Original BMW Accessory.
Installation Instructions.

Professional Navigation system retrofit (SA 609)
BMW 3 Series (E90, E91)

These installation instructions are only valid for cars with SA 606 (navigation system)

Retrofit kit No.	65 90 0 415 350	Professional Navigation retrofit kit
	65 83 6 976 392	Retrofit kit activation code CCC voice

Installation time
The installation time is **approx. 4 hours**. This may vary depending on the condition of the car and the equipment in it.

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.

If you experience installation or function problems, restrict troubleshooting to approx. 0.5 hours for mechanical work and 1.0 hour for electrical work.
In order to reduce costs and avoid any additional expense, send a query immediately to the Technical Parts Support via the Aftersales Assistance Portal (ASAP).
Specify the following information:
- Chassis number
- Part number of the retrofit kit
- A precise description of the problem
- Work steps already carried out

Do not archive the hard copy of these installation instructions since daily updates are made by ASAP!

Pictograms
Denotes instructions that draw your attention to special features.

◀ Denotes the end of the instruction or other text.

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

Ensure that the cables and/or lines are not kinked or damaged as you install them in the car. The costs thereby incurred will not be reimbursed by BMW AG.

Additional cables/lines that you install must be secured with cable ties.

If the specified PIN chambers are already used, bridges, double crimps or twin-lead terminals must be used.

Ordering instructions
An activation code (FSC) with part number 65 83 6 976 392 will be required for the use of the SA 620 in connection with the Professional navigation system (CCC/SA609).

This activation code must be copied into the car with the aid of the action plan, via the dealer's programming system. If the code is not transferred to the car, the SA 620 can no longer be used.

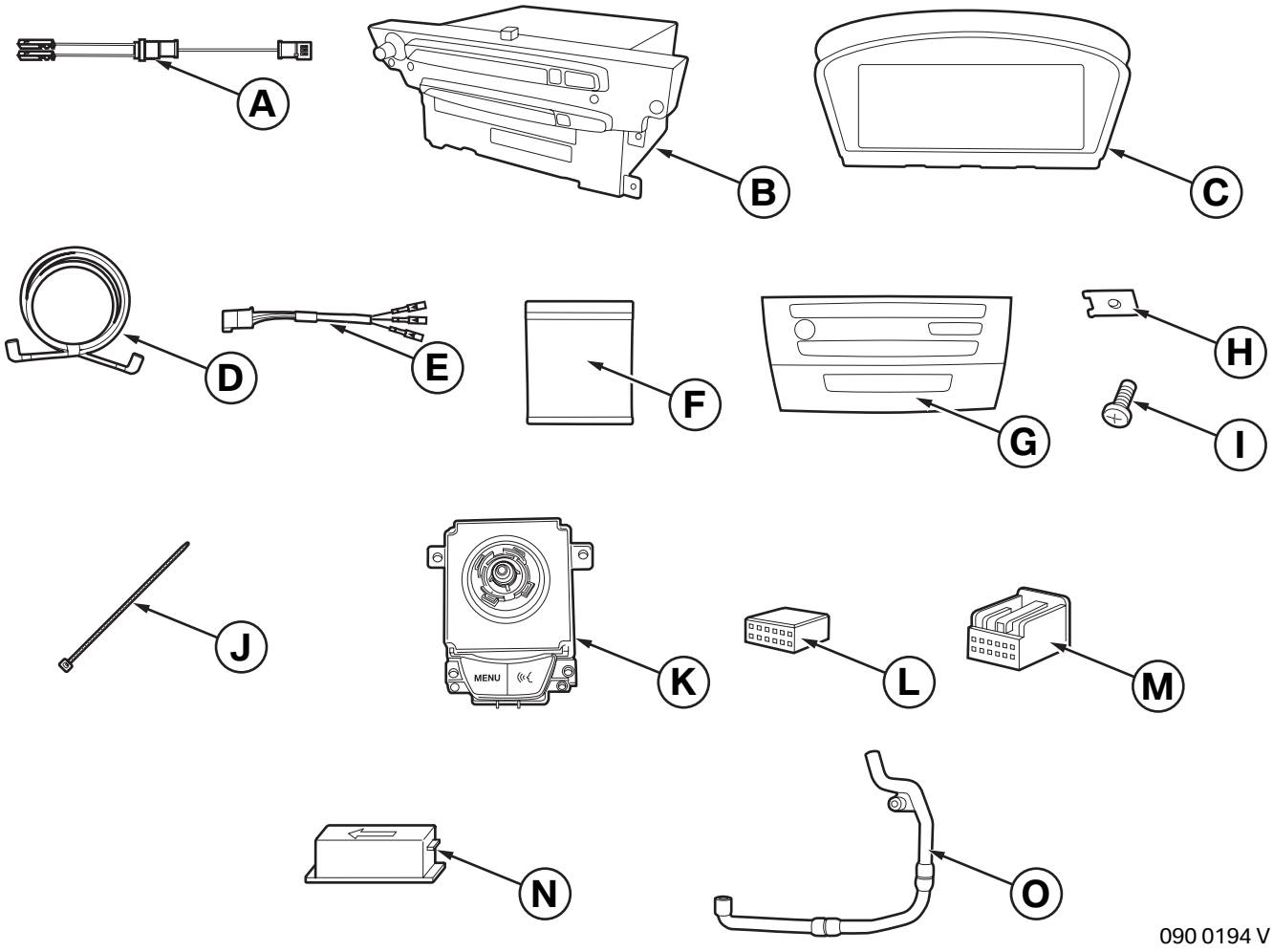
Ordering and delivery of the FSC
- The activation codes are "coded outsourced parts", i.e. FSCs are always generated for a specific vehicle and must therefore be ordered from BMW as FSI parts (Production – Line Section – Invest) quoting the chassis number.
- The FSCs are delivered in the BMW After Sales Portal (ASAP) under Parts and Accessories (Sweeping Technologies). The dealership organisations can download the FSC from the Internet to their PC. This code (3 files) must then be stored on media such as a CD before it can be copied via the programming system into the car.

Special tools required
00 9 310, Installation wedges

00 9 340, Removal tool

Table of contents

1. Parts list



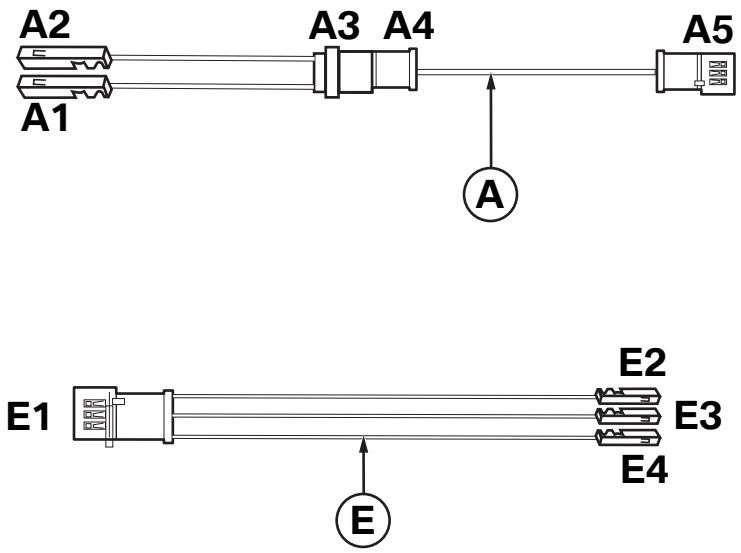
Legend

A Voice control wiring harness
B Car Communication Computer (CCC)
C 8.8" on-board monitor
D LVDS cable
E CCC fan wiring harness
F Protective strip
G Central instrument panel trim (not included in the parts kit)
H Speed nut (2x)
I Fillister head self-tapping screw 4.2 x 16 (3x)
J Cable tie (15x)
K Controller high
L Socket casing (2x)
M Cover cap (2x)
N Hands-free microphone
O Ventilation hose

2. Preparatory work

	TIS no.
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
The following components must be removed first of all	
Décor trim on right of instrument panel	51 45 380
Control for the heating/air-conditioning system	64 11 377
Switch centre, centre console	64 31 054
Audio system controller	65 12 200
On-board monitor	65 82 050
Pedal trim	51 45 185
Trim for oddments box	51 16 212
Front controller	61 31 195
Roof switch centre	61 31 043
Sun visor and left hinge bracket	51 16 080
Trim for roof pillar (A pillar), left	51 43 201

3. Connection diagram



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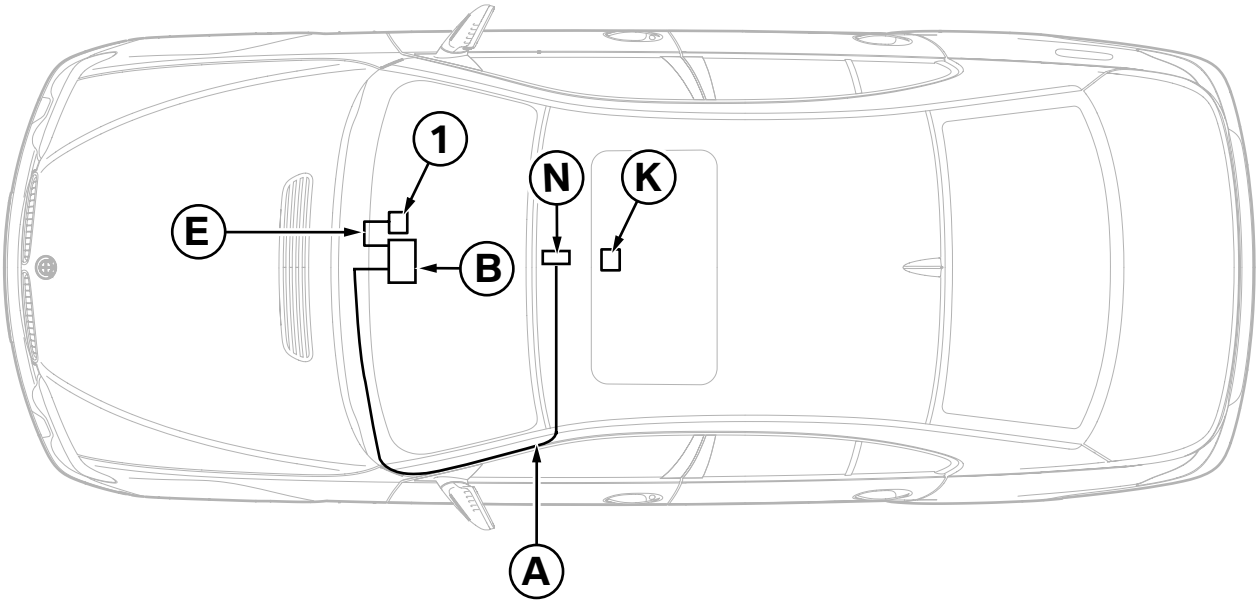
Item	Designation	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Voice control wiring harness	---	---	---	---
A1	Socket contact	MIC (+)	WS/GN 0.35 mm²	To radio plug **X13814**	X13814 PIN 1
A2	Socket contact	MIC (-)	WS/RT 0.35 mm²	To radio plug **X13814**	X13814 PIN 6
A3	White 3-pin plug casing	---	---	To branch **A4**	X13293
A4	3-pin socket casing, WS	---	---	To branch **A3**	X3759
A5	3-pin socket casing, SW	---	---	To hands-free microphone **N**	X2759
E	CCC fan wiring harness	---	---	---	---
E1	3-pin socket casing, SW	---	---	To CCC fan	X14055
E2	Socket contact	Fan (+)	RT/SW 0.35 mm²	To radio plug **X13813**	X13813 PIN 1
E3	Socket contact	Fan (-)	BR 0.35 mm²	To radio plug **X13813**	X13813 PIN 5
E4	Socket contact	Diagnostic	WS 0.35 mm²	To radio plug **X13813**	X13813 PIN 11

4. Installation and cabling diagram



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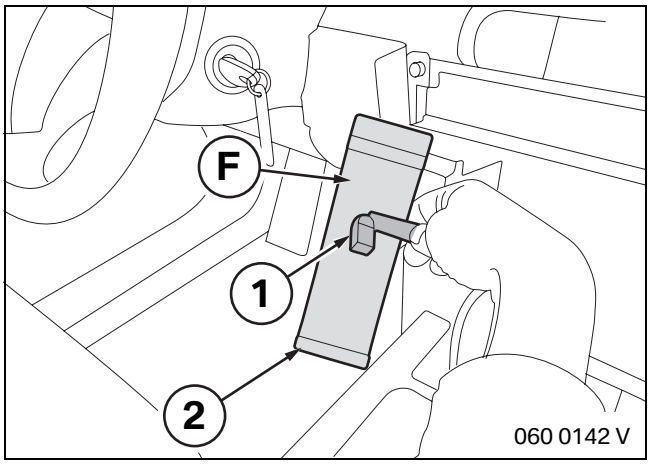
Legend

A Voice control wiring harness
B Car Communication Computer (CCC)
E CCC fan wiring harness
K Controller high
N Hands-free microphone

1 CCC fan

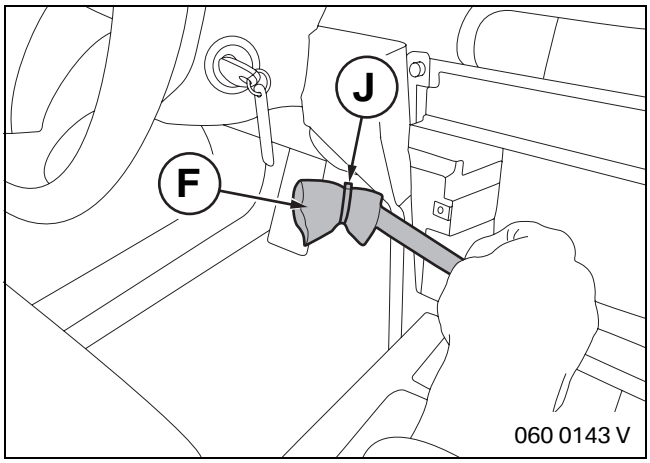
5. Installation work for the Car Communication Computer (CCC)



Cut the protective strip **F** at right angles to the adhesive strips in the middle.

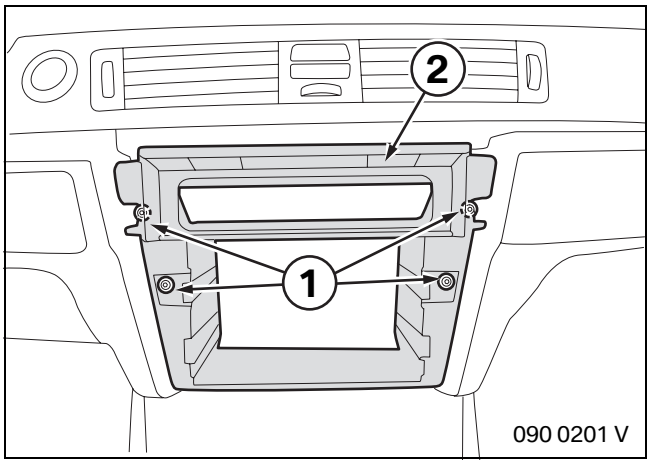
Wrap the plug (1) on the existing LVDS cable with a protective strip **F** and secure it with adhesive strips (2).

Proceed in the same way with the plug on the LVDS cable on the audio system controller.



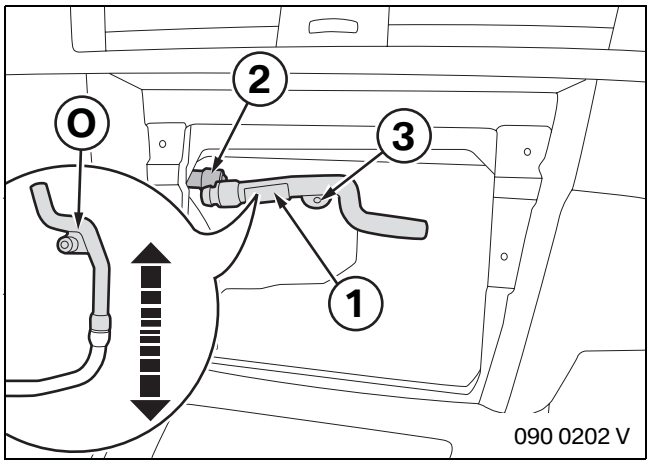
Also secure protective strip **F** using cable tie **J**.

Proceed in the same way with the plug on the LVDS cable on the audio system controller.



Unscrew the screws (1) on the centre console (2) module holder.

Remove the centre console module holder (2).



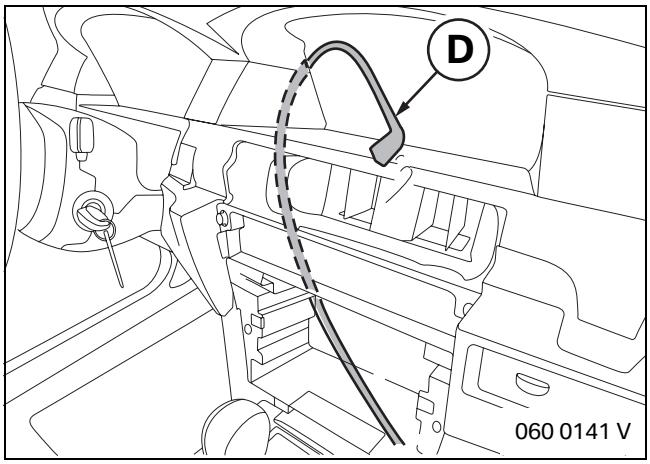
Disconnect the ventilation hose **O**. Only the last piece (1) is required. ◂

Connect the ventilation hose **O** to the hose (2).

Attach to the holder (3) on the rear wall.

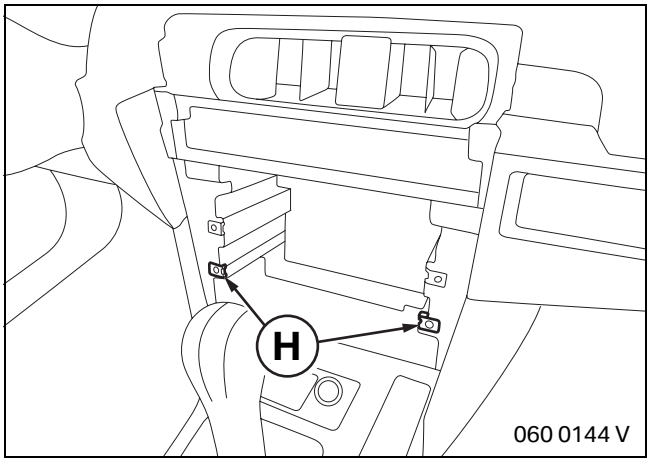
Replace the centre console module holder.

5. Installing the Car Communication Computer

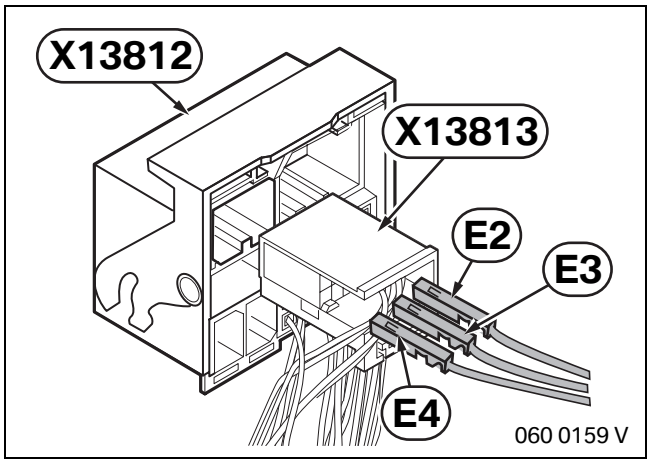


Connect the violet plug later to the 8.8" on-board monitor **C** and connect the blue plug to CCC **B**.

Route the LVDS cable **D** on the left behind the ventilation duct downwards to the centre console module holder.



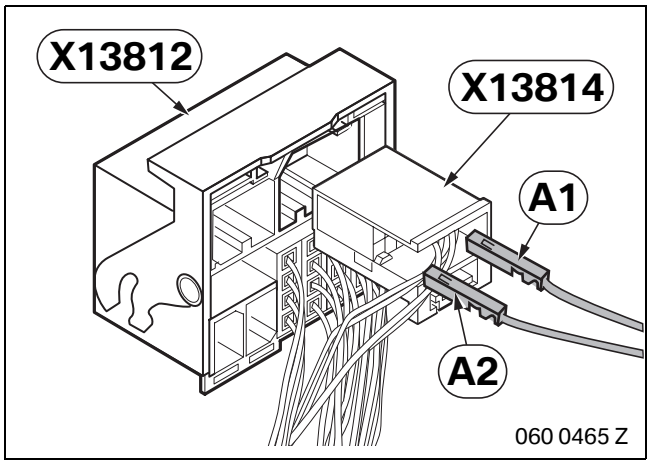
Attach speed nuts **H** to the centre console module holder.



Disconnect plug **X13813** from plug **X13812**.

Connect the CCC fan wiring harness **E** to plug **X13813** as follows:
RTSW cable to PIN 1
BR cable to PIN 5
WS cable to PIN 11.

If the car does not contain plug **X13813**, use socket casing **L.**



Disconnect plug **X13814** from plug **X13812**.

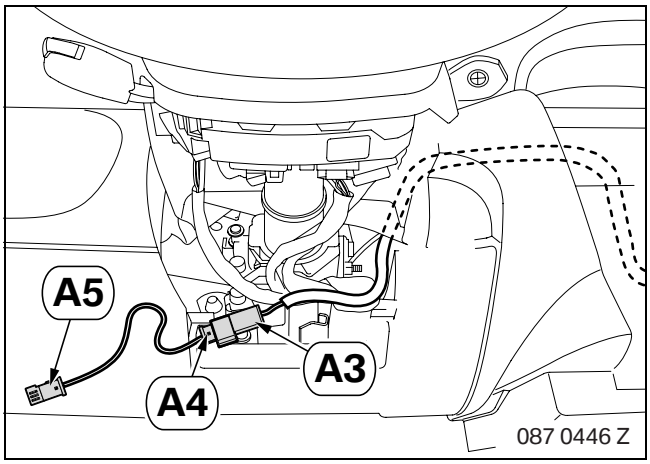
Connect branches **A1**-**A2** to plug **X13814** as follows:

- **A1**, white/green cable, to PIN 1
- **A2**, white/red cable, to PIN 6

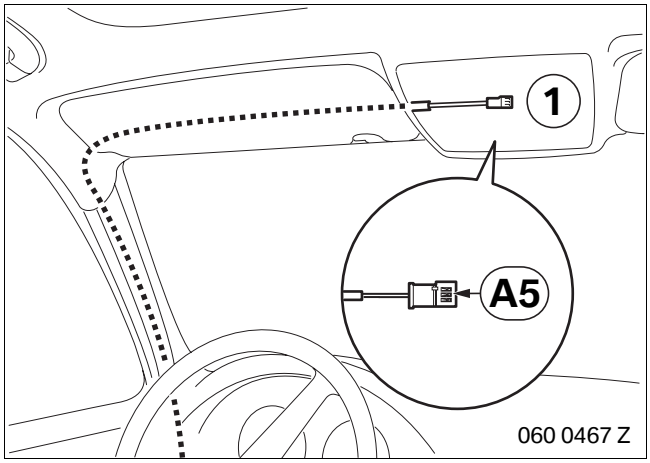
Connect plug **X13814** to plug **X13812**

If the car does not contain plug **X13814**, use socket casing **L.**

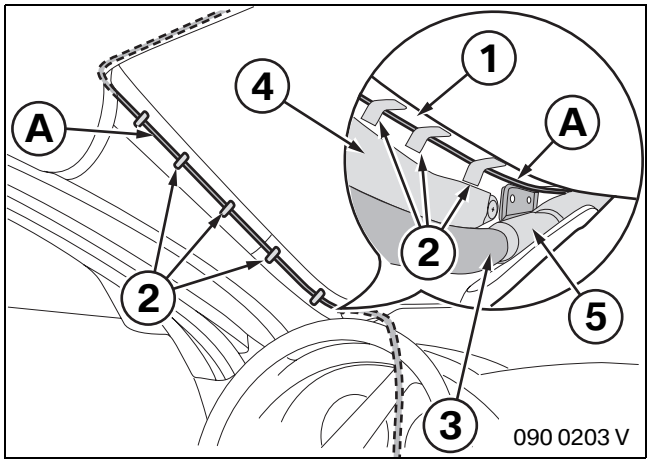
5. Installing the Car Communication Computer



Route branches **A3**–**A5** to the steering column.



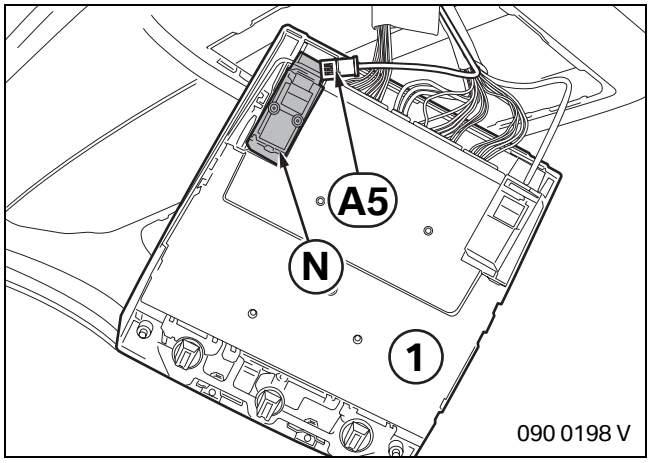
Route branch **A5** to the left A pillar over the lowered headlining to the opening of the roof trim (1).



Route wiring harness **A** in the outermost corner of the A pillar (1), whilst securing with adhesive tape (2).

Wiring harness **A** and the adhesive tape (2) must not be routed over the airbag (3) and strap (4). Affix the adhesive tape (2) to the metal **only**.

Route wiring harness **A** behind the gas cylinder (5). Nothing must interfere with the deployment of the airbag. ◂



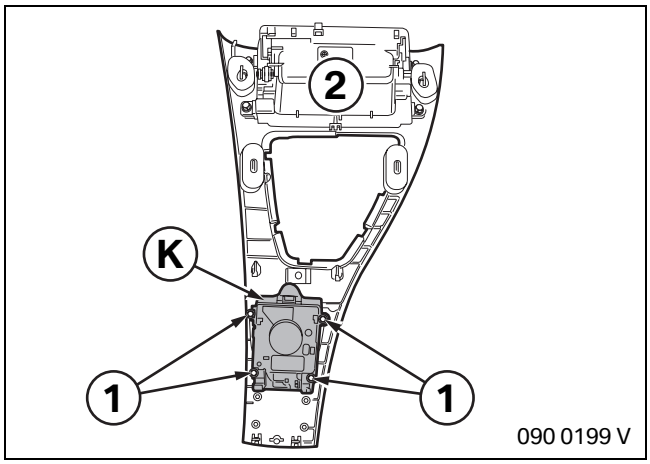
The arrow on the hands-free microphone **N** must point to the front of the car when installed. ◂

Remove the microphone trim from the roof function centre (1).

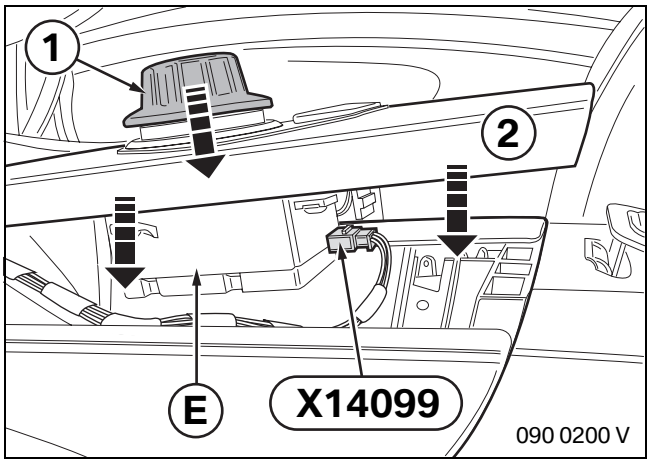
Clip hands-free microphone **C** into the roof function centre (1).

Connect branch **A5** to the hands-free microphone **N**.

5. Installing the Car Communication Computer



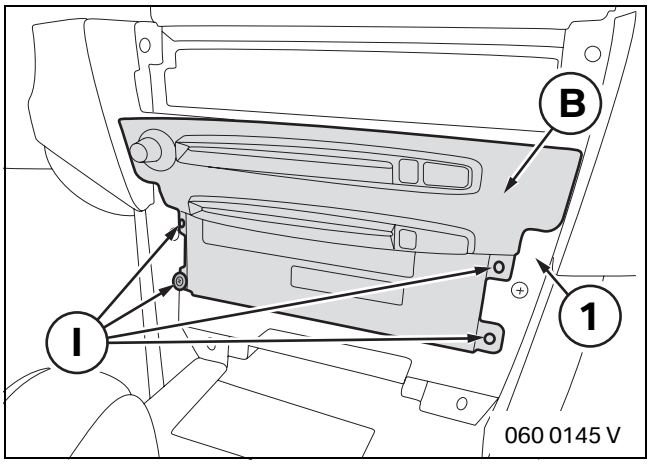
Screw controller **K** to the underside of the trim for the storage compartment (2) using the screws (1).



Connect plug **X14099** to controller **K**.

Fit the control knob (1) to the controller **K**.

Clip the trim for the storage compartment (2) into the centre console.



For all cars:
Connect all connectors to the CCC **B**.
Connect branch **E1** to the CCC fan.

Tie back the old LVDS cable on the standard wiring harness (see Figure 060 0142 V). Cut open a few centimetres of the wiring harness wrapping if necessary.

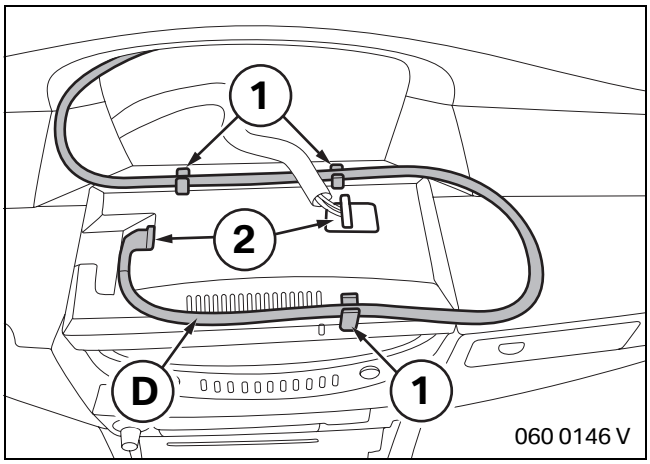
As you insert the CCC **B**, ensure that the wiring harness does not get trapped and that no parts of the interior trim are damaged. ◂

Push the CCC **B** into the centre console module holder (1) and secure it using fillister head self-tapping screws **I**.

Tightening torque 2.1–2.5 Nm.

Clip the centre console switch centre and automatic air conditioning control into the new instrument panel centre trim **G**. Connect the cable and install the trim.

5. Installing the Car Communication Computer



Secure LVDS cable **D** in a broad arc in the holders (1) of 8.8" on-board monitor **B**.

Connect the plug (2).

Take care not to kink LVDS cable **D** when you install the 8.8" on-board monitor **C**.

Tie back the old LVDS cable on the standard wiring harness (see figure 060 0142 V) in the area behind the 8.8" on-board monitor **C**. Cut open a few centimetres of the wiring harness wrapping if necessary. ◂

6. Concluding work and coding

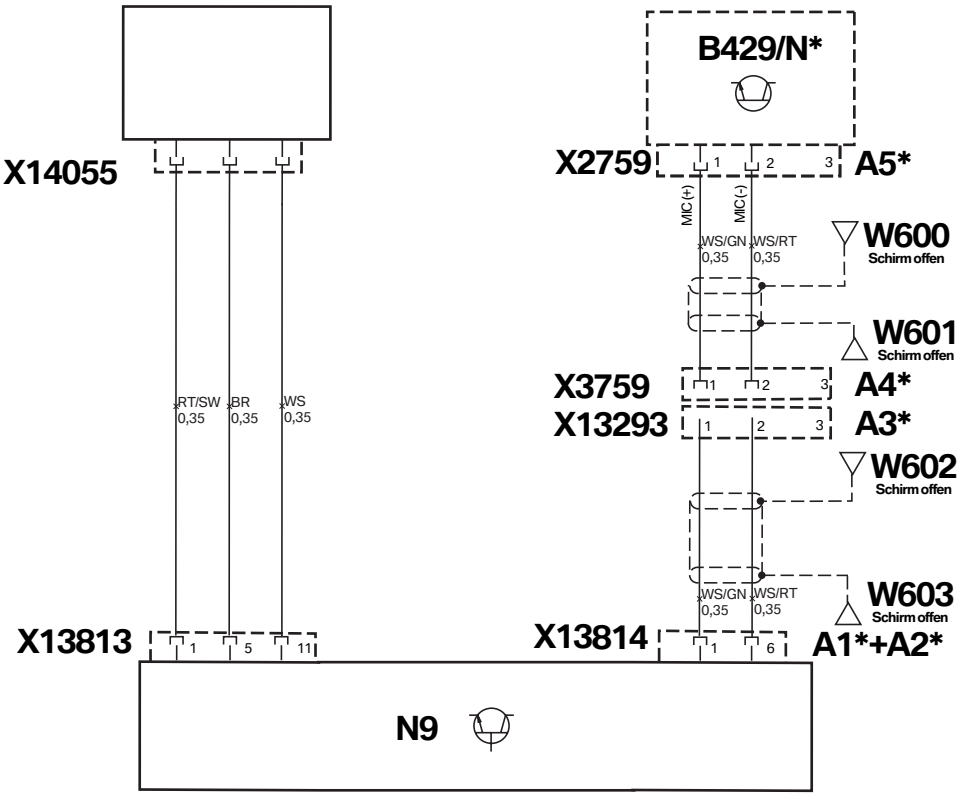
This retrofit system requires coding.

Ordering and delivery of the FSC

- The activation codes are “coded outsourced parts”, i.e. FSCs are always generated for a specific vehicle and must therefore be ordered from BMW as FSI parts (Production – Line Section – Invest) quoting the chassis number.
- The FSCs are delivered in the BMW After Sales Portal (ASAP) under Parts and Accessories (Sweeping Technologies). The dealership organisations can download the FSC from the Internet to their PC. This code (3 files) must then be stored on media such as a CD before it can be copied via the programming system into the car.

- Connect the battery
- Encode the retrofit via the **Retrofit/Nav Pro** path
- Conduct a brief test
- Conduct a function test
- Re-fit the car components as required

7. Circuit diagram



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Legend

B429	Hands-free microphone **N***
N9	Car Communication Computer (CCC) **B***
X2759	3-pin socket casing, SW, **A5***, to hands-free microphone **N***
X3759	3-pin socket casing, WS, **A4***, to 3-pin plug casing, WS, **A3***
X13293	3-pin plug casing, WS, **A3***, to 3-pin socket casing, WS, **A4***
X13813	12-pin socket casing, to Car Communication Computer
X13814	12-pin socket casing, WS, **A1***+**A2***, to Car Communication Computer
X14055	3-pin socket casing, to CCC fan
W600	Screen open
W601	Screen open
W602	Screen open
W603	Screen open

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

7. Circuit diagram

Cable colours

GN	Green
RT	Red
WS	White
BR	Brown
SW	Black