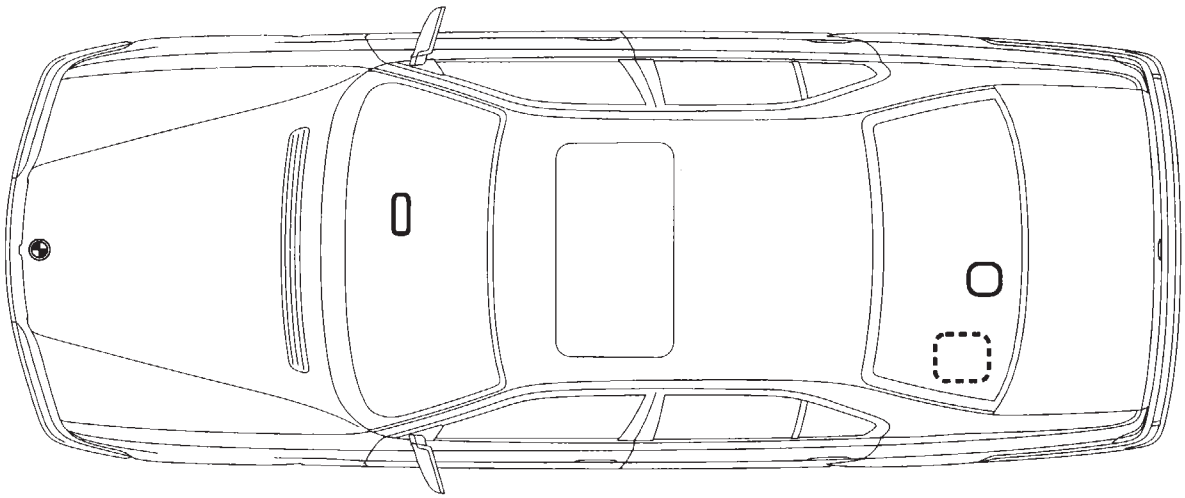
Parts and Accessories - Installation Instructions



F 38 82 117 M

Navigation system II

BMW 7series E38

(For use in the BMW retailer organization only).
Installation time 4-5 hours approx., which may vary depending on the condition and equipment of the vehicle.
An additional 0.25 hrs approx. are required to calibrate the system.
Familiarity with bodywork electronics is needed.

Not included in the installation kit and to be ordered separately (see ETK):
– Languages CD listed as item 23 in the overall view of the installation kit to load other languages or language messages in German or English.

Confirm following items with customer prior to installation:
– No mute of radio during navigation messages (Page 6 and 10).
– Installation site for remote control holder (Page 13).
– Selecting the language (Page 14).

Order No. 01 21 9 790 589 V/97 Printed in Germany

source: www.ow.no

Note
All item numbers in the illustrations relate to the overall view of the installation kit.

All items with capital letters relate to the overall view of the supplementary cable harnesses for navigation.

All items not included in the overall view of the installation kit are shown with small letters.

All text passages marked with this sign ⚠ **must** be given particular attention and contain important notes on installation.

The content of these installation instructions may change without notice.

Tools and aids required

Common Tools
Right angle drill

Drill bits:ø 3mm (1/8"), 4mm (5/32"), 4,5mm (11/64")
connector pin extractor tool

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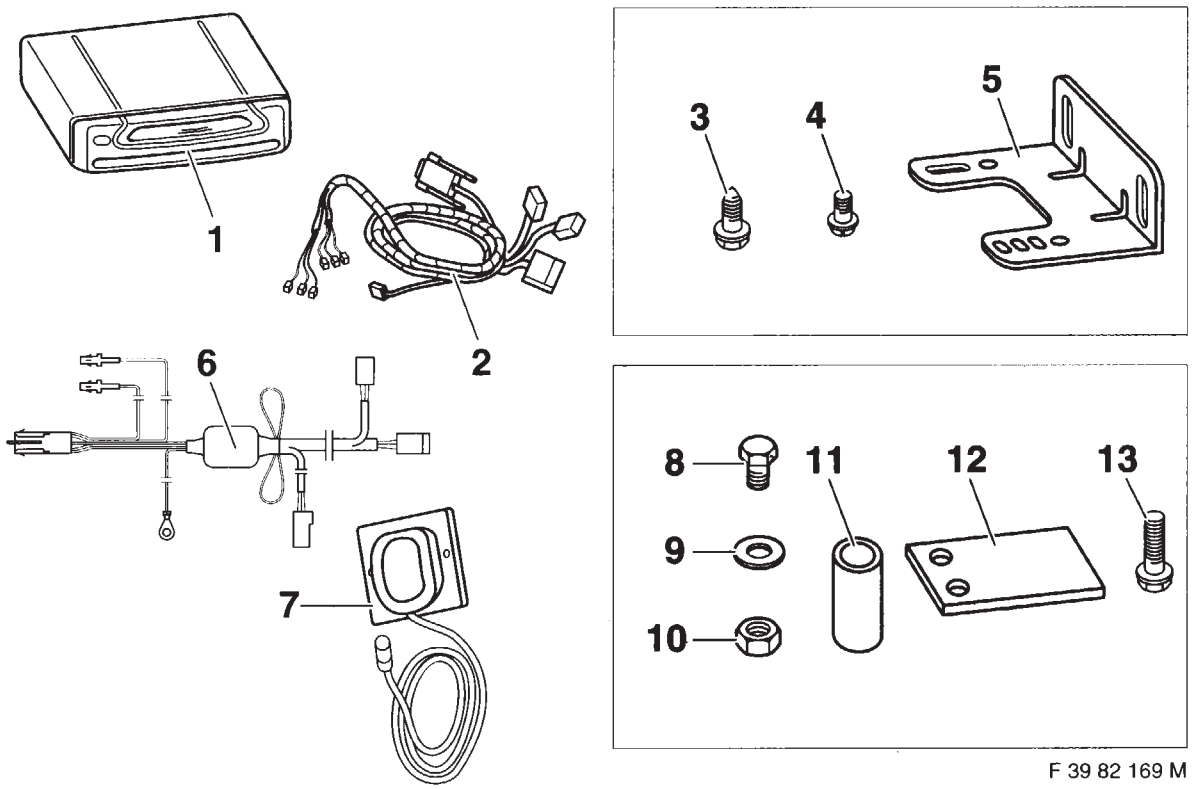
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1. Preliminary work required on vehicle

1. Print out fault memory.
2. Remove front passenger seats.
3. Disconnect vehicle battery.
4. Remove kick panel driver's side.
5. Remove rear seat bench.
6. Remove C-pillar trim.
7. Remove parcel shelf cover.
8. Remove l.h. rear loudspeaker.
9. Remove luggage compartment trim.
10. Remove central console if necessary.

source: www.ow.no

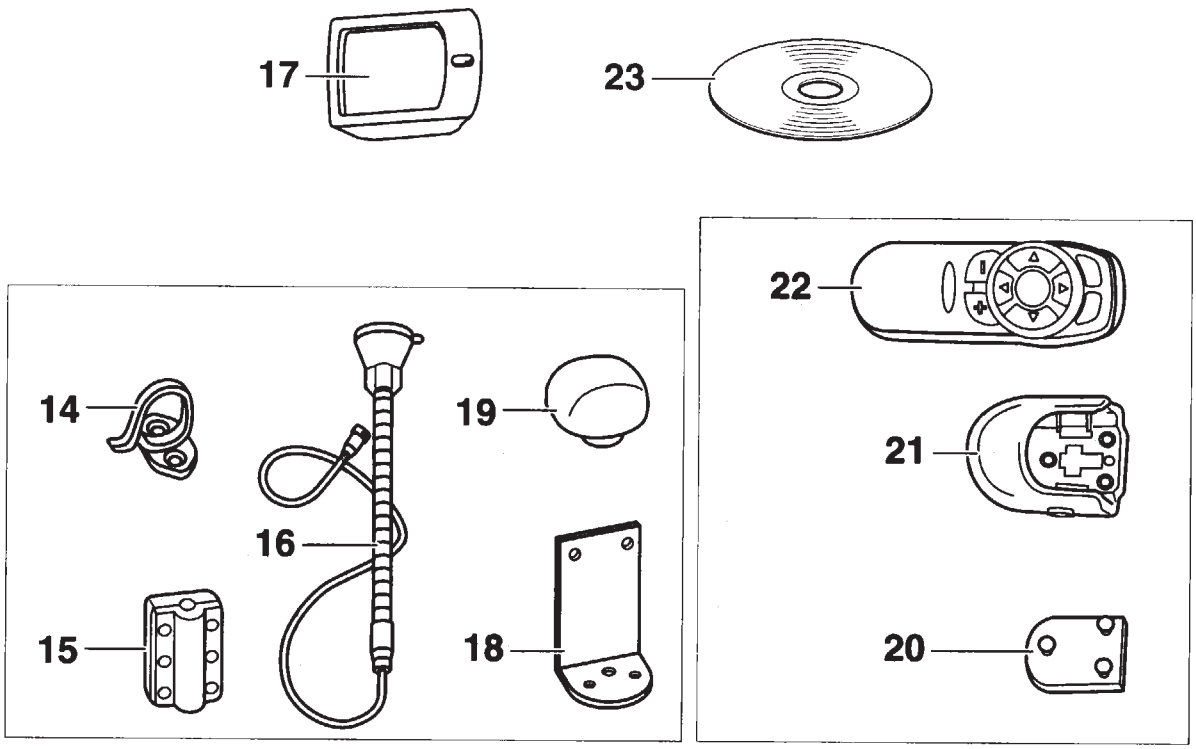
2. Overall view of the installation kit



F 39 82 169 M

Item.	Designation	Qty
1	Navigation CD computer	1
2	Supplementary cable harnesses for navigation (see overall view of supplementary cable harnesses for navigation)	1
3	Hex.-head sheet metal screw 4.8 x 16 with washer (fastening navigation CD computer to bodywork	4
4	Phillips screw M 4x 10 with washer (fastening navigation CD computer to bracket)	4
5	Bracket for navigation CD computer	2
6	Switch-over module (see overall view of supplementary cable harnesses for navigation).	1
7	GPS-antenna	1
8	Hex.-head screw M 4 x 10 (fastening GPS antenna)	2
9	4 mm washer (fastening GPS antenna)	2
10	Hex. nut M 4 (fastening GPS antenna)	2
11	Spacer bushing for fastening holding plate for goose neck	2
12	Holding plate for goose neck	1
13	Hex.-head screw M 8 x 40 with washer for fastening holding plate for goose neck	2

source: www.ow.no

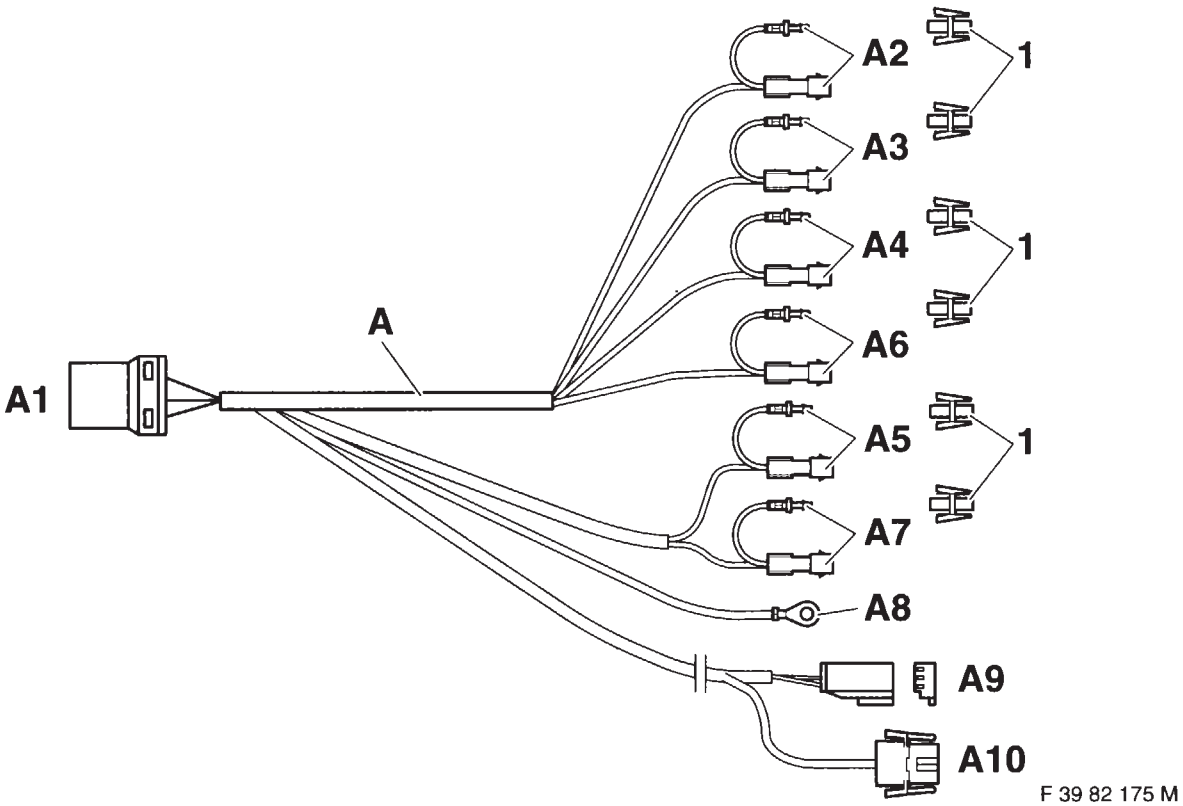


F 39 82 568 M

Item.	Designation	Qty
14	Clamp with screws (fastening goose neck at top)	1
15	Mounting, goose neck (2-piece) with screws	1
16	Goose neck	1
17	Monitor	1
18	Bracket, monitor (incl. fastening parts)	1
19	Cap, monitor (for detached monitor)	1
20	Fixing plate, remote-control holder (with arresters and adhesive tape for fastening)	1
21	Holder, remote control	1
22	Remote control	1
23	Languages CD (for loading other languages) To be ordered separately, according to ETK	1

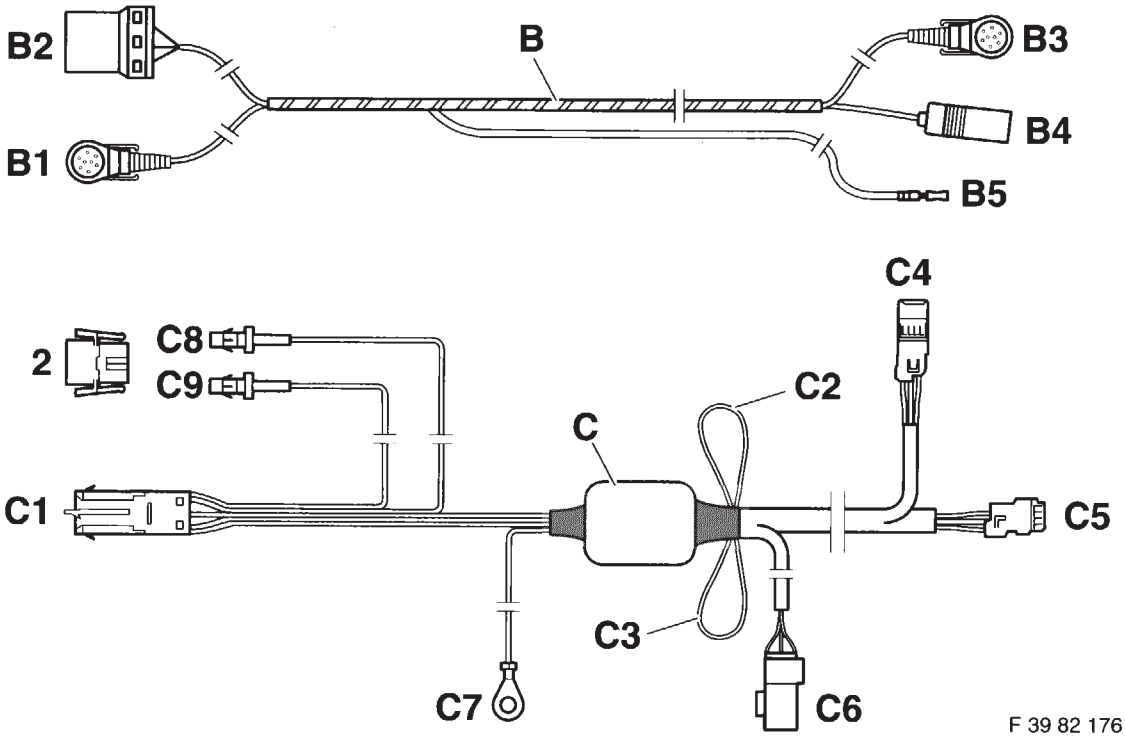
Source: www.ow.no

3. Overall view of supplementary cable harnesses for navigation



Item.	Design / designation/ Cable section	Cable color	Connected to vehicle	Short desig./ Pin location
A	Navigation cable harness	–		–
A1	12-pole. black socket connector	–	Navigation CD computer in luggage compartment on left	–
A2	Connector plug with double connection / term. 30 (4,0mm²)	red	12-pole black connector in luggage compartment on left,	X322/1
A3	Connector plug with double connection / term. R / (1,5mm²)	violet	12-pole. black connector in luggage compartment on left	X322/2
A4	Connector plug with double connection / term. TAA / (1,0mm²) (Speed Pulse)	black/white	12-pole. black connector in luggage compartment on left	X322/3
A5	Connector plug with double connection / term. 58 / (1,0mm²)	grey	8-pole. black socket connector close to left rear lamp	X319/2
A6	Connector plug with double connection / Ra-Mute (1,0mm²)	white/brown	12-pole. black connector in luggage compartment on left.	X322/8
A7	Connector plug with double connection / term. RSL (Back up lamp) / (1,0mm²)	white/yellow	8-pole. black socket connector close to left rear lamp	X319/5
A8	Cable terminal 6 mm / term. 31 / (1,0mm²)	brown	Ground point close to left rear lamp	X10305
A9	3-pole black socket connector/low-frequency navi (1,0mm²)	blue/yellow blue/green	**C6** branch kick panel, driver's side	–
A10	2-pole socket connector (1,5mm²)	red/white white/brown	**C1** branch kick panel, driver's side, beside switch-over module	–

source: www.ow.no

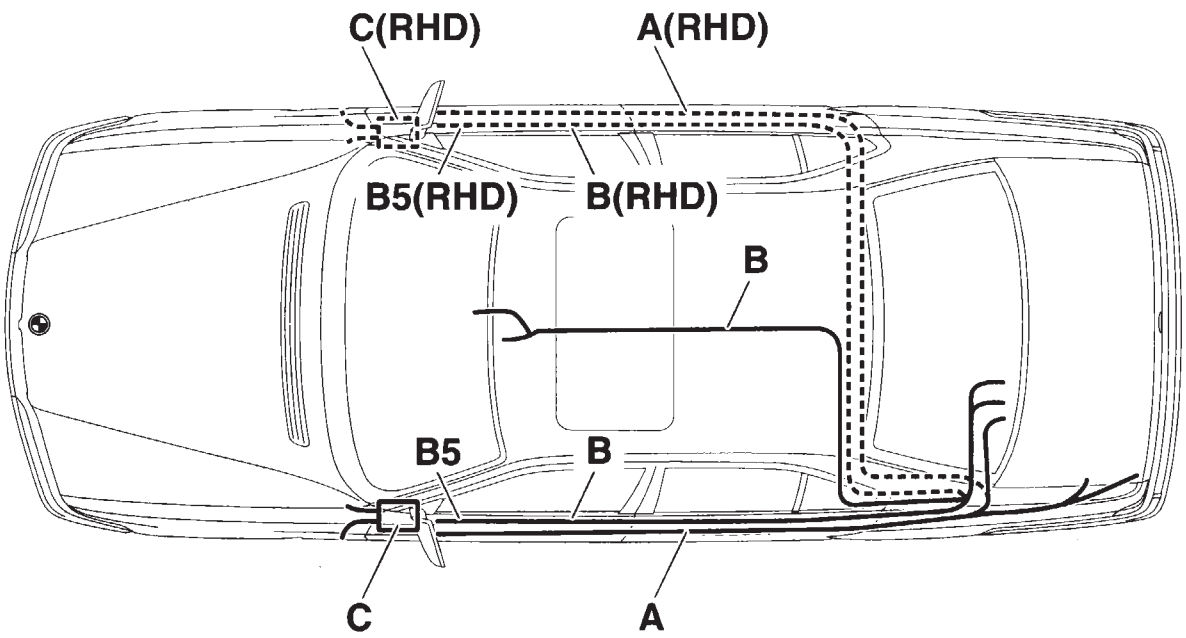


F 39 82 176 M

Item.	Design / designation/ Cable section	Cable color	Connected to vehicle	Short desig./ Pin location
B	Monitor cable harness	–	–	–
B1	13-pole black pin connector	–	Navigation CD computer in luggage compartment on left	–
B2	16-pole black socket connector	–	Navigation CD computer in luggage compartment on left	–
B3	13-pole black pin connector	–	Monitor connection cable beside central console at front	–
B4	6-pole black socket connector	–	Control connection cable beside central console at front	–
B5	Socket contactor / navi-mute /(0,35mm²)	white/brown	Press into branch **A9** socket position No. 3	–/3
2	2-pole black socket contactor		Plug on branches **C8** and **C9** and tie back	–
C	Switch-over module (item 6 in installation kit)	–	Install below kick panel on driver's side on vehicle cable harness and tie back	–
C1	2-pole black pin connector (1,5mm²)	white/brown-red/white	Connect to branch **A10,** on navigation cable harness	–
C2	Coding loop - see Page 10	blue	Must be cut through on vehicles with BMW Premium DSP HiFi System and navigation system	–
C3	Coding loop - see Page 10	white	Must be cut through at customer's request for non-interruption of radio upon navigation message	–
C4	8-pole black pin connector (0,85 mm²)	–	Door disconnector socket, driver's side	X18196 or X19198
C5	8-pole. black socket connector(0.75mm²)	–	Pressed out pin connector of door disconnector socket	X18196 or X19198
C6	3-pole black pin connector / navi-LF	–	Connect to **A9** branch	–
C7	Cable terminal 6mm / term. 31 (0,75 mm²)	brown	Ground point in footwell, driver's side	X1108 or X10012
C8	Socket contactor / term. 30 / (1,5mm²)	red/white	Press in 2-pole black socket connector (2)	–
C9	Socket contactor / Ra.-mute / (0,75mm²)	white/brown	Press in 2-pole black socket connector (2)	–

source: www.ow.no

4. Overall view of routing of supplementary cable harnesses



F 38 82 119 M

Cables of the supplementary cable harnesses which are too long should be tied back in the luggage compartment. The dotted lines in the illustration relate to the routing of cables for RHD models.

Navigation cable harness A

In luggage compartment on left:	Connect branch **A1** to navigation CD computer, connect branches **A2, A3, A4** and **A6** to black, 12-pole connector X322. connect branch **A5** and **A7** to 8-pole connector plug X319 of left rear lamp. connect branch **A8** to ground point X10305 beside left rear lamp.
Beside kick panel on driver's side:	connect branch **A9** and **A10** to switch-over module **C**.

Monitor cable harness B

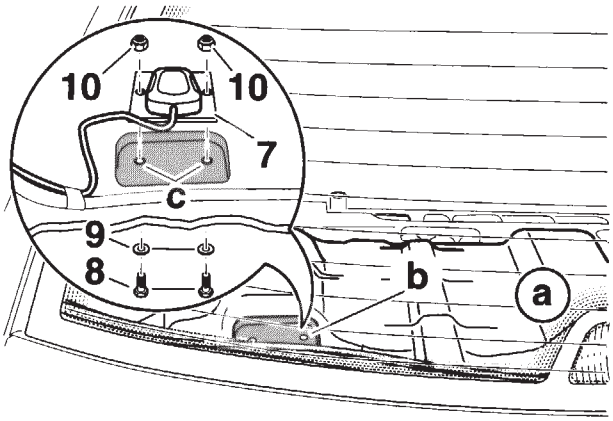
In luggage compartment on left:	Connect branch **B1** and **B2** to navigation CD computer.
At front of central console:	connect branch **B3** to monitor connection cable and branch **B4** to the connection cable of the remote-control holder (control connection cable).
Beside kick panel on driver's side:	Connect branch **B5** to branch **A9**.

Switch-over module C

Beside kick panel on driver's side:	Connect branch **C1** to branch **A10** connect branch **C4** and **C5** to door disconnector socket X18196 or X18198 on driver's side, connect branch **C6** with branch **A9**, connect branch **C7** to ground point in footwell, driver's side, X1108 or X10012 and tie back switch-over module **C** on cable harness, press branch **C8** and **C9** in socket connector and tie back on cable harness (are not being connected).

source: www.ow.no

5. Installing GPS antenna



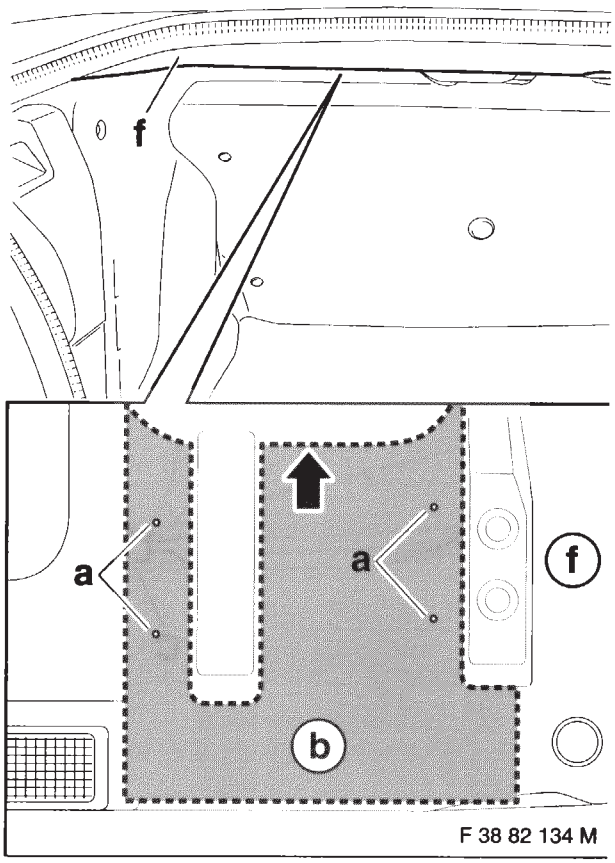
F 39 82 172 M

Drilled holes are to be treated against corrosion, as stipulated in the BMW specifications.
The standard installation site can be recognized from the perforation of the insulating mat (a).

Position GPS antenna (7) on the insulating mat (a) in the vicinity of the standard installation site and mark it out. Make cutout (b) for GPS antenna (7). Place GPS antenna (7) in the cutout (b) in the insulating mat (a) and mark out holes for drilling (c). Drill a hole Ø 4,5 mm at the points marked (c).

Fasten the GPS antenna (7) with hex.-head screws M4x10 (8) in kit, washers (9) and hex. nuts (10), as illustrated. Route GPS antenna (7) cable along vehicle cable harness into the left side of the luggage compartment.

6. Installing navigation CD computer



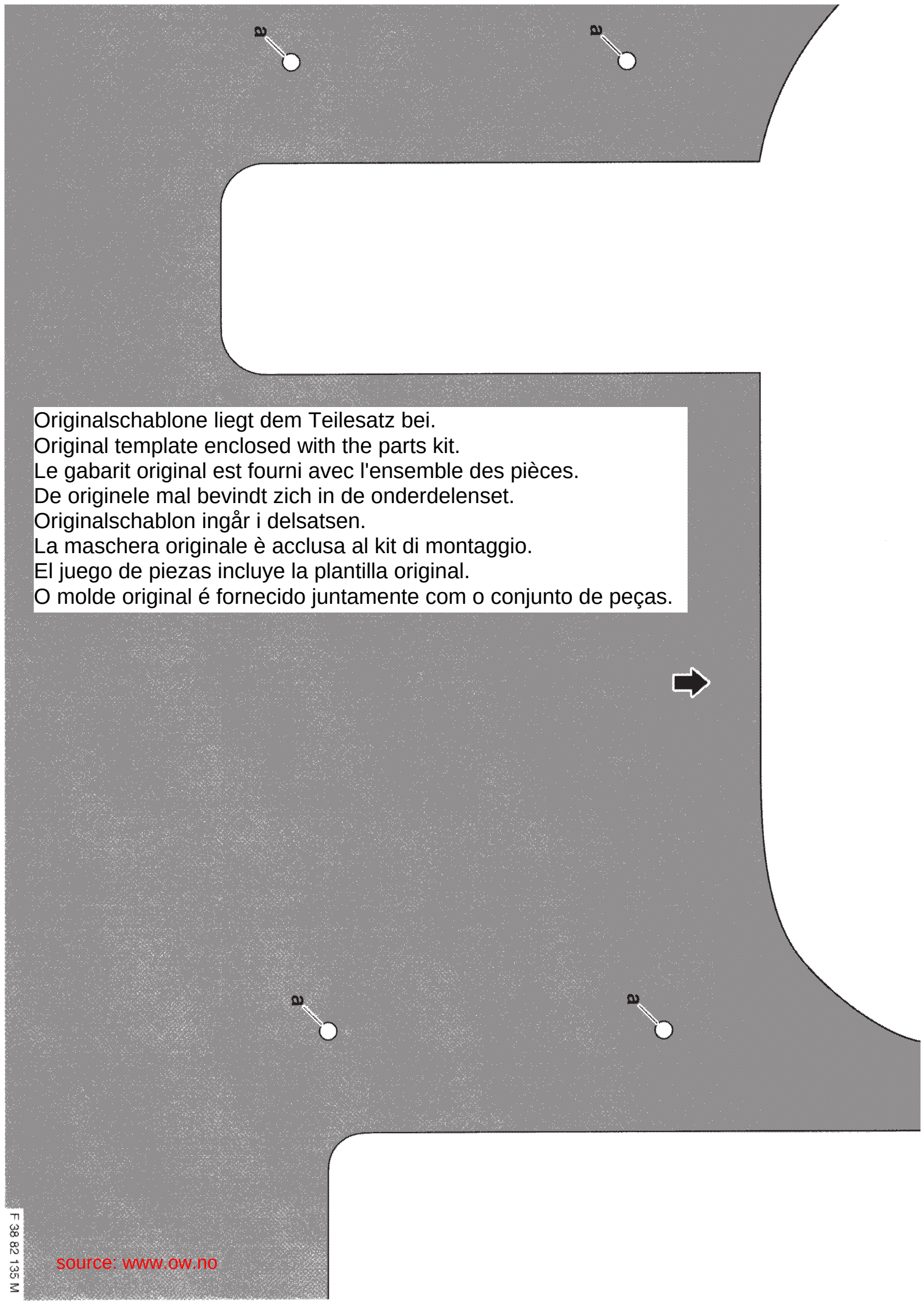
F 38 82 134 M

The illustraton shows the luggage compartment partition at the top (f).
Use the attached template (b) to mark the holes for drilling. The drilled holes are to be treated against corrosion as specified by BMW.

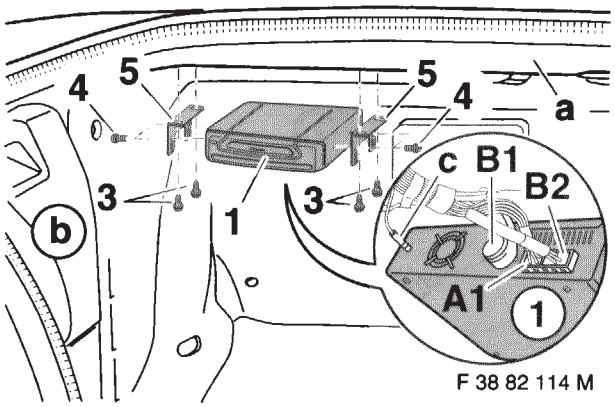
The arrow in the illustration shows the direction in which the vehicle is travelling. Cut out the white areas on the attached template.
Position the template (b) against the outline of the luggage compartment partition at top (f) and fasten with adhesive tape. Transfer the drilled holes (a) to the bodywork.
Before the holes are drilled, hold the navigation CD-computer against the marked-off holes for drilling to check the position for installation.

Hole Ø: 3 mm

source: www.ow.no



source: www.ow.no



F 38 82 114 M

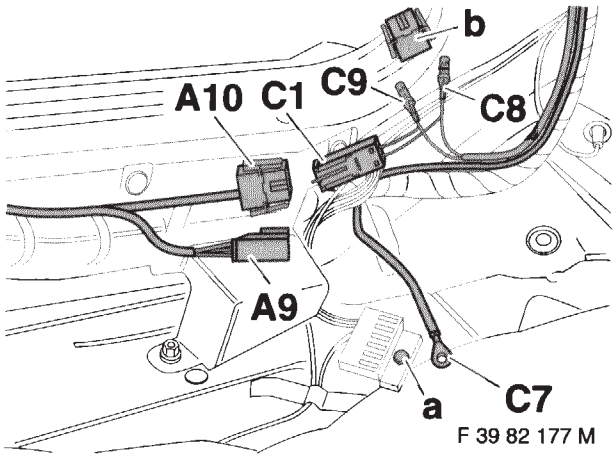
When the navigation CD computer (1) is installed on the left-hand side of the luggage compartment, make sure that the side-trim flap (b) can be opened. The slots can be used to position the brackets appropriately.
The navigation CD computer (1) must be installed horizontally, dents in the luggage-compartment partition at the top (a) can be compensated for by the height adjustment for the brackets (5).

Use M4x10 Philips-head screws (4) to fix the right-hand holder (5) on the navigation CD computer (1).
Use 2 hex.-head sheet metal screws 4.8x16 (3) to fix the left-hand bracket (5) at the top of the luggage-compartment partition (a).
Connect up the branches **A1, B1, B2** and the connector plug (c) of the GPS antenna to the navigation CD computer (1).
Use M4x10 Philips-head screws (4) to fix the navigation CD computer (1) to the left-hand bracket (5) and 2 hex.-head sheet-metal screws 4.8x16 (3) to fix it to the luggage-compartment partition at the top (a).

7. Installing supplementary cable harnesses

Supplementary cable harnesses which are too long are to be tied back in the luggage compartment.

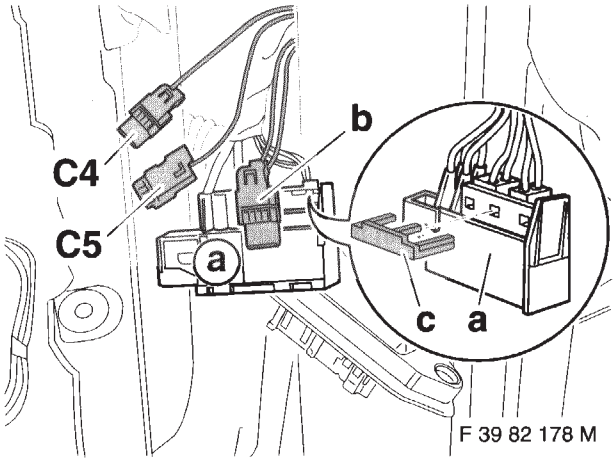
Route branch **B3** (monitor connection) and **B4** (control connection) forwards to central console beside selector lever or gear lever.
Press branch **B5**, cable color white/brown, into socket position No. 3 of branch **A9**, cable color blue/yellow and blue/green.
Route branch **A9**, **A10** and **B5** to kick panel on driver's side.



F 39 82 177 M

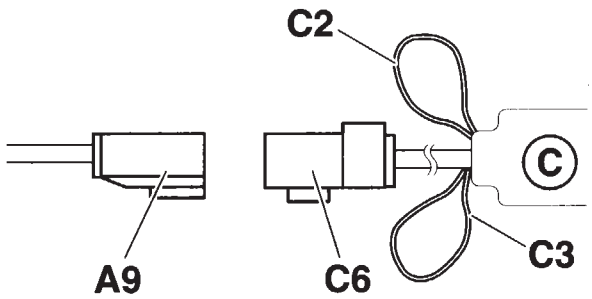
Connect branch **C7**, cable color brown, to ground point X1108 (a) (or to ground point X10012 under the carpet in the driver`s footwell for RHD models) or use suitable chassis ground.
Connect branch **A10** with branch **C1**.
Attach socket connector (b) to branch **C8**, cable color red/white and **C9**, cable color white/brown, and tie them back –they are not to be connected.
Route branch **A9** to the switch-over module beside the kick panel.

source: www.ow.no



F 39 82 178 M

Remove and unplug door disconnector socket (a) on the driver's side.
Pull the blue safety clamp (c) out of the door disconnector (a).
Extract 8-pin connector X18196 (b) (or X18198, in the case of RHD models), from the door disconnector socket (a). Remove the top cover and install this cover on branch **C4**. Insert branch **C4**.
Connect 8-pin connector which has been removed from X18196 (b) (or X18198 in the case of RHD models) to branch **C5** and secure connector with adhesive tape (connector is not self-locking).
Reinstall door disconnector socket and blue safety clamp.



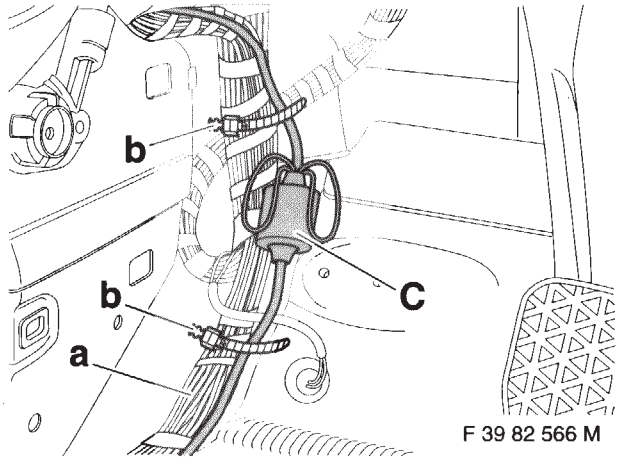
F 39 82 179 M

Connect branch **C6** with branch **A9**.

⚠

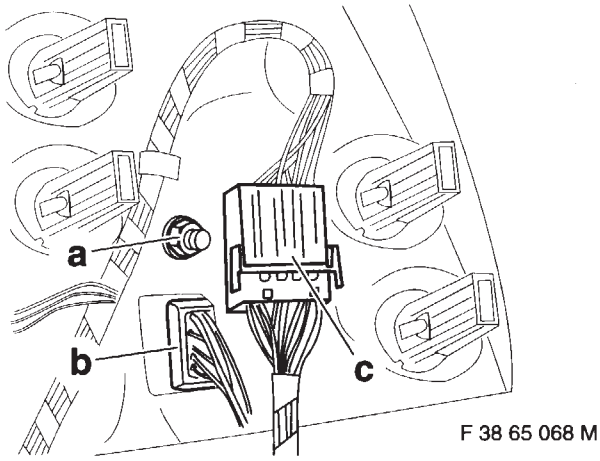
Should the customer require the radio not to be muted when the navigation system is providing a message, then the coding loop **C3**, (cable color white), must be cut at the switch-over module and the ends of the cable must be insulated.

Only for vehicles with BMW Premium DSP HiFi System.
For vehicles with BMW Premium DSP HiFi System and navigation system, the coding loop **C2**, (cable color blue), must be cut at the switch-over module and the ends of the cable must be insulated.



F 39 82 566 M

Tie back the connected-up switch-over module **C** to the vehicle cable harness (a) with cable ties (b) in the vicinity of the kick panel.



F 38 65 068 M

Use extractor tool to extract socket contact from position No. 1, cable color red/green of connector X322 (c) and insert socket contact **A2**, cable color red, of the navigation cable harness.
Insert extracted socket contact into connector from kit and connect to pin housing, cable color red.

Use extractor tool to extract socket contact from position No 2, cable color violet/red of connector 322 (c) and insert socket contact **A3**, cable color violet, of the navigation cable harness. Insert extracted socket contact into connector from kit and connect to pin housing, cable color violet.

Use extractor tool to extract socket contact from position No. 3, cable color black/white of connector X322 (c) and insert socket contact **A4**, cable color black/white of the navigation cable harness.
Insert extracted socket contact into connector from kit and connect to pin housing, cable color black/white.

Use extractor tool to extract socket contact from position No. 2, cable color grey/violet of connector X319 (b) at back-up lamp and insert socket contact **A5**, cable color grey, of the navigation cable harness. Insert extracted socket contact into connector from kit and connect to pin housing, cable color grey.

source: www.ow.no

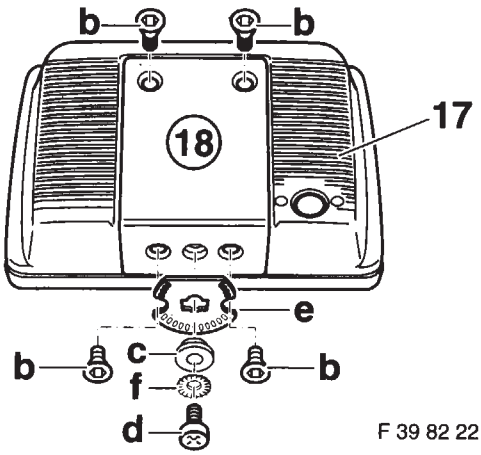
Use extractor tool to extract socket contact from position No. 8, cable color white/brown of connector X322 (c) and insert socket contact **A6**, cable color white/brown, of the navigation cable harness. Insert extracted socket contact into connector from kit and connect to pin housing, cable color white/brown.

Use extractor tool to extract socket contact from position No. 5, cable color white/yellow, of connector X319 (b) at back-up lamp and insert socket contact **A7**, cable color white/yellow, of the navigation cable harness. Insert extracted socket contact into connector from kit and connect to pin housing, cable color white/yellow.

Connect branch **A8**, cable color brown, to ground point X10305 (a).
(See illustration on Page 10).

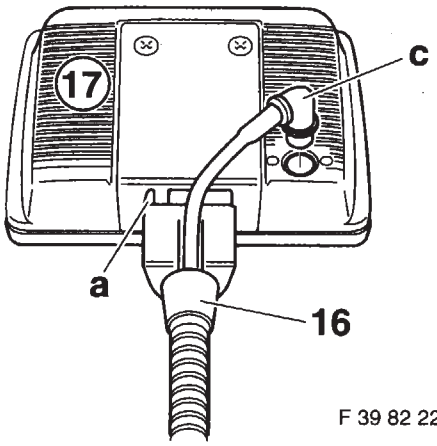
8. Installing monitor, goose neck and remote control

The following working steps are to be followed closely and performed as described!



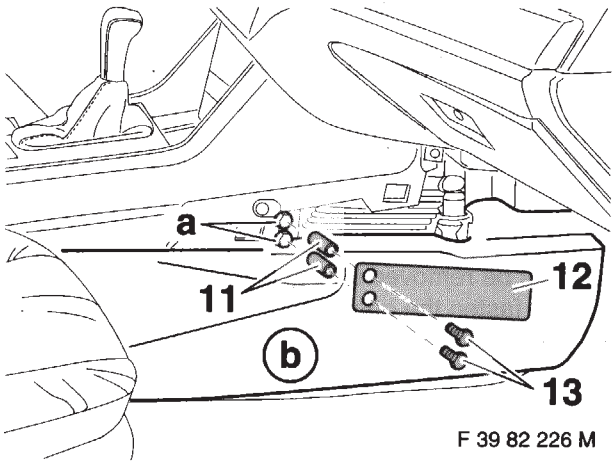
F 39 82 221 M

Monitor mounting bracket (18) to monitor (17) with Allen head screws M5x10 (b).
Attach the serrated disc (e) in the cutout in the monitor mounting bracket (18).
Use screw 1/4" X 5/8" (d) and toothed lock washer to tighten the rotary button (c) to the monitor (17).



F 39 82 220 M

Fit pre-assembled monitor (17) in holder of goose neck (16) and fasten with clamp (a).
Connect connector plug (c) to monitor (17).

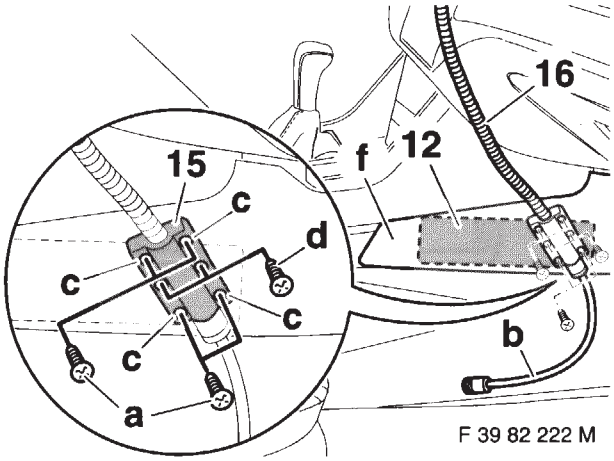


F 39 82 226 M

The illustration shows the E39 series. Proceed similarly with the E38 series.

Remove hex.-head screws (a).
Fasten holding plate (12) for goose neck with hex.-head screws (13) and spacer bushings (11) in the kit.
Install side trim (b). Route monitor cable behind bracket.

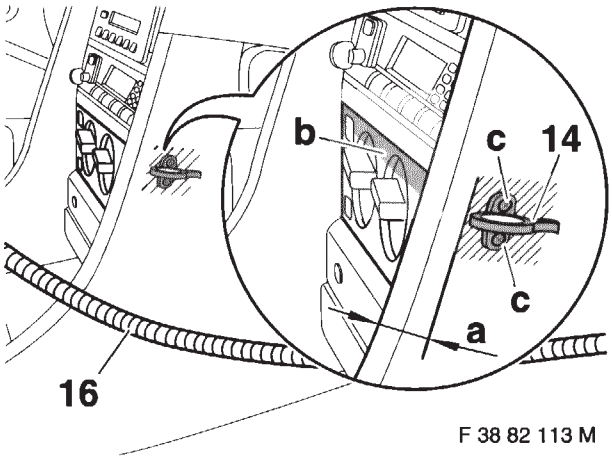
source: www.ow.no



F 39 82 222 M

Make sure no cables are damaged when drilling.
When the goose neck is installed, make sure the glove compartment can be opened without making contact.
For vehicles with cellular phone, goose neck should not obscure the access to the phone after its installation. Also confirm the glove box operation without any interuption from goose neck.

The adhesive foil on the goose neck mounting (15) must not be removed until final installation.
Loosely fasten the goose neck mounting (15) on the goose neck with the screws M5x16 (d).
Hold the monitor with goose neck (16) in position, align goose neck mounting (15) such that the drilling points (c) are in the vicinity of the mounting plate (12) behind the side trim (f).
Drill through the side trim (f) and the mounting plate (12), using a ø4.0 mm twist drill.
Fasten monitor and goose neck (16) with the sheet-metal screws 4.8x38 (a).
Route monitor cable (b) underneath the side trim (f) to the central console in the vicinity of the selector lever or gear lever.



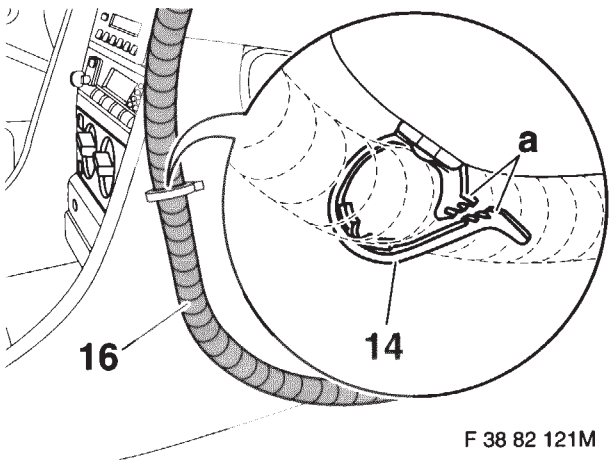
F 38 82 113 M

Dimension a = 20 mm

There must be no pilot-drilling of the instrument panel to use the sheet-metal screws (c) 3.5x30 to fasten the clamp (14) of the goose neck (16) at the top.

The fastening points for the sheet-metal screws (c) for the clamp (14) must be so chosen that they are in the hatched area illustrated on the side part of the instrument panel trim. (See above). Height of the hatched area at the side of the oentral console: at the top of the heating/air conditioning controls (b).
After the clamp (14) has been fastened, check that it is firmly seated.

Installation of goose neck clamp

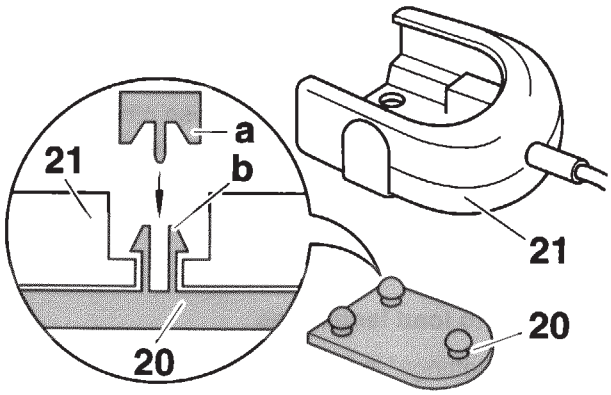


F 38 82 121M

When closing the clamp (14), make sure that the serrations (a) engage completely and that the clamp (14) clasps the goose neck (16) completely.

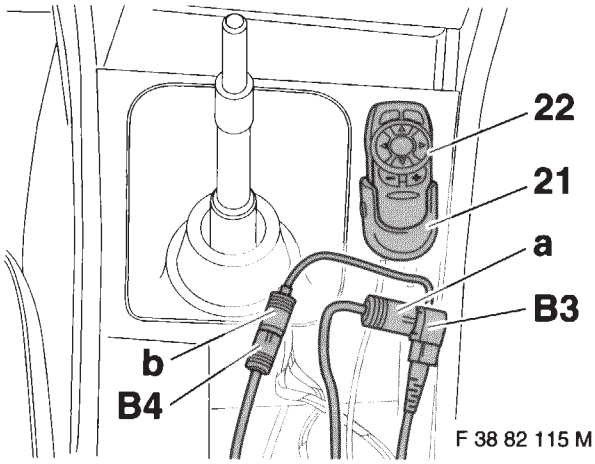
Guide the goose neck (16) through the clamp (14) and fasten it.

source: www.ow.no



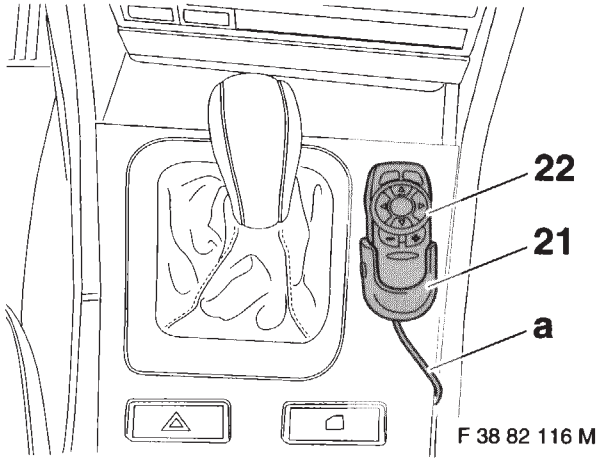
F 39 82 515 M

Clip fixing plate (20) in remote-control holder (21).
Engage the arrester (a) in the catch (b) of the fixing plate (20).



F 38 82 115 M

Insert the remote-control unit (22) in the holder unit (21).
Connect branch **B3** with monitor connection plug (a).
Connect branch **B4** with connector plug (b) of holder unit (21).
Tie back the cables under the central console.



F 38 82 116 M

⚠

The installation site for the remote-control holder (21) on the central console must be agreed with the customer.
To prevent the cable (a) for the holder (21) being pinched, the central console must be enlarged where the cable passes through it.

Fasten the remote-control holder (21) at the installation site agreed with the customer.

Re-assemble parts removed from vehicle in reverse sequence to removal.
Connect the batteries.

source: www.ow.no

9. Functional test and calibrating

With the vehicle parked and the ignition switched on, check the following functions:

– Check Navi red light is on and monitor is illuminated.

– Insert the navigation CD in the navigation CD computer.

– Plug the remote control in the holder: the remote-control keys must light up.

– Switch on parking lights:
The monitor must change from day to night colors.



An approx. 15 minute start-up phase may be necessary.
Then the navigation system may need up to 10 minutes to receive the satellite signal. Proceed to an outside area with clear view of the sky.

Carry out short test run (approx. 10 minutes) on digitized roads for automatic calibration. On it, change direction several times.

– Drive to a crossroads:
The distance indicator on the monitor must give the correct reading.

– Reverse for short distance.
The position indicator on the monitor must show correctly how the vehicle moves with the system operating in "map mode" at 400 feet scale.

10.Selecting the language

Two languages (German and English) are supplied with the navigation system. To choose other languages and language messages for the navigation system, a language CD (23) is required.
To load another language the ignition must be switched on.

Preparing to load languages

1. Select „Settings" in the main menu.
2. Select „Language" in the settings menu
   -the language actually selected is indicated.
3. Select „Another Language".
   -The system requires you to insert the language CD into the navigation computer.
4. Take out the map CD and insert the language CD in the navigation computer.
5. Verify with „OK".
   -The menu „Load Language" is displayed.
6. Select the language to be replaced by another.
   -A list of languages available is displayed.
   The language actually loaded is **not** displayed.

If you have inserted the wrong CD, a warning notice is displayed. Insert the correct CD and verify with the ENTER key.

Loading a new language from CD

1. Use the cursor marks to select the required language from the list and verify with the ENTER key.
2. Select „Load" and verify with the ENTER key.
   -The screen is switched off for a moment.
   -The system loads the language selected.
   -The system is then initialized (started again).
3. Insert the map CD again.
   -The normal function is restored.

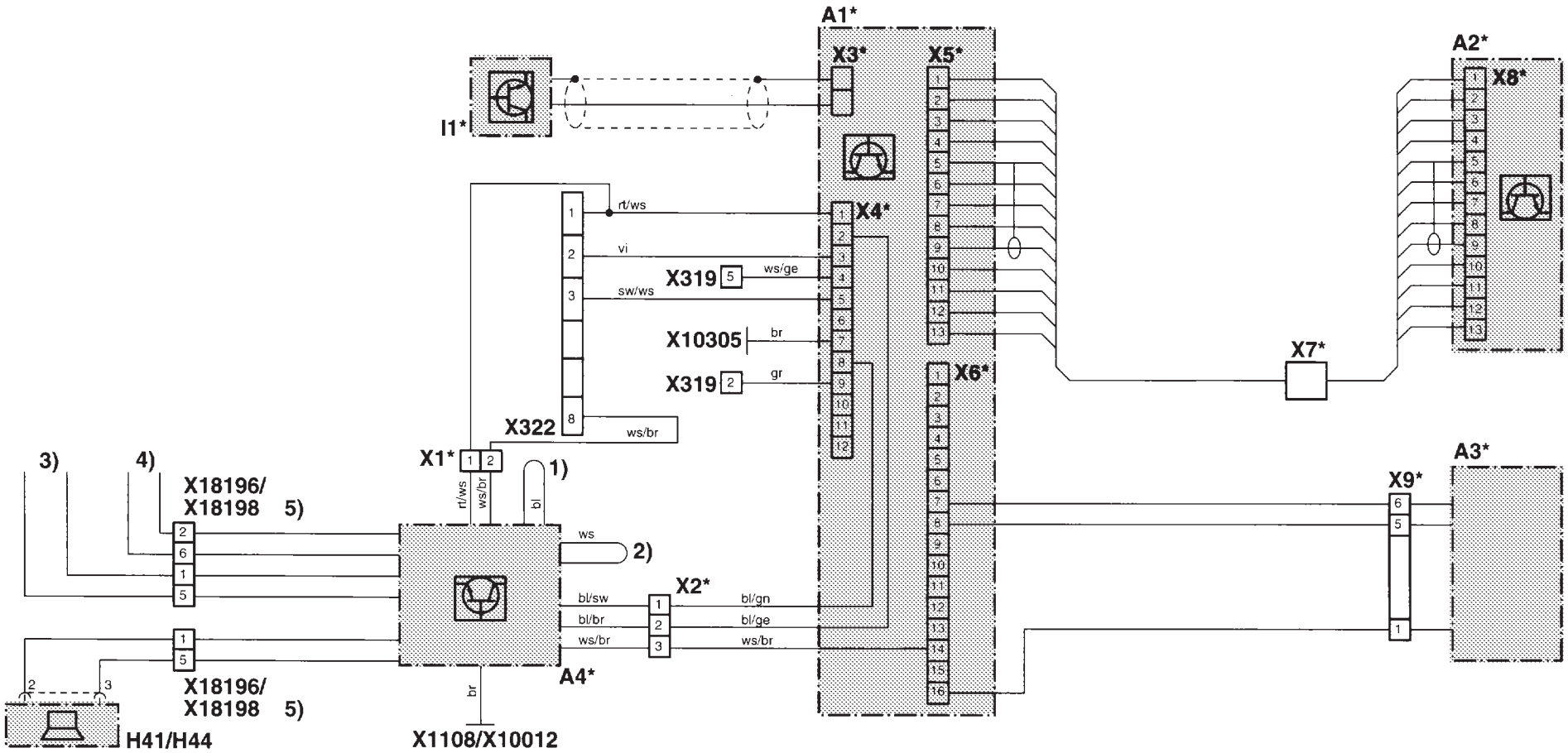
If you do **not** wish to load the language chosen, select „Quit" in the „Load Language" menu.
-The previous language remains active.



Handing over the vehicle to the customer:
Set monitor colors to customer's requirements.
Explain the most important functions to the customer, using the Owner's Manual.
When the monitor is detached, the monitor cap (19) must be installed on the goose neck (16).
The monitor cap (19) is to be handed over to the customer and its purpose explained to him.

source: www.ow.no

11.Circuit diagram



F 38 82 118 M

A1*	CD computer navigation
A2*	Vehicle monitor navigation
A3*	Holder for remote control
A4*	Switch-over module
H41	Loudspeaker, driver's side (LHD)
H44	Loudspeaker, driver's side (RHD)
I1*	GPS antenna
X1*	2-pole black connector
X2*	3-pole black connector
X3*	GPS antenna plug
X4*	12-pole black socket connector
X5*	13-pole black pin connector
X6*	16-pole black socket connector
X7*	13-pole black connector
X8*	13-pole black pin connector
X9*	6-pole connector
X319	8-pole black socket connector
X322	12-pole white connector
X1108	Ground point right front footwell (LHD)
X10012	Ground point left front footwell (RHD)
X10305	Ground point left rear
X18196	8-pole black connector (LHD)
X18198	8-pole black connector (RHD)

1) **coding loop (cable color blue):**
Must be cut through on vehicles with BMW HiFi System Professional DSP
2) **Coding loop (cable color white):**
Closed coding loop: navigation switches radio mute.
Open coding loop: navigation message parallel to radio announcement or music.
3) To radio or hifi system.
4) To telephone.
5) The connector X18196 or X18198 is separated and connected with the navigation cable harness.

The items marked * relate only to this circuit diagram, all other items relate to the BMW Service circuit diagrams.

Color designations

bl	= blue
br	= brown
ge	= yellow
gn	= green
gr	= grey
rt	= ret
sw	= black
vi	= violet
ws	= white

source: www.ow.no

Wichtige Information!

Verwenden Sie zu Ihrer eigenen Sicherheit ausschließlich Zubehörprodukte, die von BMW freigegeben sind.
Für von BMW nicht freigegebene Zubehörprodukte jedweder Art übernimmt BMW keine Haftung.

Weiteres BMW Zubehör,
um aus einem BMW Ihren BMW zu machen,
hält Ihr BMW Händler für Sie bereit.

Important information!

For your own safety please use only accessory products released by BMW.
BMW will not guarantee for products of any kind not released by BMW.

To turn a BMW
into your very own BMW your BMW dealer
will provide you with a wide range of BMW
accessories.

source: www.ow.no