

Original BMW Accessories.

Installation Instructions.



Basic Bluetooth Hands-Free Kit Retrofit

Basic Bluetooth hands-free kit with USB/audio interface retrofit

BMW 3 Series (E90, E91) built after 09/2010

BMW 3 Series (E92, E93) built after 03/2010

Installation instructions only valid for cars with SA 606 (Business navigation system) without SA 6FL or SA 609 (Professional navigation system) without SA 6FL

Retrofit kit number

84 64 0 441 949	Basic Bluetooth Hands-Free Kit
65 41 2 152 528	Basic Bluetooth hands-free kit with USB/audio interface

Installation time

The installation time for the basic Bluetooth hands-free kit is **approx. 1.5 hours**.

The installation time for the basic Bluetooth hands-free kit with USB/audio interface is **approx. 2.0 hours**.

This may vary depending on the condition of the car and the equipment in it. On cars without the fibre-optic cable distributor station, the installation time will increase by **approx. 0.5 hours**.

The installation time specified does not include the time spent on programming/coding.

The calculation of the total costs for the programming time must be factored into the calculation of retrofitting costs (no invoicing via warranty).

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, wiring 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 functional problems, restrict the troubleshooting session to about 0.5 hours for mechanical work or 1 hour for electrical work.

To avoid unnecessary extra work and/or costs, an inquiry is to be sent straight away to the technical parts support via the After Sales Assistance Portal (ASAP).

Quote the following information:

- Chassis number,
- retrofit kit part number,
- a detailed description of the problem,
- any work already carried out.

Do not archive the hard copy of these installation instructions since daily updates are made 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 warning text.

Installation information

When routing fibre-optic cables, make sure the bending radius is no less than 25 mm.

Refer to the instructions for handling fibre optic cables as per ISTA 61 00

Ensure that the cables and/or lines are not kinked or damaged as you install them in the car. Costs arising from 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.

Program/encode the retrofit with ISSS (Integrated Software Service Station) via the – **Conversions** – path.



When installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit, two coding operations (combox retrofit SA 644, USB/audio (SA 6FL) retrofit) must be carried out. ◀

Ordering instructions

The following parts are not supplied with the retrofit kit and must be therefore ordered separately (see EPC for part number and details).

- Combox **D**
- Combox holder **E**
- Hands-free microphone **O** (only on E93 cars)
- Steering column shroud **R** (only on E93 cars)

List of special equipment

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

- SA 606** Business navigation system
- SA 609** Professional navigation system
- SA 6FL** USB/audio interface

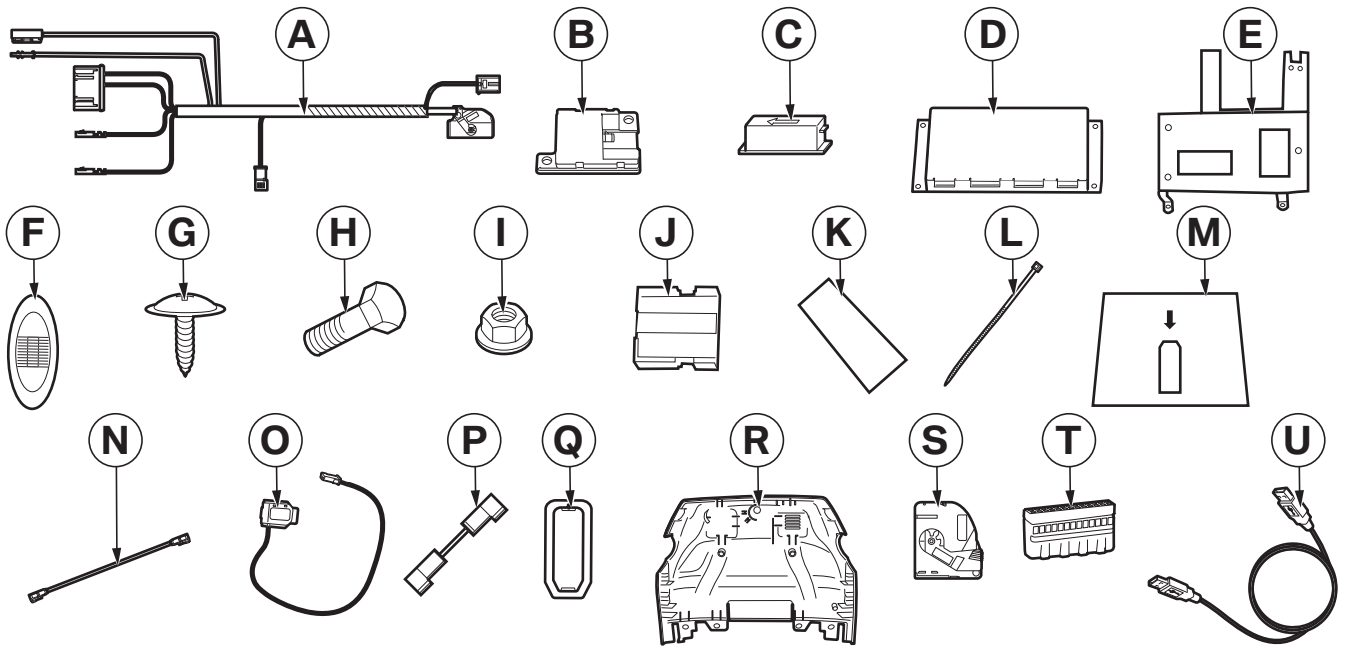
Special tools required

00 9 317, Installation wedge

Table of contents

Section	Page
1 Parts list	4
2 Preparatory work	6
3 Connection diagram	7
4 USB wiring harness connection diagram (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)	8
5 Installation and cabling diagram	9
6 Wiring harness on the radio receiver	10
7 Installing and connecting the combobox	11
8 Installing and connecting the USB/AUX-IN jack (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)	14
9 Installing and connecting the Bluetooth aerial	15
10 Installing and connecting the hands-free microphone (E90, E91, E92 cars only)	16
11 Installing and connecting the hands-free microphone (E93 cars only)	18
12 Concluding work and coding	19
13 Wiring diagram	20
14 Pairing the mobile phone with the car	22

1. Parts list

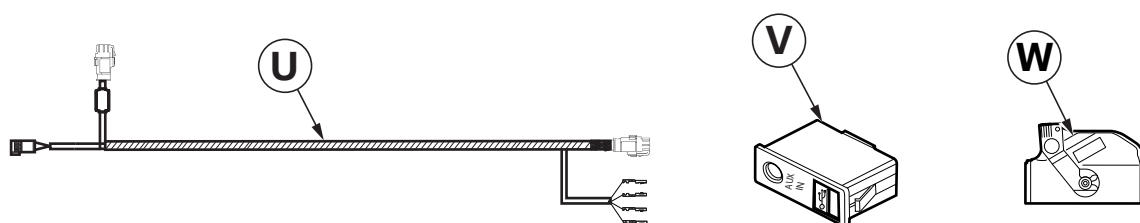


090 1548 Z

Legend

- A** Wiring harness
- B** Bluetooth aerial
- C** Hands-free microphone (E90, E91, E92 cars only)
- D** Combox (not supplied with the retrofit kit)
- E** Combox holder (not supplied with the retrofit kit)
- F** Hands-free microphone finisher (2 x, dependent on colour, for cars without roof function centre only)
- G** Oval-headed screw (ST4, 2 x 13 mm)
- H** Hexagon screw (M5 x 20 mm, 4 x)
- I** Hexagon nut (M5, 4 x)
- J** SW 4-pin socket casing
- K** Adhesive strips (80 x 15 mm)
- L** Cable tie (10 x)
- M** Template (for cars without roof function centre only)
- N** Bluetooth aerial connecting cable
- O** Hands-free microphone (E93 cars only, not supplied with the retrofit kit)
- P** Adapter cable (E93 cars only)
- Q** Installation frame (E90, E91, E92 cars only)
- R** Steering column shroud (E93 cars only, not supplied with the retrofit kit)
- S** Cover cap
- T** 26-pin socket casing
- U** USB cable (to be given to the customer)

1. Parts list



090 1397 Z

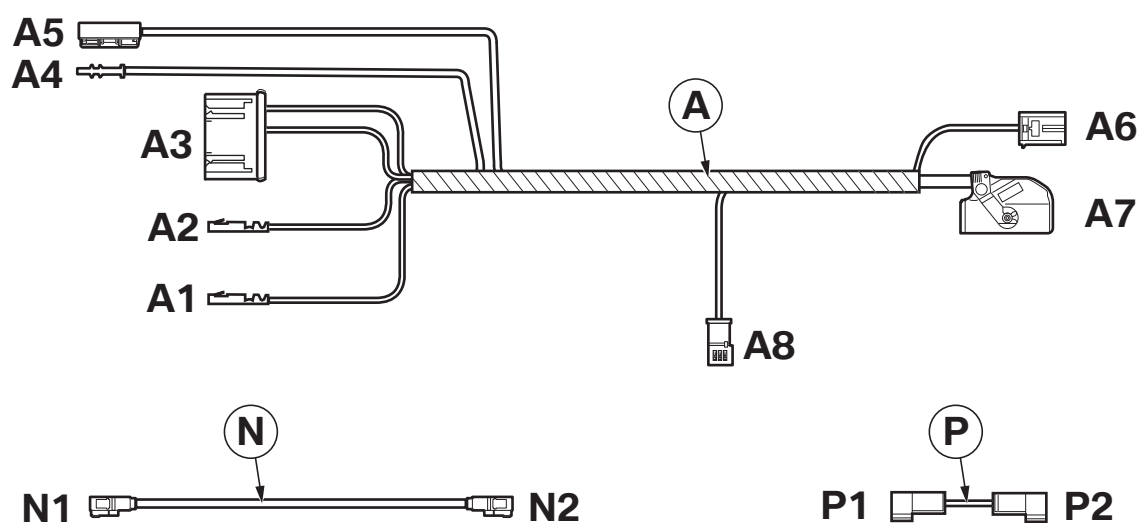
Legend

- U** USB wiring harness (only included in the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
- V** USB/AUX-IN jack (only included in the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
- W** BL 54-pin socket casing (only included in the basic Bluetooth hands-free kit with USB/audio interface retrofit kit, not required)

2. Preparatory work

	ISTA No.
Conduct a brief test	---
Disconnect the negative pole of the battery	61 20 900
The following components must be removed first of all	
All cars	
Glove box	51 16 366
Side A pillar trim, footwell right	51 43 070
Radio receiver	65 83 010
Dashboard side trim, right	51 45 ...
Pedal trim (only cars without Flash adapter built after 09/08)	51 45 185
Release the centre console (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)	---
AUX-IN jack (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)	---
E90, E91, E92 cars only	
A pillar trim on the right	51 43 148
Roof function centre/front interior light	61 31 043
E93 cars only	
Steering column shroud	32 31 003

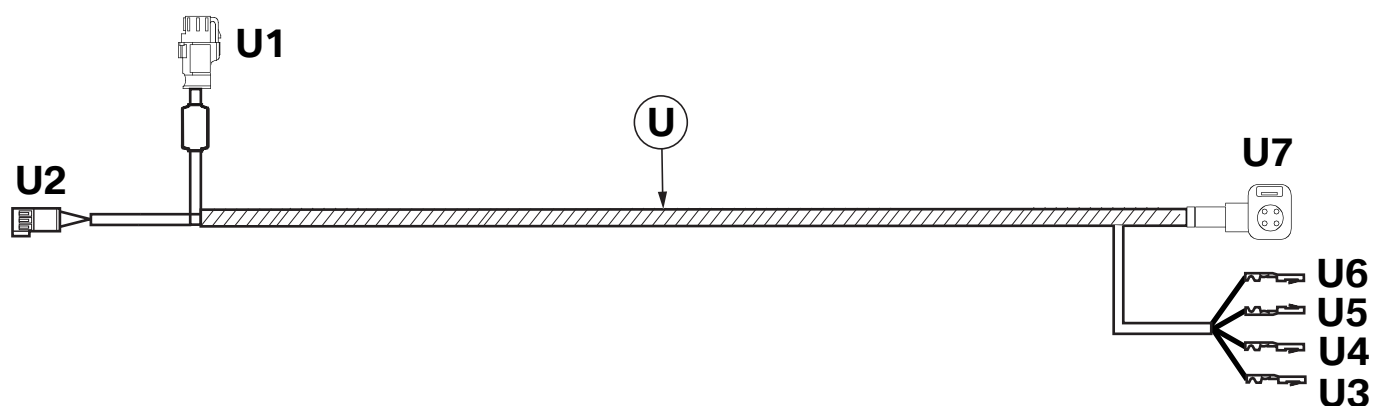
3. Connection diagram



090 1547 Z

Item	Designation	Signal	Cable colour/ Cross-section	Connection location in the car	Abbreviation/ Slot
A	Wiring harness	---	---	---	---
A1	Socket contact	Terminal 30	RT/GN 2.5 mm ²	On radio receiver	X13812 PIN 15
A2	Socket contact	Terminal 31	BR 2.5 mm ²	On radio receiver	X13812 PIN 12
A3	SW 4-pin pin housing	---	---	On socket casing J	---
A4	Fibre-optic cable	MOST	OR	On radio receiver	X13815 PIN 2
A5	Fibre-optic cable connector	MOST	GN	On the radio receiver's disconnected fibre optic cable	---
A6	SW 2-pin fibre-optic cable casing	MOST	---	On combobox D	X34139
A7	52-pin socket casing	---	---	On combobox D	X34130
A8	SW 3-pin socket casing	Mic	---	E90, E91, E92 cars only On hands-free microphone C On branch P2	X3564
N	Bluetooth aerial connecting cable	---	---	---	---
N1	Fakra socket casing, GN	BT aer	---	On combobox D	X34128
N2	Fakra socket casing, GN	BT aer	---	On Bluetooth aerial B	X14080
---	---	---	---	---	---
P	Adapter cable	---	---	E93 cars only	---
P1	SW 3-pin pin housing	Mic	---	On hands-free microphone O	---
P2	SW 3-pin pin housing	Mic	---	On branch A8	X3564

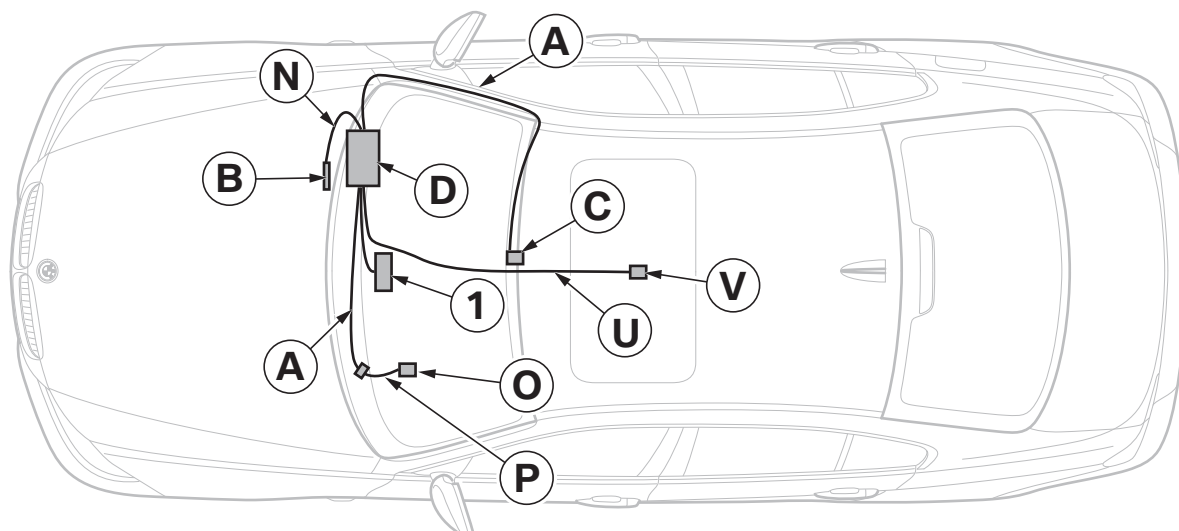
4. **USB wiring harness connection diagram (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)**



090 1398

Item	Designation	Signal	Cable colour/ Cross-section	Connection location in the car	Abbreviation/ Slot
U	USB wiring harness	---	---	---	---
U1	WS 4-pin HSD socket casing	---	---	Connection to USB/AUX-IN jack V	X17183
U2	SW 4-pin socket casing	---	---	Connection to USB/AUX-IN jack V	X14118
U3	Socket contact	Shield	Shield 0.35 mm ²	In socket casing T	PIN 22
U4	Socket contact	AUX_NF_GND	WS/GN 0.35 mm ²	In socket casing T	PIN 10
U5	Socket contact	AUX_NF_R	WS/RT 0.35 mm ²	In socket casing T	PIN 24
U6	Socket contact	AUX_NF_L	VI 0.35 mm ²	In socket casing T	PIN 23
U7	SW 4-pin HSD socket casing	---	---	On combobox D	X34135
U	USB wiring harness	---	---	---	---

5. Installation and cabling diagram

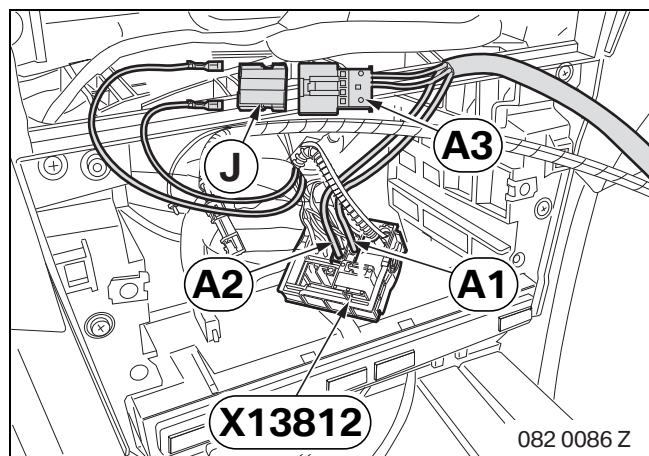


090 1553 Z

Legend

- A** Wiring harness
- B** Bluetooth aerial
- C** Hands-free microphone (E90, E91, E92 cars only)
- D** Combox
- N** Bluetooth aerial connecting cable
- O** Hands-free microphone (E93 cars only)
- P** Adapter cable (E93 cars only)
- U** USB wiring harness (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
- V** USB/AUX-IN jack (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
- 1** Radio connectors **X13812** and **X13815**

6. Wiring harness on radio receiver



Disconnect the following cables from plug **X13812** (SW 16-pin) of the radio receiver and connect to socket casing **J**:

- Cable, RT/GN cable, from PIN 15 to socket casing **J** PIN 1
- Cable, BR cable from PIN 12 to socket casing **J** PIN 2

Connect branches **A1** and **A2** to plug **X13812** as follows:

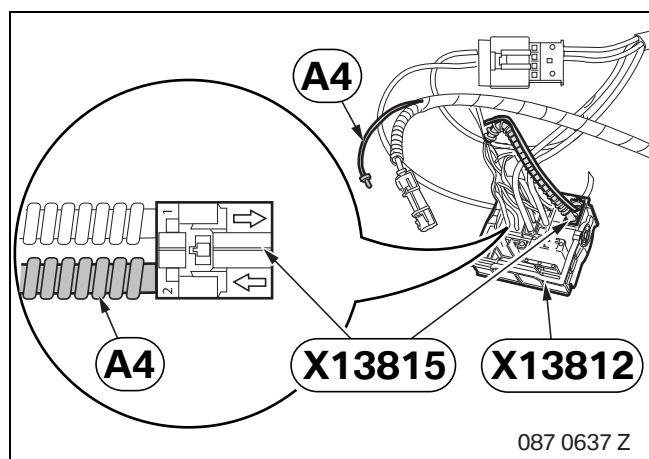
- Branch **A1**, RT/GN cable, to PIN 15
- Branch **A2**, BR cable, to PIN 12

Connect branch **A3** to socket casing **J**.

Unclip fibre optic cable casing **X13815** (SW 2-pin) from plug **X13812** (SW 16-pin) of the radio receiver.

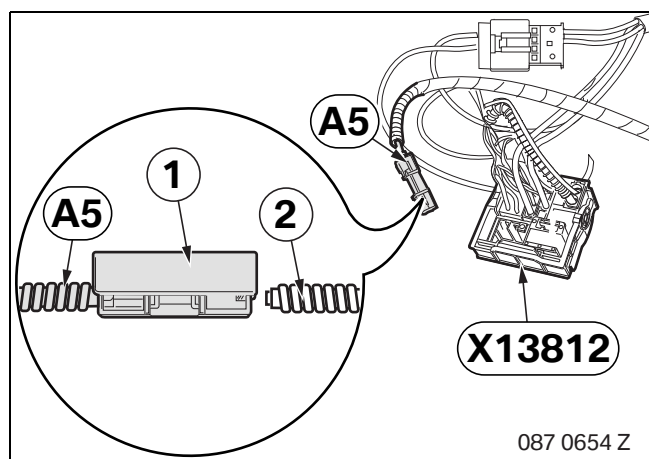
Disconnect the outgoing fibre-optic cable from fibre-optic cable casing **X13815** PIN 2 and connect branch **A4**, OR cable.

Clip fibre-optic cable casing **X13815** into plug **X13812**.

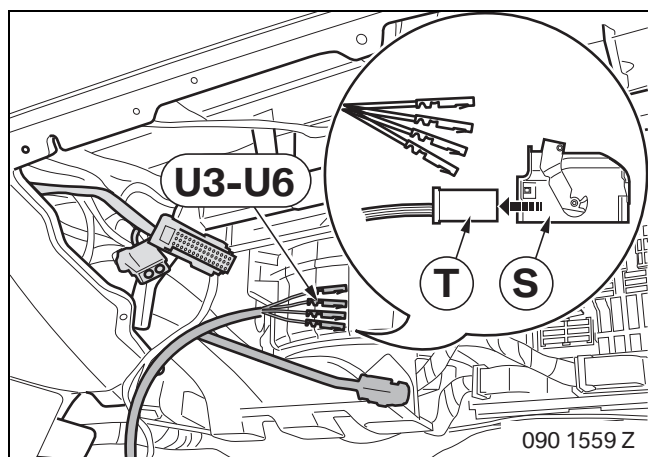


Unlock the fibre-optic cable connector (1) on branch **A5** and connect the disconnected fibre optic cable (2).

Connect plug **X13812** (SW 16-pin) to the radio receiver.



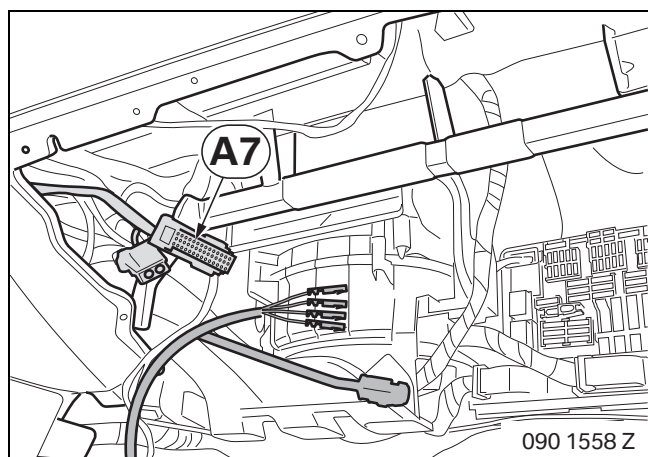
7. Installing and connecting the combobox



Only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit

Connect branches **U3-U6** as follows to 26-pin socket casing **T**:

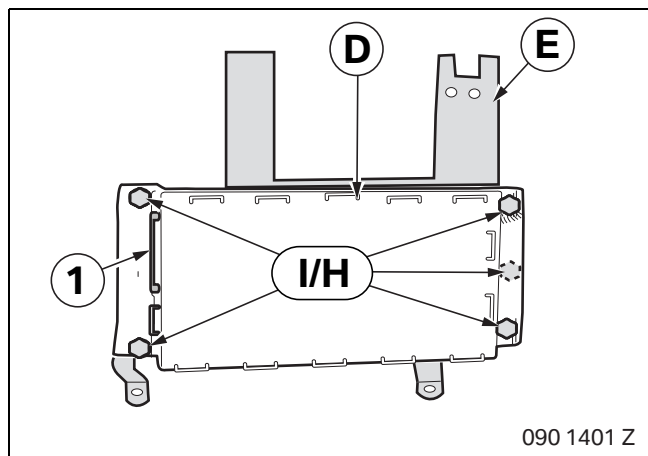
- Branch **U3**, shield, to PIN 22
- Branch **U4**, WS/GN cable, to PIN 10
- Branch **U5**, WS/RT cable, to PIN 24
- Branch **U6**, VI cable, to PIN 23
- Slide cover cap **S** onto socket casing **T** and connect to combobox **D**.



All cars

Disconnect the cables as follows from branch **A7** and connect to socket casing **T**:

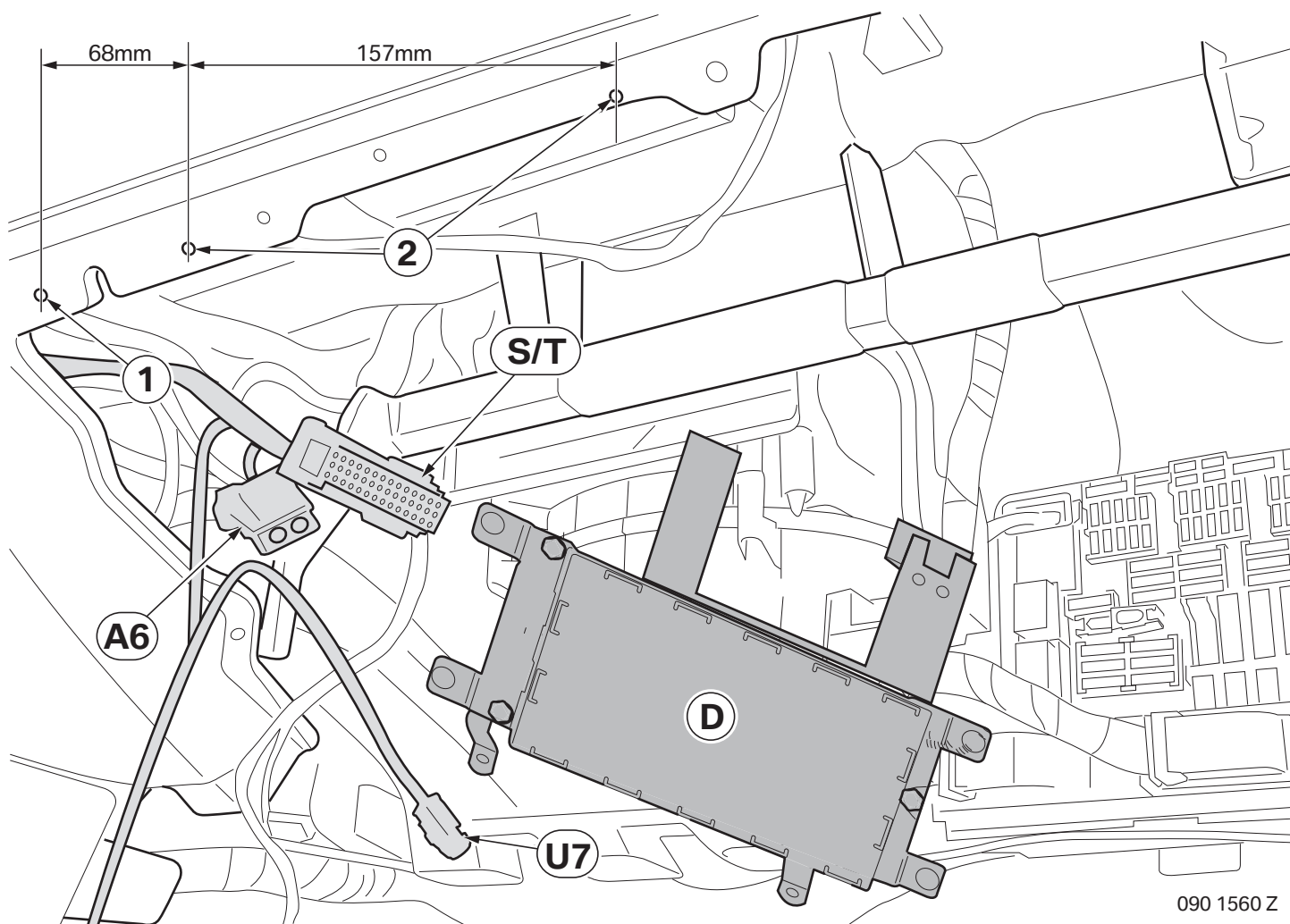
- From PIN 1 to PIN 25
- From PIN 19 to PIN 12
- From PIN 21 to PIN 11
- From PIN 36 to PIN 14
- From PIN 17 to PIN 1



▶ The combobox control unit **D** can be secured using three or four hexagon screws **H**, depending on the design. The 26-pin connection (1) must point in the direction shown. ◀

Secure combobox **D** using hexagon nuts **I** and hexagon screws **H** to combobox holder **E**.

7. Installing and connecting the combobox



090 1560 Z

Make 2 drill holes (2) of diameter 4 mm at the points indicated in the dashboard.
The left-hand fastening point of the glove compartment (1) serves as the starting point.

Route branches **A6** and **A7** to the glove compartment installation site.

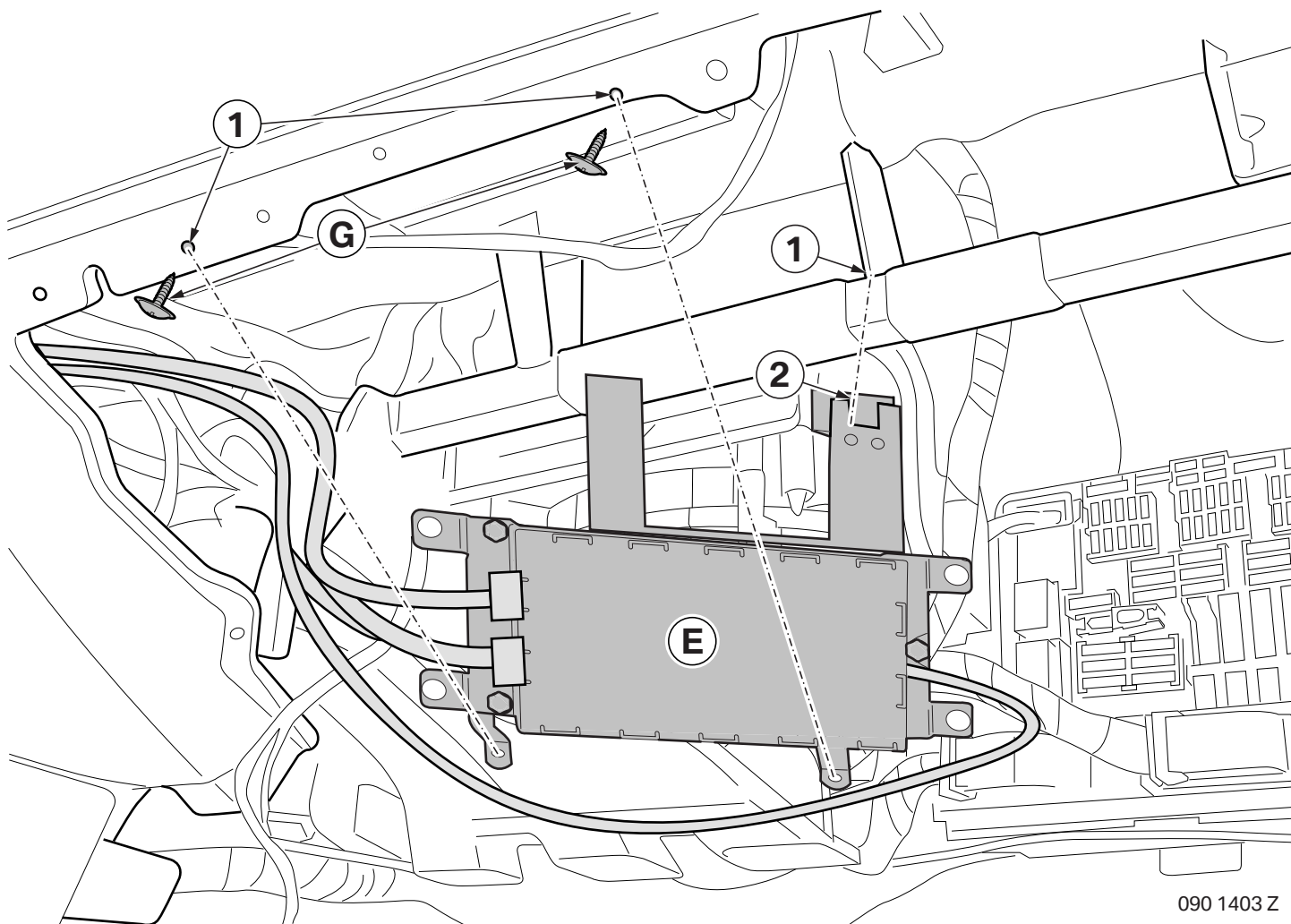
Route branch **U7** to the glove compartment installation site (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit).

Connect the following branches to combobox **D**:

- Branch **A6** (SW 2-pin fibre optic cable casing)
- Branch **S** (GN 26-pin socket casing)

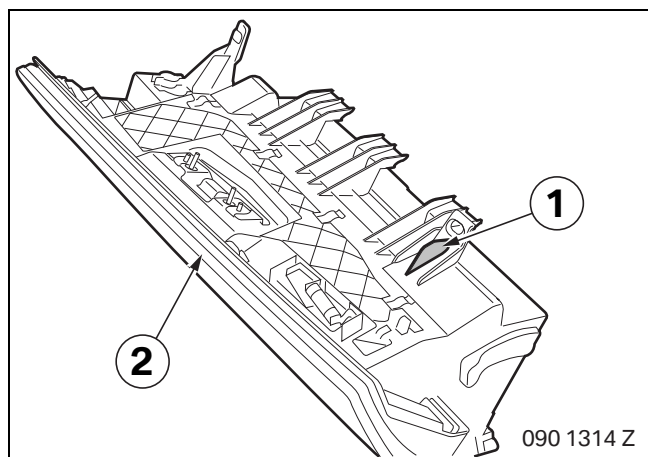
Branch **U7** (SW 4-pin HSD socket casing, only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit).

7. Installing and connecting the combobox



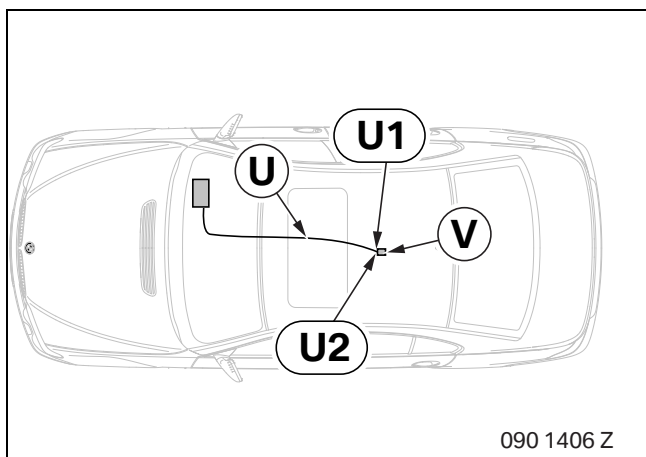
 Only secure combobox holder **E** in place once the glove compartment has been pushed onto the dashboard frame. ◀

Push combobox holder **E** onto the dashboard frame. The left-hand edge (2) of combobox holder **E** must lie flush with the left-hand edge of the strut (1). Loosely fasten combobox holder **E** to the two drill holes (1) made previously using oval-headed screws **G**.

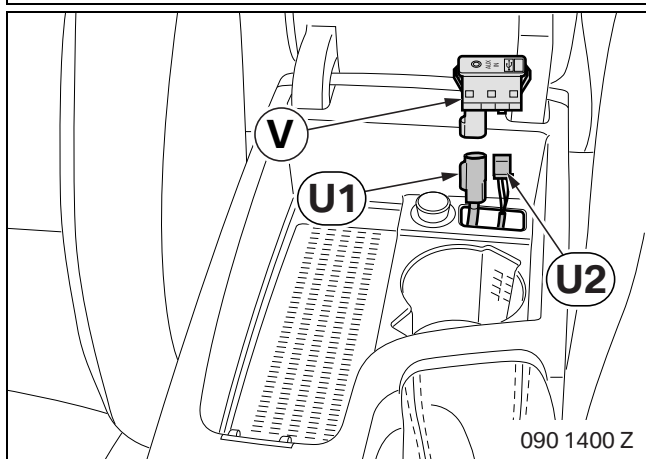


Separate the rib (1) from the glove compartment (2).

8. Installing and connecting the USB/AUX-IN jack (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)

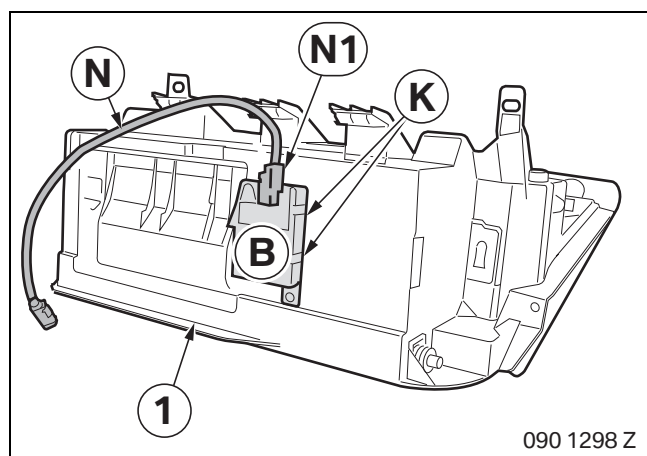


Route branches **U1** (WS 4-pin HSD socket casing) and **U2** (SW 4-pin socket casing) of USB wiring harness **U** under the centre console to the installation site of USB/AUX-IN jack **V**.



Connect branches **U1** and **U2** to USB/AUX-IN jack **V**.
Clip USB/AUX-IN jack **V** into the centre console.

9. Installing and connecting the Bluetooth aerial



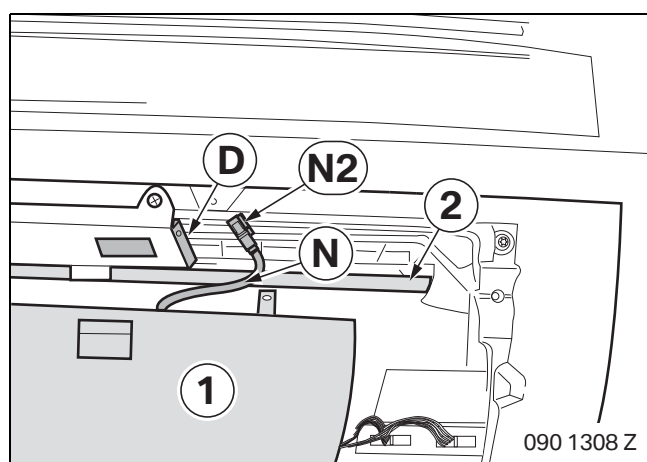
▶ The adhesive surfaces must be free from oil and grease. To ensure a permanent bond, ensure you observe the colour coding of the adhesive strip. ◀

Cut the adhesive strips **K** into two 40 mm-long pieces.

Remove the **brown film** from both pieces and stick them to the metal side of the Bluetooth aerial **B**.

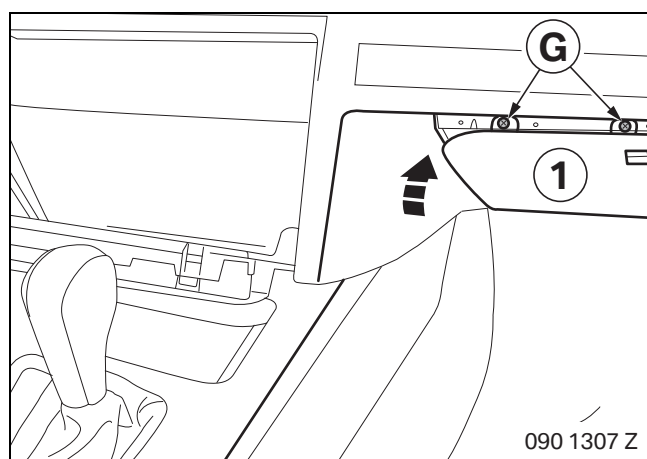
Remove the **white film** from both pieces and stick Bluetooth aerial **B** onto the back of the glove compartment (1).

Connect branch **N1** of the Bluetooth aerial connecting cable **N** to Bluetooth aerial **B**.



▶ To connect branch **N2** grasp it through the side opening on the dashboard. ◀

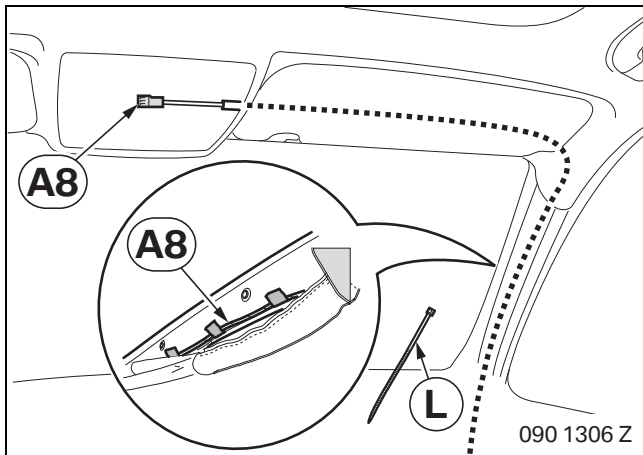
Push the glove compartment (1) onto the dashboard frame (2) and connect branch **N2** of Bluetooth aerial connecting cable **N** to combi **D**.




Tighten oval-headed screws **G**.

Install the glove compartment (1) as per ISTA.

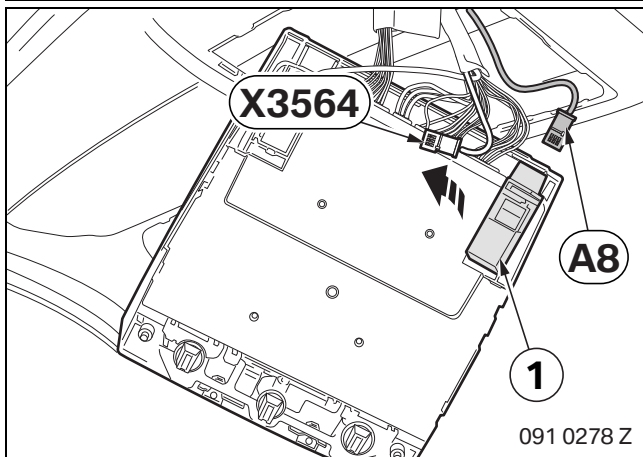
10. Installing and connecting the hands-free microphone (E90, E91, E92 cars only)



 Ensure that branch **A8** is routed behind the head airbag. ◀

Route branch **A8** (3-pin SW socket casing) along the standard wiring harness to the right-hand A pillar and secure in place with cable ties **L**.

Route branch **A8** to the interior light.

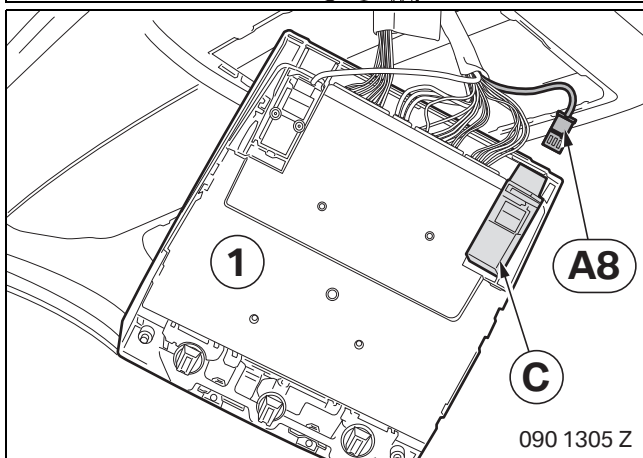


Cars with roof function centre and with SA 620 only


Disconnect plug **X3564** from hands-free microphone (1) and tie back.

Connect branch **A8** to hands-free microphone (1).

Hands-free microphone **C** is not required.

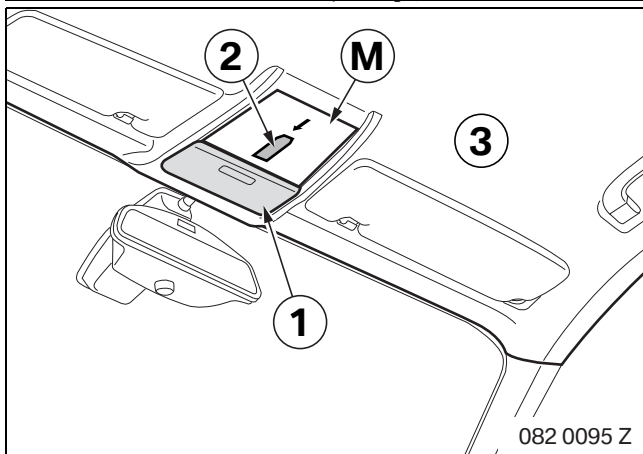


Cars with roof function centre and without SA 620 only


 The arrow on the hands-free microphone **C** must point to the front of the car after it has been installed. ◀

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

Connect branch **A8** to hands-free microphone **C**.



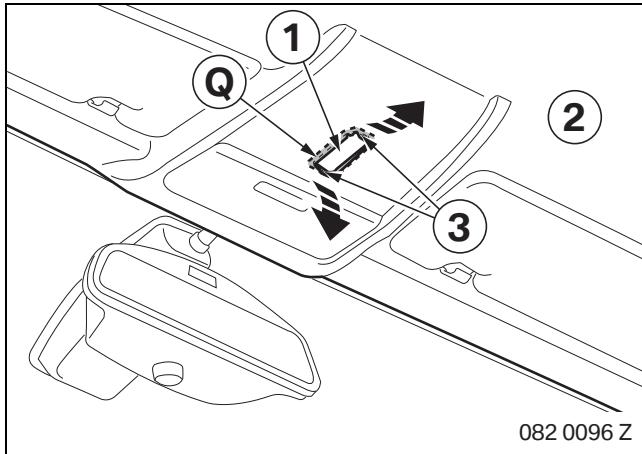
Cars without roof function centre only

 Use only template **M**. ◀

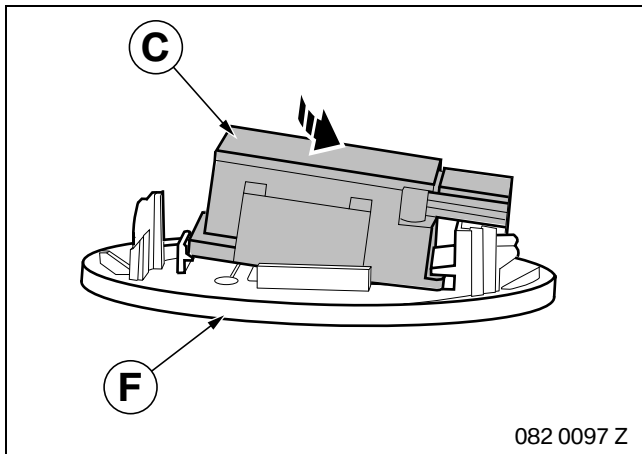
Cut out the marked area on template **M** and place it on the interior light (1).

Mark the contours of the cut-out (2) for the hands-free microphone and cut out the headlining (3).

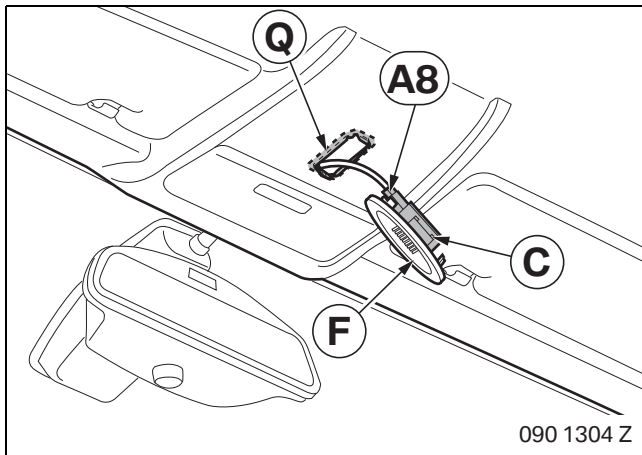
10. Installing and connecting the hands-free microphone (E90, E91, E92 cars only)



Insert the installation frame **Q** from above into the opening (1) in the headlining (2) and bend the retaining lugs (3).



Clip hands-free microphone **C** into hands-free microphone cover **F**.

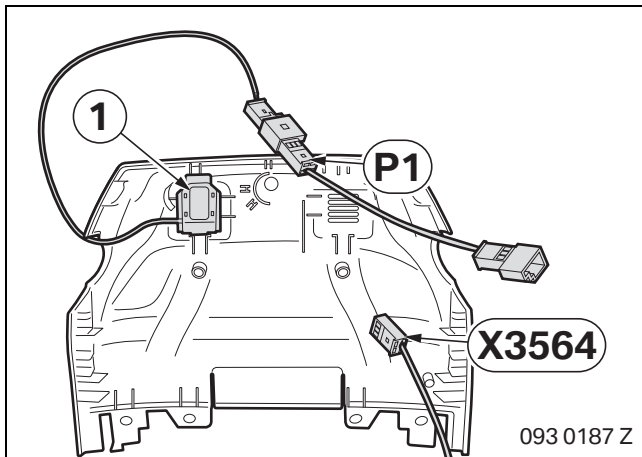


▶ The arrow on the hands-free microphone **C** must point to the front of the car after it has been installed. ◀

Guide branch **A8** through the installation frame **Q** and connect to hands-free microphone **C**.

Clip hands-free microphone finisher **F** into installation frame **G**.

11. Installing and connecting the hands-free microphone (E93 cars only)

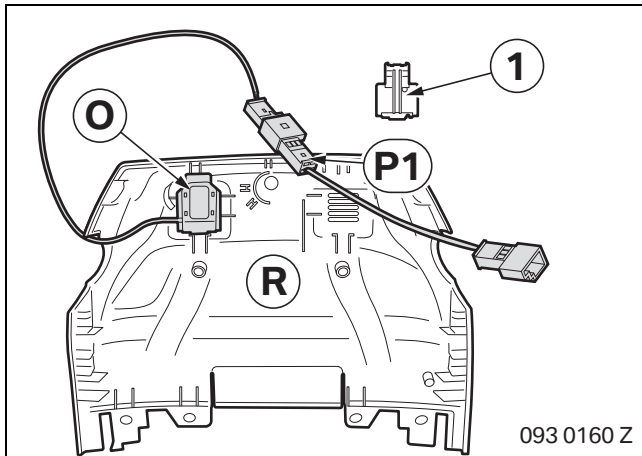


Cars with SA 620 only

Disconnect plug **X3564** from hands-free microphone (1) and tie back.

Connect branch **P1** (SW 3-pin pin housing) to hands-free microphone (1).

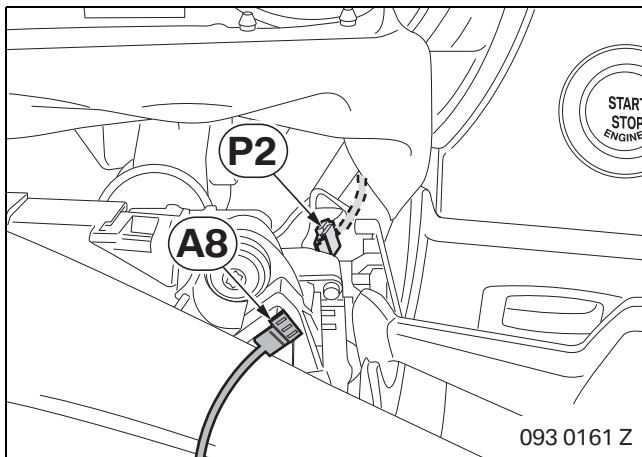
Hands-free microphone **O** and steering column shroud **R** are not required.



Cars without SA 620 only

Unclip the left finisher (1) from the steering column shroud **R**.

Connect branch **P1** (SW 3-pin pin housing) to hands-free microphone **O** and clip into steering column shroud **R**.



All cars

Route branch **A8** (SW 3-pin socket casing) on the right-hand side of the steering column and connect it to branch **P2** (SW 3-pin pin housing).

Install the steering column shroud (not shown).

12. Concluding work and coding

The retrofit system requires programming/coding.

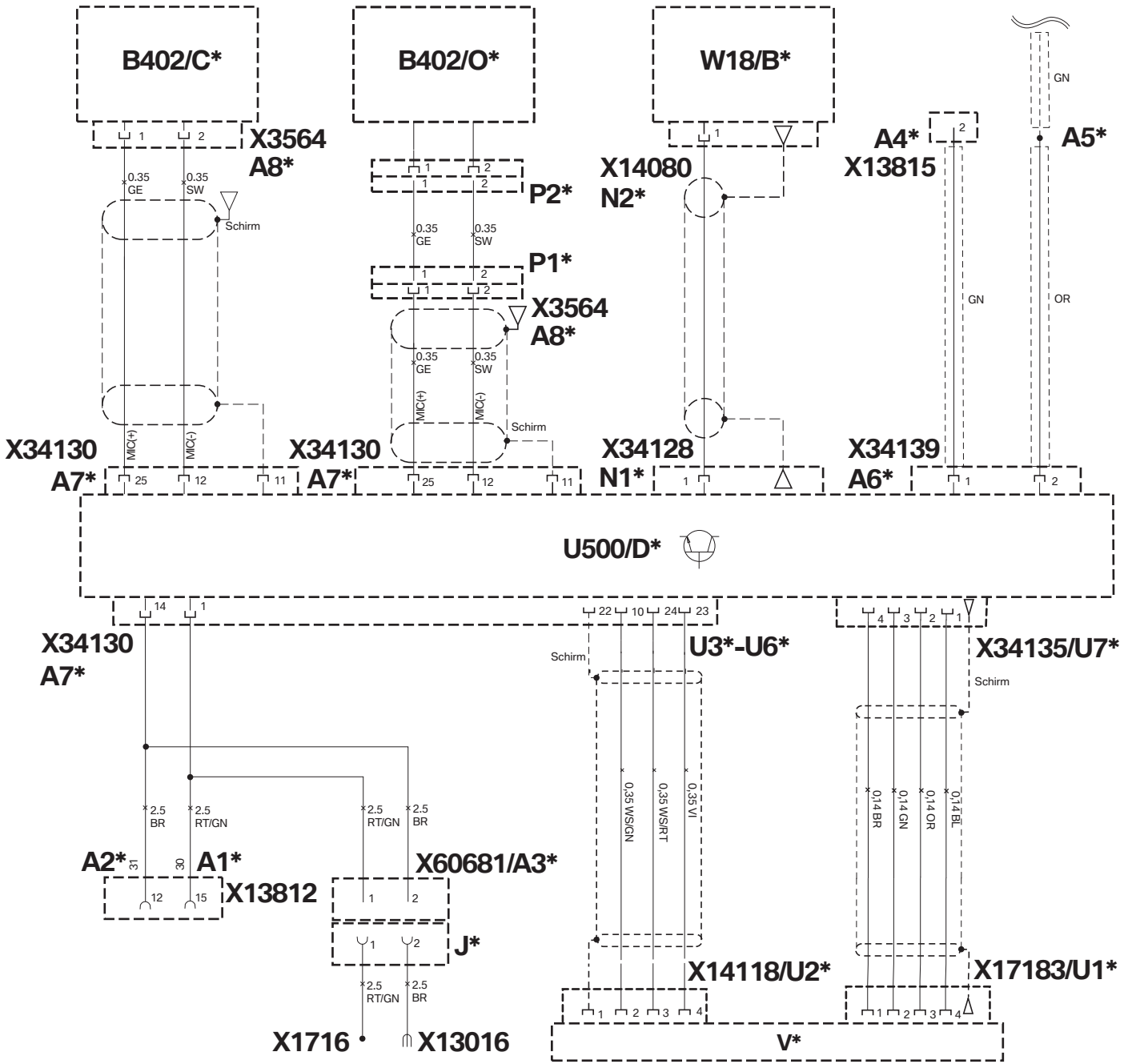
- Connect the battery
- Carry out a vehicle test using the ISTA system and note or work through any entered error memory
- Change in the ISTA/P car programming
- Select the “Basic Bluetooth hands-free kit” retrofit via the – **Conversion** – path and work through the created action plan.

When installing the basic Bluetooth hands-free kit retrofit kit, retrofit (SA 644) coding must be carried out.

When installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit, two coding operations (combox retrofit SA 644, USB/audio (SA 6FL) retrofit) must be carried out.

- If using ISTA/P, please note the instructions in the ISTA/P application documentation
- Pair the mobile phone with the car (see section 15 or 16)
- Carry out a functional test of the basic Bluetooth hands-free kit
- Re-fit the car components as required

13. Wiring diagram



090 1549 Z

Cable colours

BL	Blue	GR	Grey	RT	Red
BO	Bordeaux (Burgundy)	L-GN	Light green	SW	Black
BR	Brown	NT	Natural	TR	Transparent
GE	Yellow	OR	Orange	VI	Violet
GN	Green	RO	Pink	WS	White

13. Wiring diagram

Legend

A1*	Socket contact
A2*	Socket contact
A3*	4-pin pin housing, SW X60681
A4*	Fibre-optic cable
A5*	Fibre-optic cable connector
A6*	SW 2-pin fibre-optic cable casing X34139
A8*	SW 3-pin socket casing X3564
B402/C*	Hands-free microphone
B402/O*	Hands-free microphone
J*	SW 4-pin socket casing
N1	Fakra socket casing, GN X34128
N2	Fakra socket casing GN X14080
P1*	SW 3-pin pin housing
P2*	SW 3-pin pin housing
U1*	WS 4-pin HSD socket casing X17183 (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
U2*	SW 4-pin socket casing X14118 (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
U3*-U6*	Connected cables in X34130/26-pin socket casing (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
U7*	SW 4-pin HSD socket casing X17182 (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
U500/D*	Combox
V*	USB/AUX-IN jack (only when installing the basic Bluetooth hands-free kit with USB/audio interface retrofit kit)
W18/B*	Bluetooth aerial
X1716	STVB HiFi
X13016	Earth support point
X13815	SW 2-pin fibre-optic cable socket casing

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