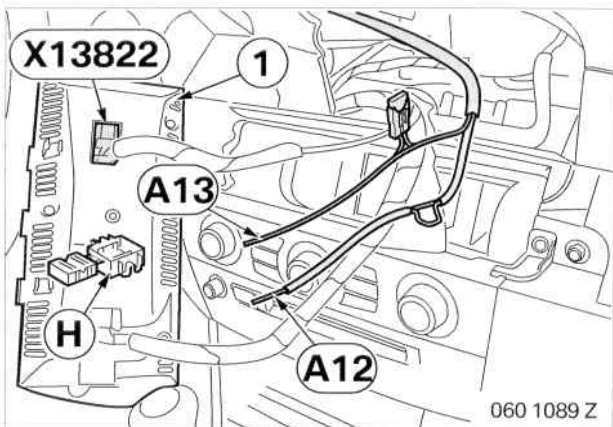
Detach contacts (1) from branches **A12** and **A13**.

Cars with M-ASK only

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

Cars with CCC or CHAMP only

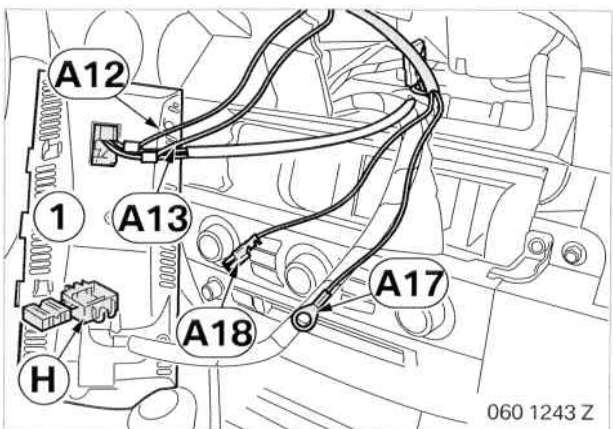
Tie back cable loop **A11** on the retrofit cable.



All cars

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

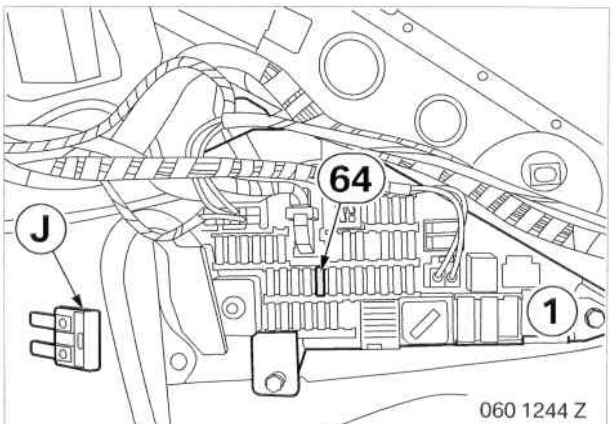
- Branch **A12**, BR cable, to BR/SW cable from PIN 3
- Branch **A13**, RT cable, to RT/M cable from PIN 1



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

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

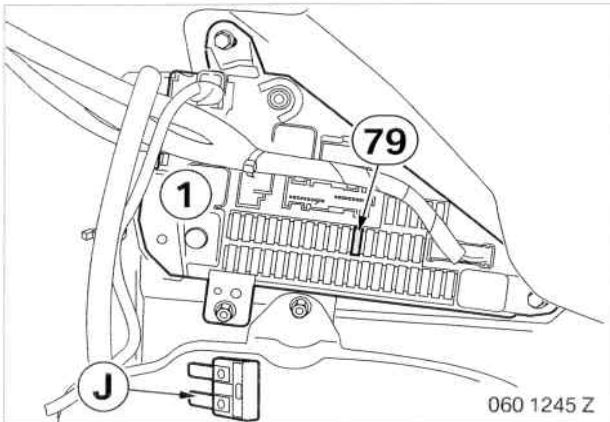
- Branch **A17**, BR cable, to branch **A12**, BR cable
- Branch **A18**, RT/BL cable, to branch **A13**, RT cable



Cars built before 09/05 only

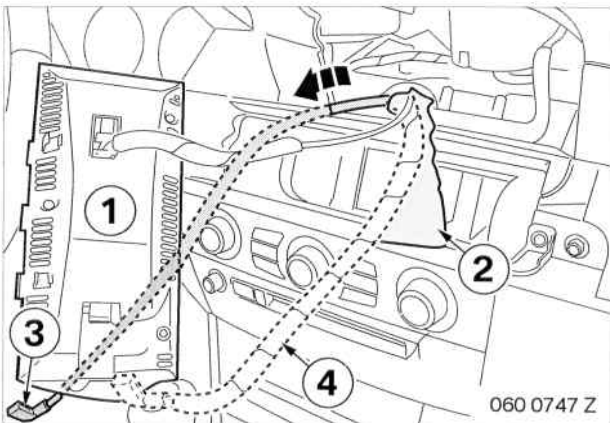
If a fuse link of less than 7.5 A is present in slot 64 of the fuse holder (1) in the luggage compartment, fuse link **J** must be inserted.

14. Connecting the power supply and connecting wire for E60, E61, E63, E64 cars



Cars built after 09/05 only

If a fuse link of less than 7.5 A is present in slot **F79** of the fuse holder (1) in the luggage compartment, fuse link **J** must be inserted.

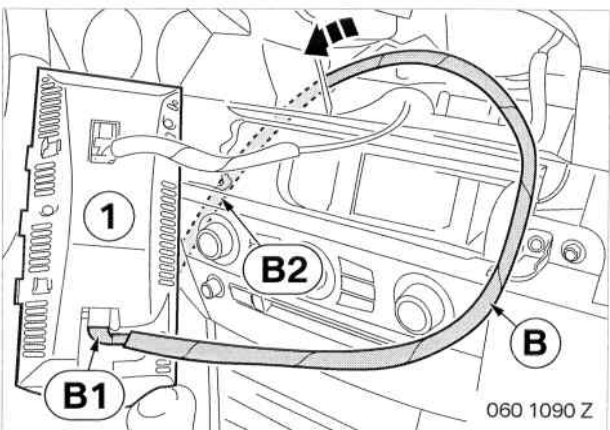


All cars

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.

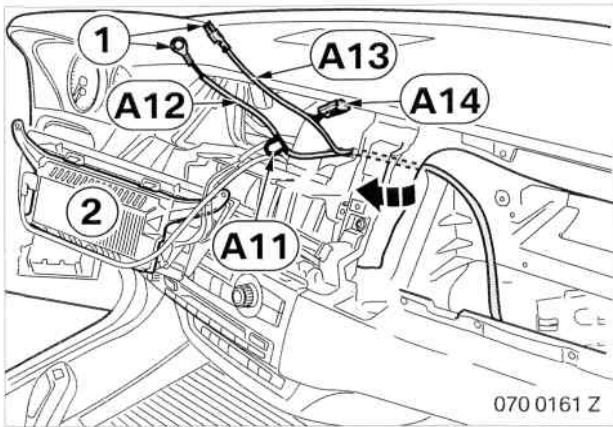
Route the plug (3) on the existing signal cable (4) into the footwell on the driver's side.



Connect branch **B1** (VI 10-pin connector) of connecting wire **B** to the control display (1).

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

15. Connecting the power supply and connecting wire for E70, E71 cars



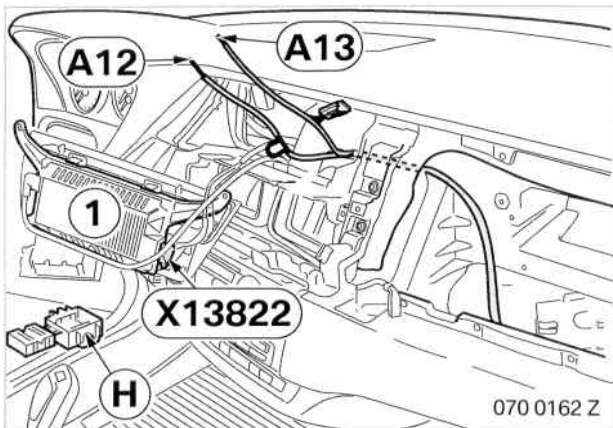
Route branches **A11–A14** to the control display (2).
Tie back fuse holder **A14** on the retrofit cable.
Detach contacts (1) from branches **A12** and **A13**.

Cars with M-ASK only

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

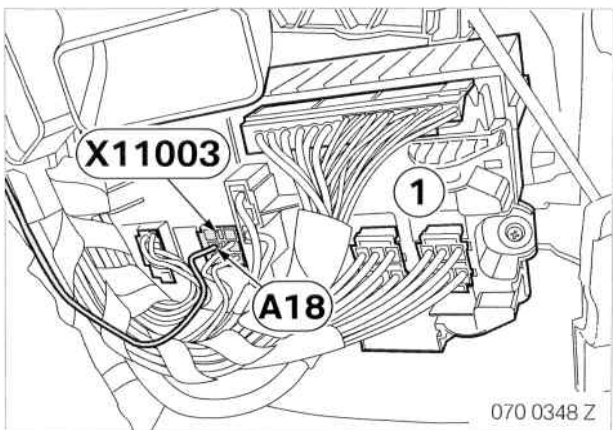
Cars with CCC or CHAMP only

Tie back cable loop **A11** on the retrofit cable.




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

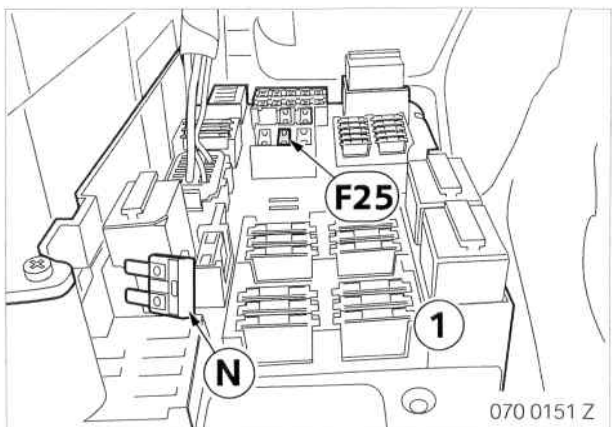
- Branch **A12**, BR cable, to BR/SW cable from PIN 3
- Branch **A13**, RT cable, to RT/M cable from PIN 1



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

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

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

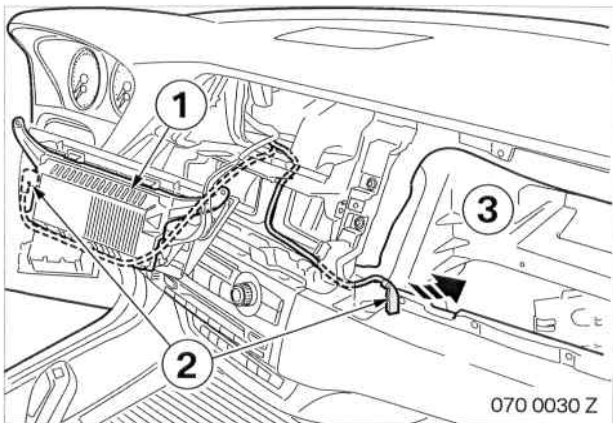


Insert fuse link **N** (5A) into slot **F25** of the fuse holder (1).

15. Connecting the power supply and connecting wire for E70, E71 cars

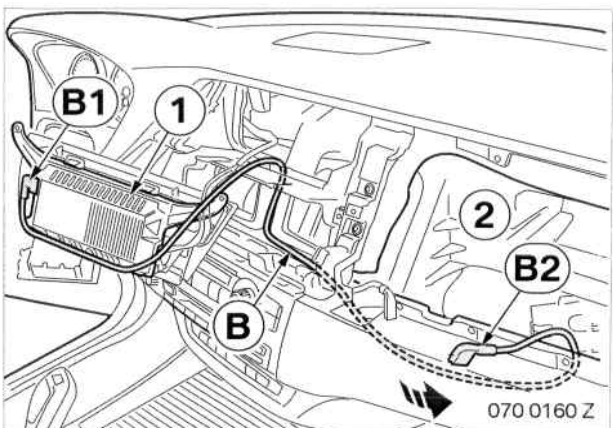


Screw branch **A17**, BR cable, to earth post **X490**.



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

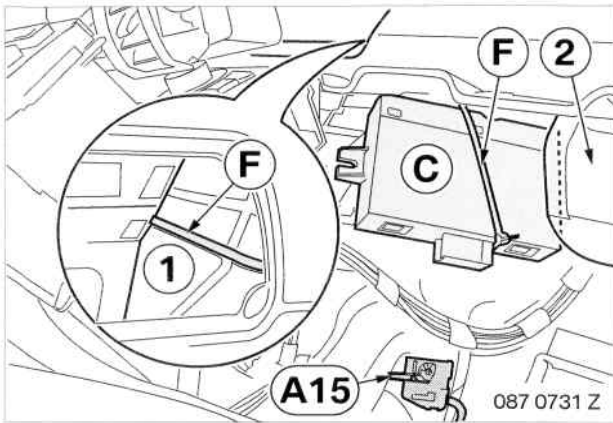
Route the plug on the existing signal cable (2) into the cutout of the glove compartment (3).



Connect branch **B1**, VI 10-pin connector, of connecting wire **B** to the control display (1).

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

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



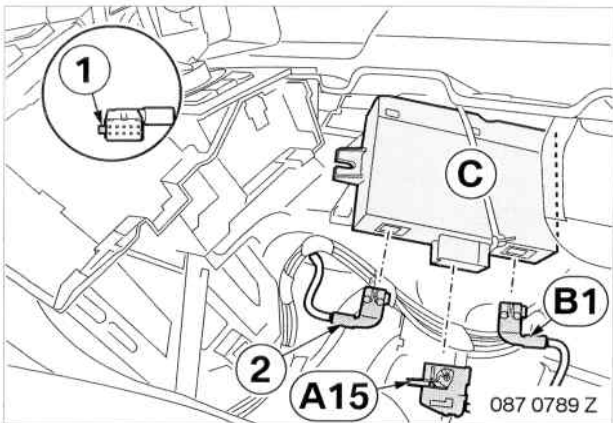
! The deployment of the airbag (2) must not be impaired by the ACM Unit **C**. **!**

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

Cars with high controller (magnetic engagement) only

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

▶ In all other cars, PIN 12 remains connected in branch **A15**. **!**

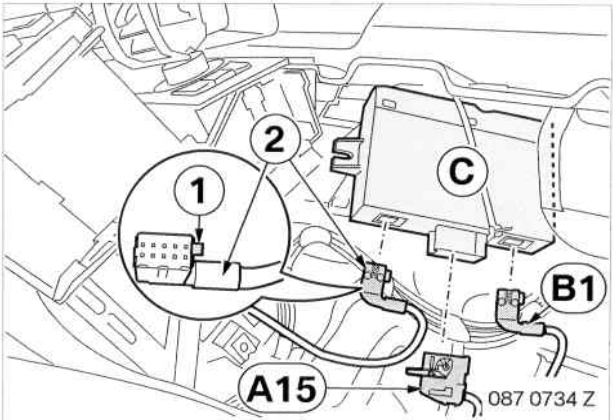


Cars with M-ASK only

▶ 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 connector)
- Branch **B1** (VI 10-pin connector)



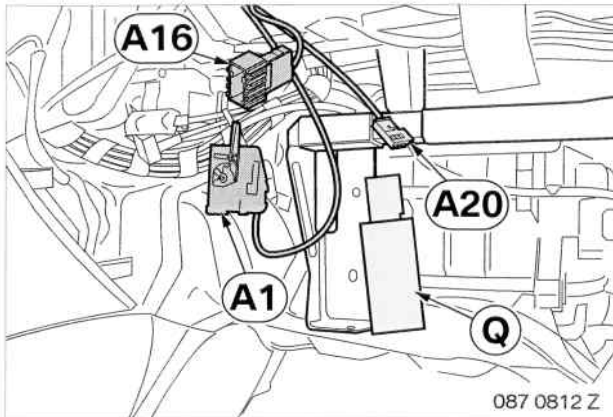
Cars with CCC only

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

Connect the plugs 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)

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




Cars built after 03/07 only

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

Only cars with a least one camera system in conjunction with ACM

Connect switching regulator **Q** to branch **A20**, SW 3-pin socket casing.

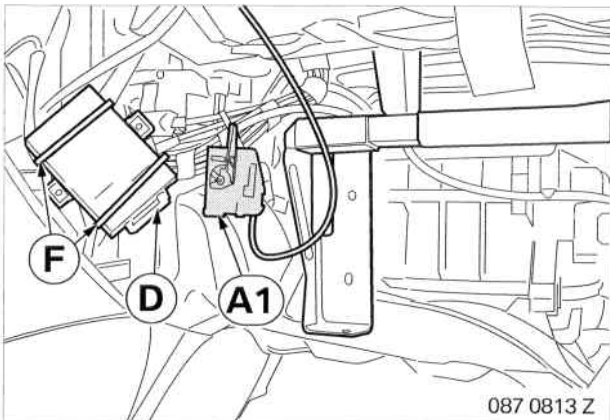
All cars

 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. ◀

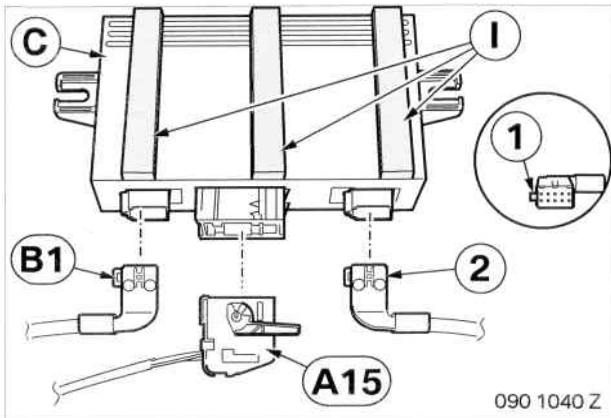
Tie back branch **A16**, SW 18-pin plug casing, branch **A20**, SW 3-pin socket casing and any excess cable lengths on the standard wiring harness.

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 the ACM Unit and Universal Can Interface for E90, E91, E92, E93 cars



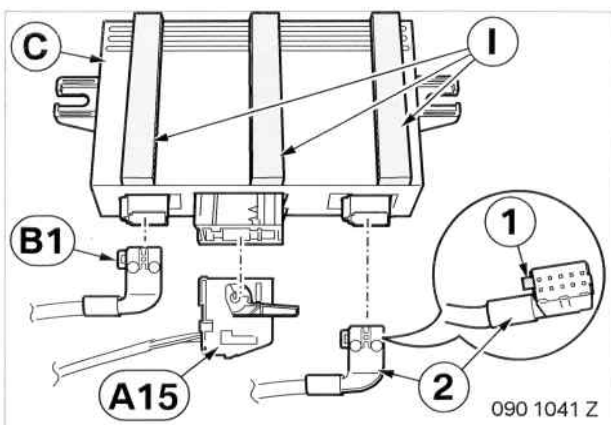
Cars with M-ASK only

▶ 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**.



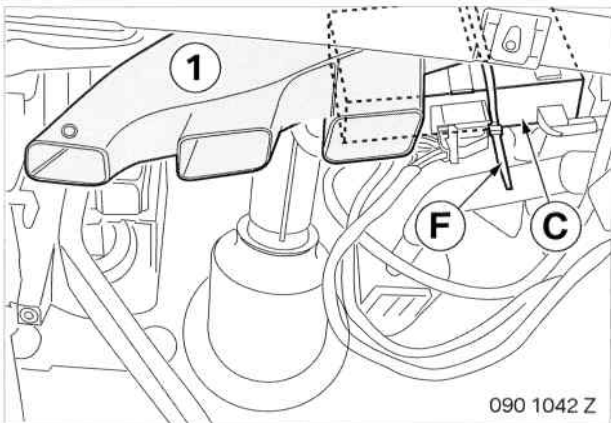
Cars with CCC only

Remove coding (1) from plug (2) on the existing signal cable (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 socket casing)
- Branch **B1** (VI 10-pin plug)

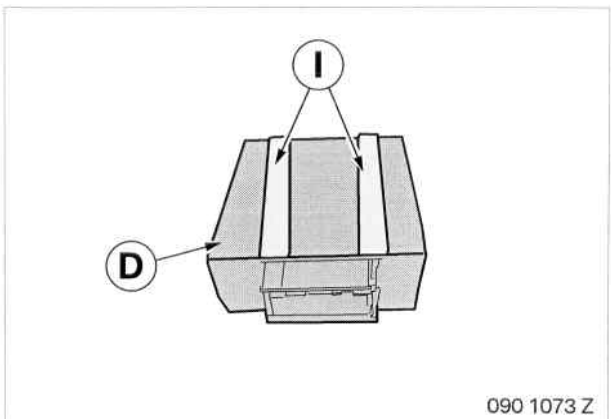
Affix sealing strip **I** to ACM Unit **C**.



All cars

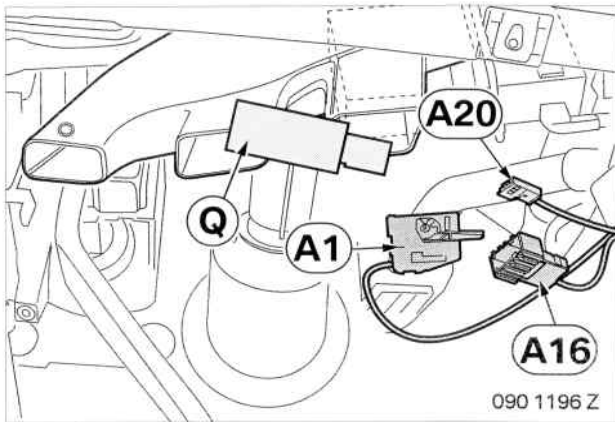
Secure ACM unit **C** to the rear of the heating duct (1) using cable ties **F**.

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



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

17. Fitting the 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 32-pin socket casing, grey cable from PIN 1, insulate and tie back.

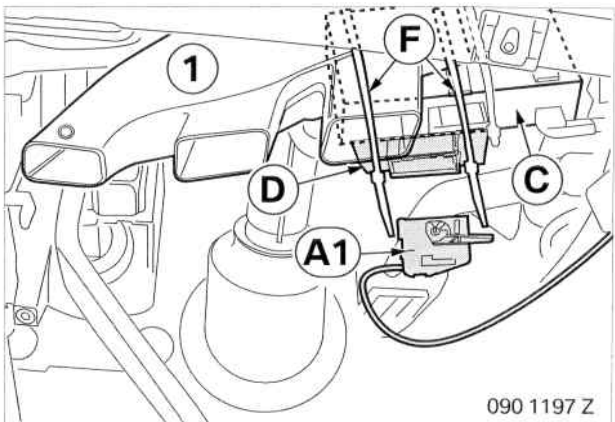
Only cars with a least one camera system in conjunction with ACM

Connect switching regulator **Q** to branch **A20**, SW 3-pin socket casing.

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. ◀

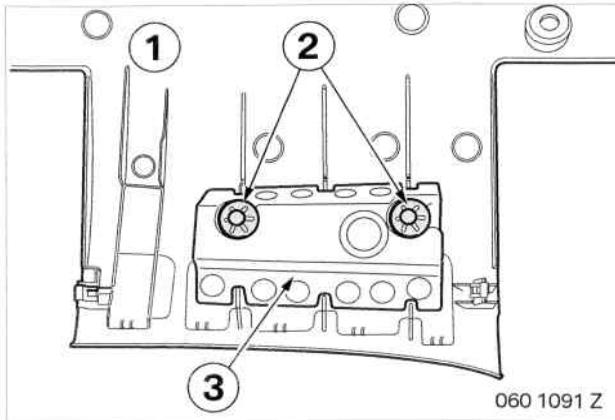
Tie back branch **A16**, SW 18-pin plug casing, branch **A20**, SW 3-pin socket casing and any excess cable lengths on the standard wiring harness.



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

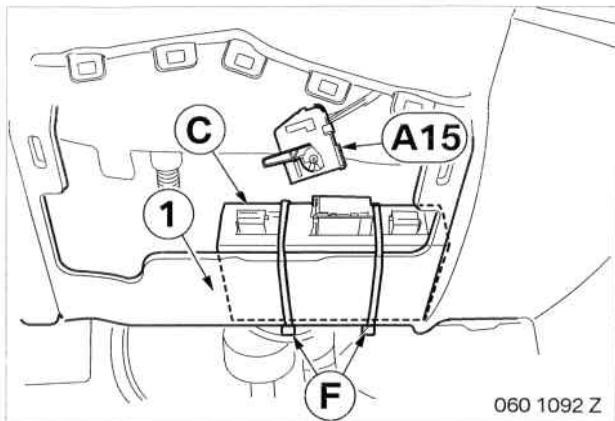
Connect branch **A1**, SW 32-pin socket casing, to Universal Can Interface **D**.

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



Prepare the pedal trim (1) as follows:

- Remove the sheet metal clamps (2)
- Remove the polystyrene (3)

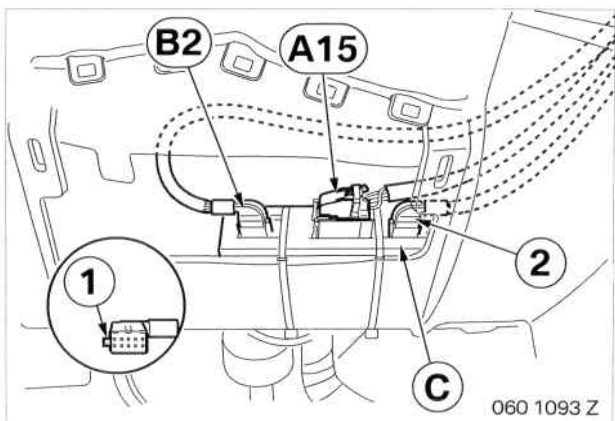


▶ Ensure that the steering column can still move freely as required. ◀

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

Cars with CHAMP only

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



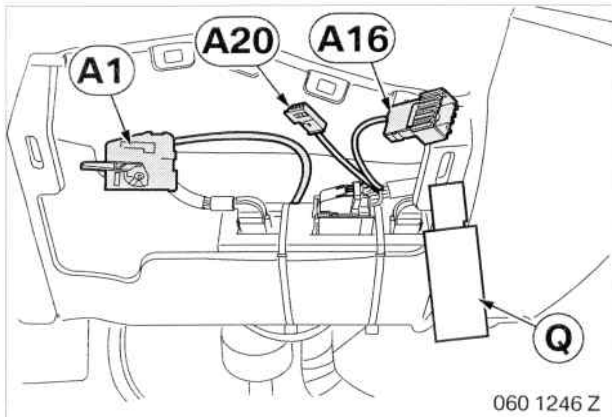
All cars

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

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

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

18. Fitting the 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 32-pin socket casing, grey cable from PIN 1, insulate and tie back.

Only cars with at least one camera system in conjunction with ACM

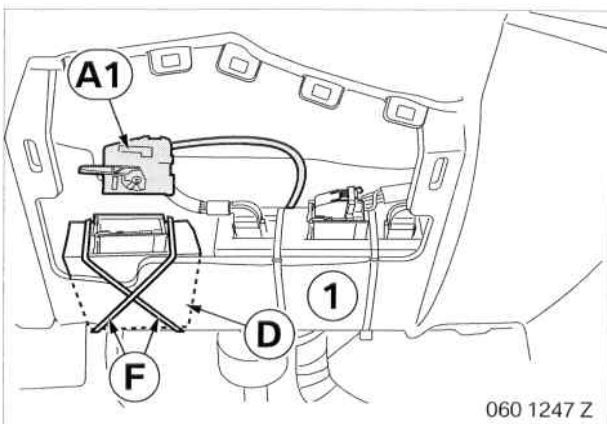
Connect switching regulator **Q** to branch **A20**, SW 3-pin socket casing.

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. ◀

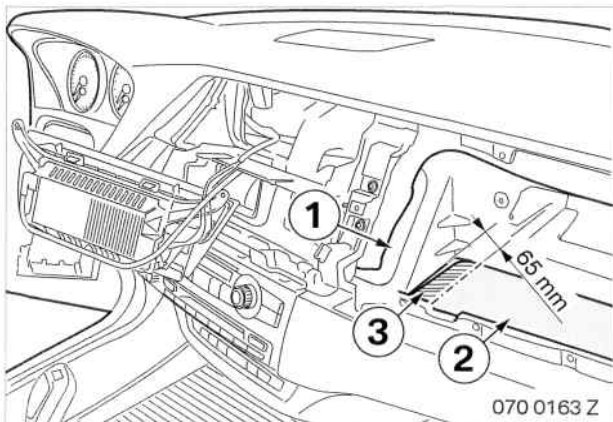
Tie back branch **A16**, SW 18-pin plug casing, branch **A20**, SW 3-pin socket casing and any excess cable lengths on the standard wiring harness.



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

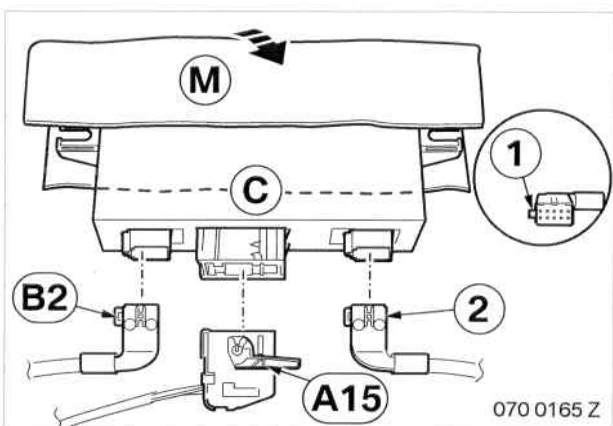
Connect branch **A1** (SW 32-pin socket casing) to Universal Can Interface **D**.

19. Fitting the 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**, BL 26-pin socket casing, disconnect grey cable from PIN 12 and connect to PIN 25.

All cars

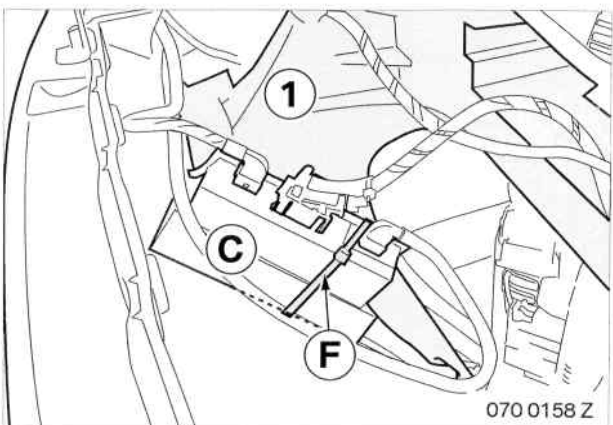
Use the coding (1) on the plugs to connect them correctly. ◀

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

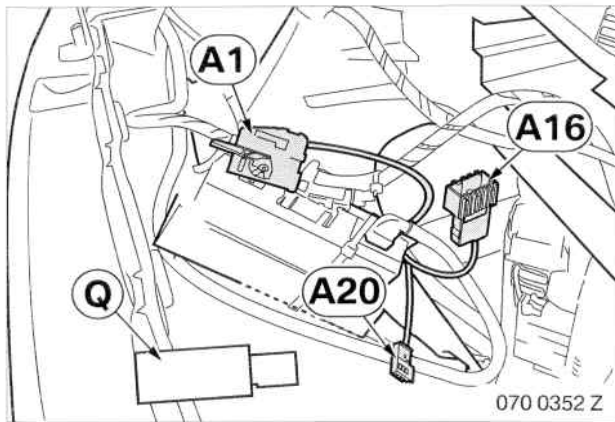
- Plug (2) of the existing signal cable (VI 10-pin)
- Branch **A15** (BL 26-pin socket casing)
- Branch **B2** (WS 10-pin plug)

Wrap the underside of the ACM Unit **C** with protective strips **M**.

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



19. Fitting the 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 32-pin socket casing, grey cable from PIN 1, insulate and tie back.

Only cars with a least one camera system in conjunction with ACM

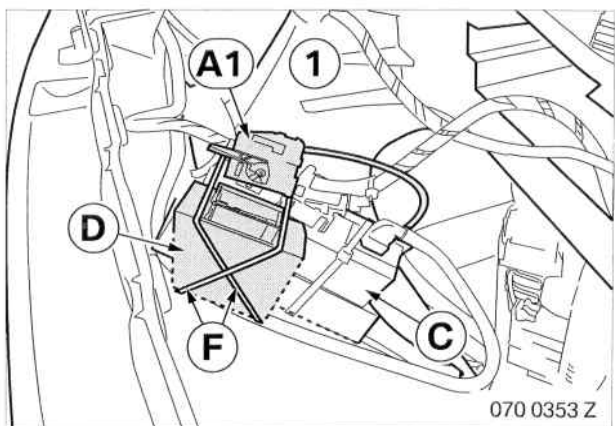
Connect switching regulator **Q** to branch **A20**, SW 3-pin socket casing.

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 socket 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 the 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 black.

Selectable systems are shown in white.

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.

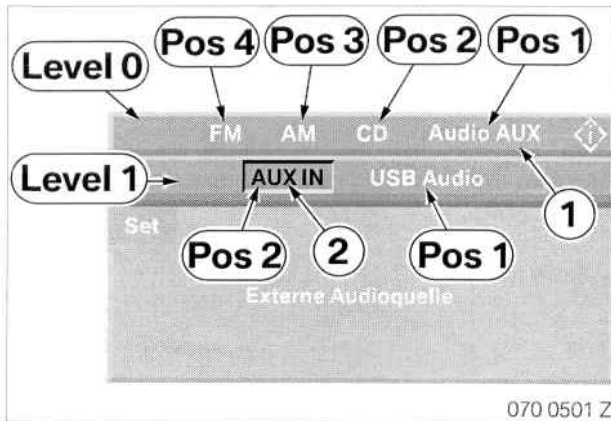
20. Concluding work and coding

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.

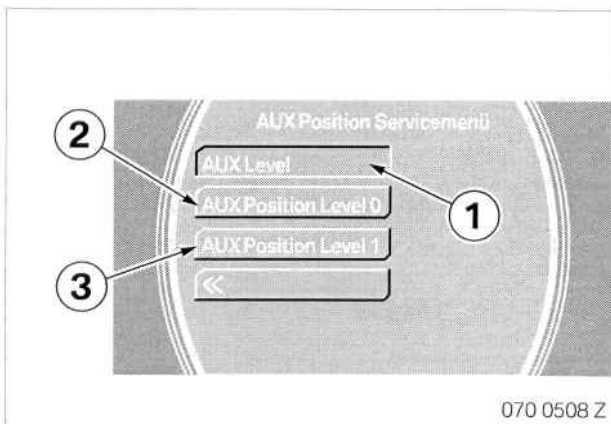
In order to ensure the correct display, this function must be activated after installation, repairs or a software update of the car.

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 what level (0 or 1) and in what position in the relevant line the "Audio AUX" button (1) and/or the "AUX IN" button (2) is in.



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 "AUX IN" button.

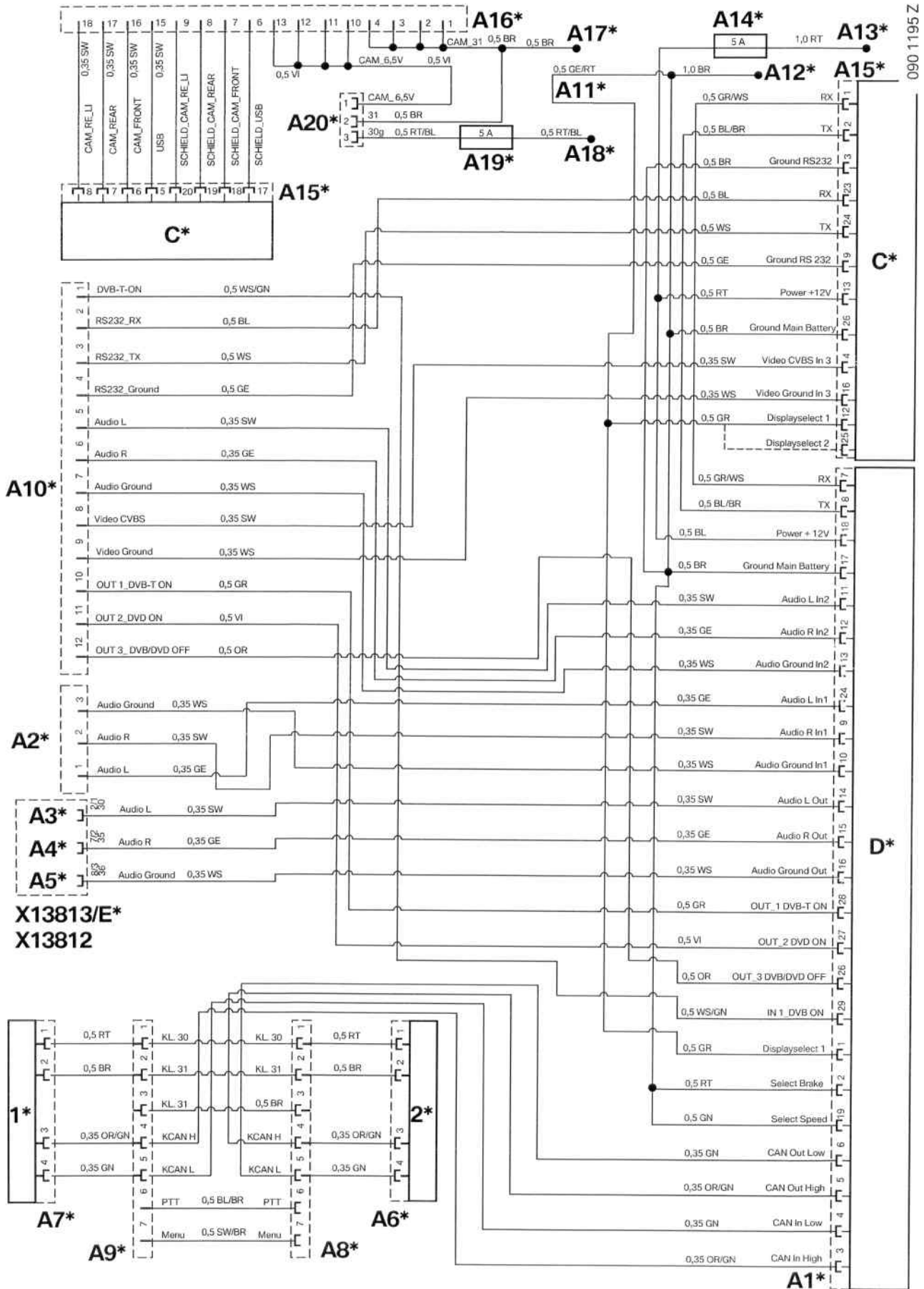
Using the "AUX Pos Level 1" button, select the position of the "AUX IN" button.

Exit ACM Service Menu.

All cars

- Conduct a function test
- Re-assemble the car

21. Retrofit cable system circuit diagram



090 1195 Z

21. Retrofit cable system 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.

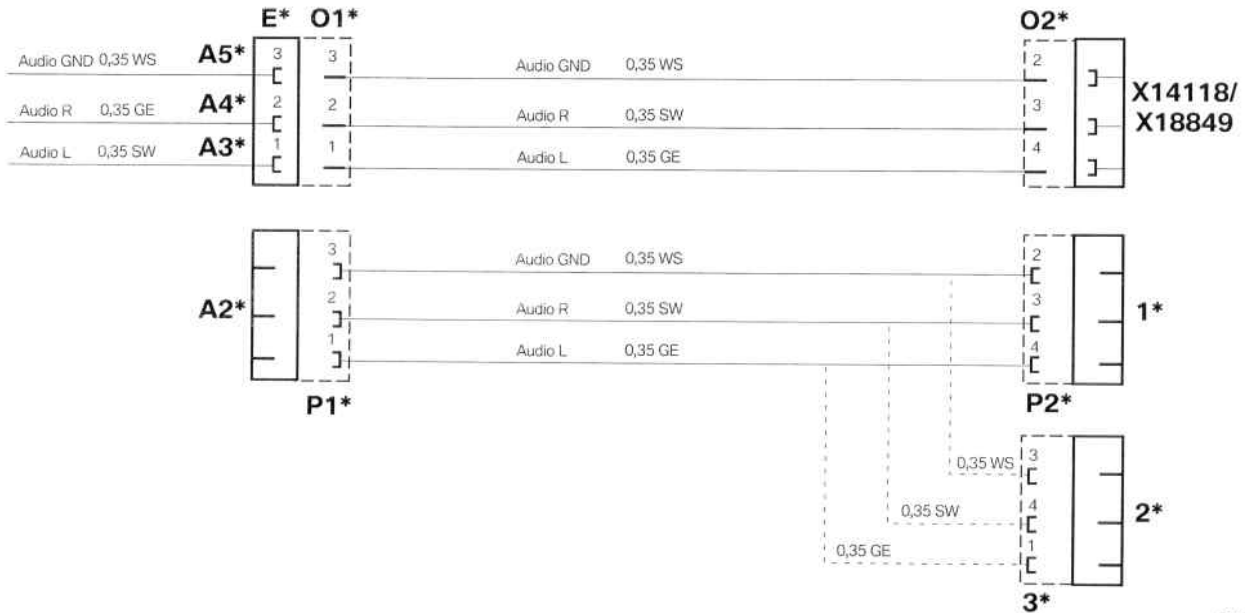
For cars **with CHAMP** the grey cable must also be disconnected from PIN 12 and connected to PIN 25 on branch **A15**, BL 26-pin socket casing. ◀

Legend

A1*	SW 32-pin socket casing
A2*	SW 3-pin plug casing
A3*	Socket contact
A4*	Socket contact
A5*	Socket contact
A6*	SW 4-pin socket casing
A7*	SW 4-pin plug casing
A8*	SW 8-pin plug connector
A9*	SW 8-pin plug connector
A10*	SW 18-pin plug casing
A11*	Cable loop
A12*	Eyelet, 6 mm
A13*	Socket contact
A14*	Fuse holder
A15*	BL 26-pin socket casing
A16*	SW 18-pin plug casing
A17*	Eyelet, 6 mm
A18*	Socket contact
A19*	Fuse holder
A20*	SW 3-pin socket casing for power supply to camera systems and/or USB interface, switching regulator connection Q
C*	ACM Unit
D*	Universal CAN Interface
E*	SW 3-pin socket casing
1*	Plug X10387
2*	Controller
X13813	SW 12-pin socket casing

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

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



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Legend

- O1*** SW 3-pin plug casing, with socket casing **E*** to branches **A3***, **A4***, **A5***
- O2*** SW 4-pin plug casing, to plug **X14118/X18849** of the USB/AUX socket with 4-pin connector or to disconnected cables from the USB/AUX socket with 6-pin connector
- P1*** SW 3-pin socket casing, to branch **A2***
- P2*** SW 4-pin socket casing, to USB/AUX socket **1*** (with 4-pin connector)
- 3*** SW 6-pin socket casing, to USB/AUX socket **2*** (with 6-pin connector)

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

Cable colours

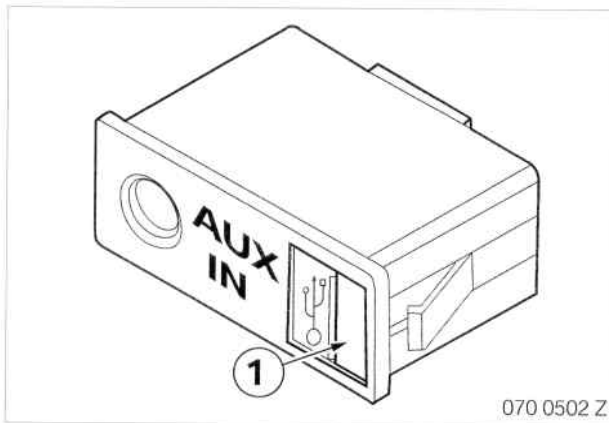
BL	Blue
BR	Brown
GE	Yellow
GR	Grey
RT	Red
SW	Black
TR	Transparent
VI	Violet
WS	White

23. Troubleshooting

Problem	Possible causes
The side cameras cannot be switched on	The switching regulator Q is not plugged in The software version of the ACM Unit C/UCI D is out of date
The display of the car menu is offset	Initialisation via ACM Service Menu - Setup - Auto Position not carried out
The screen goes black when displaying the camera image	The switching regulator Q is not plugged in Cabling/pinning of the camera connection not correct
No sound playback for the retrofit (switching to incorrect audio source)	AUX position and AUX level not set correctly in the ACM Service Menu
Basic controller does not function correctly in the 1 Series	The cable loop A11 has not been separated
High controller does not function correctly in the 1 Series	PIN 12 on branch A15 has not been disconnected Cable loop A11 has been separated
Incorrect image display in the 3, 5, 6 Series and X5, X6 with M-ASK	The cable loop A11 has not been separated
Incorrect image display and/or controller malfunctions in the 1 Series built after 03/07	PIN 1 on branch A1 has not been disconnected
Incorrect image display and/or controlled malfunctions in the 3, 5 and 6 Series built after 03/07, not including China, Korea and Japan versions	PIN 1 on branch A1 has not been disconnected
Incorrect image display and/or controller malfunctions in the 5 and 6 Series and X5, X6 with Champ	PIN 1 on branch A1 has not been disconnected
Incorrect image display in the 5 and 6 Series and X5, X6 with Champ	PIN 12 on branch A15 has not been disconnected and has been connected to PIN 25

24. 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).