Parts and Accessories.
Installation Instructions.

Park Distance Control (PDC) retrofit kit
BMW X5 (E53)

Retrofit kit No. 66 20 0 007 032
66 20 0 142 168
66 20 0 309 685
66 20 0 391 509

Installation time
The installation time is approx 4.0 - 4.5 hours, including the wiring harness approx. 8.0 - 9.0 hours, but this may vary depending on the condition 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.

Ensure that the cables/lines are not kinked or damaged as you install them in the car. The costs incurred as a result of this will not be reimbursed by the BMW Group.

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 the figures show LHD cars, proceed in exactly the same way on RHD cars.

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.

See the EBA CD or Aftersales Portal for explanations of the pictograms.

Do not archive the hard copy of these installation instructions since daily updates are made by Aftersales Portal.

Subject to technical modifications.

Installation information

The PDC wiring harness only has to be fitted if the car is only fitted with a level 1 wiring harness. As from the level 2 wiring harness, this wiring harness is already installed (see details in the EPC). ◂

Special tools required

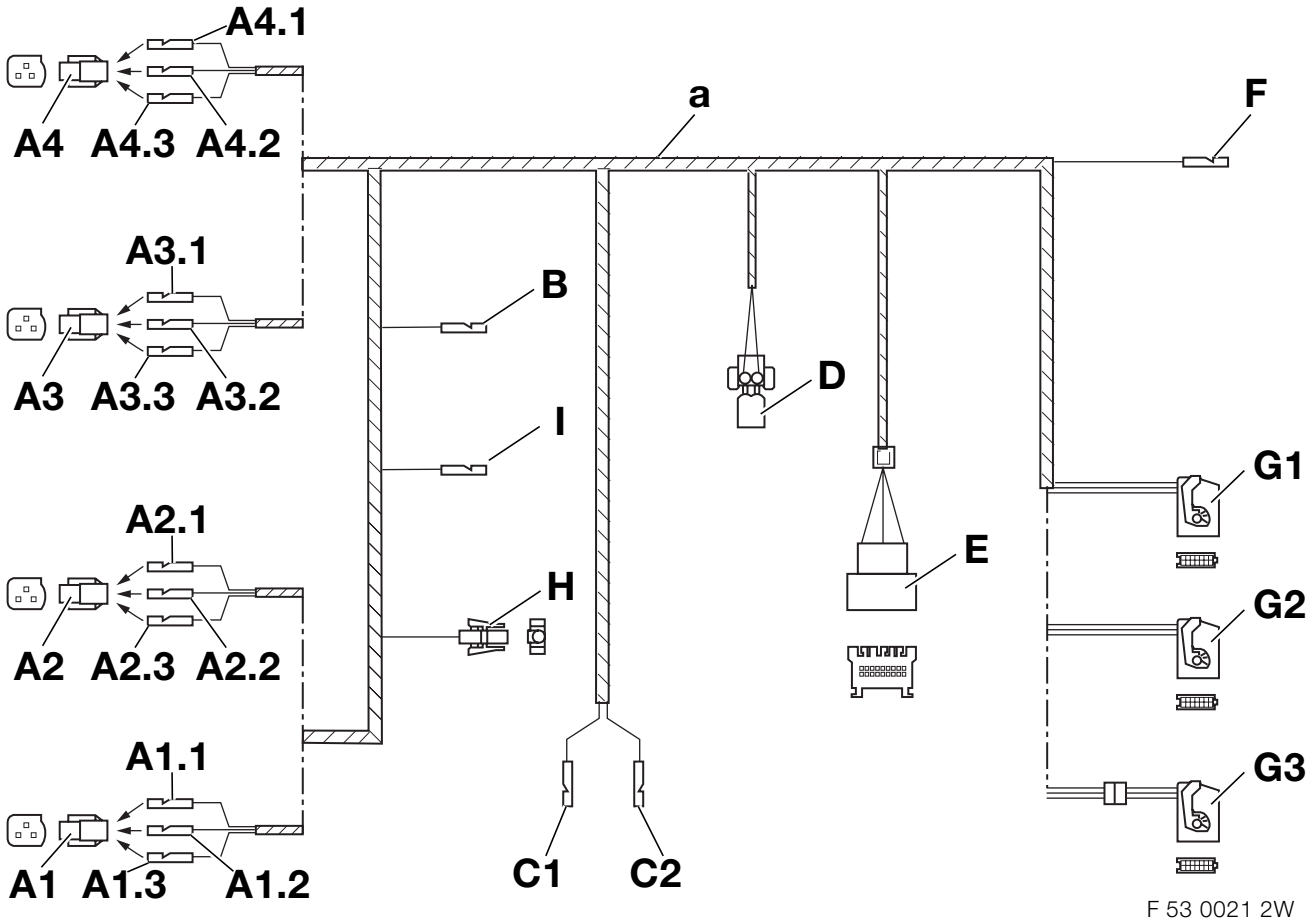
None

Contents

1. Preparations

	TIS No.
Conduct a brief test	---
Disconnect the negative pole of the battery	12 00 ...
The following components must be removed first of all	
Front bumper trim	51 11 156
Rear bumper trim	51 12 000
Floor carpet or load floor in the boot	51 47 101
Side trim on the right-hand side of the boot	51 47 161
Switch centre in the centre console	61 31 057
For cars without the wiring harness installation also	
Glove compartment	51 16 360
Fuse box	---
Inner sill skirts on the right at the front and rear	51 47 000
Footwell trim on the passenger side	51 45 181
Pedal footwell trim on the driver's side	51 45 185
Motronic control module	12 14 550
B pillar trim on the right	51 43 150

2. Connection diagram



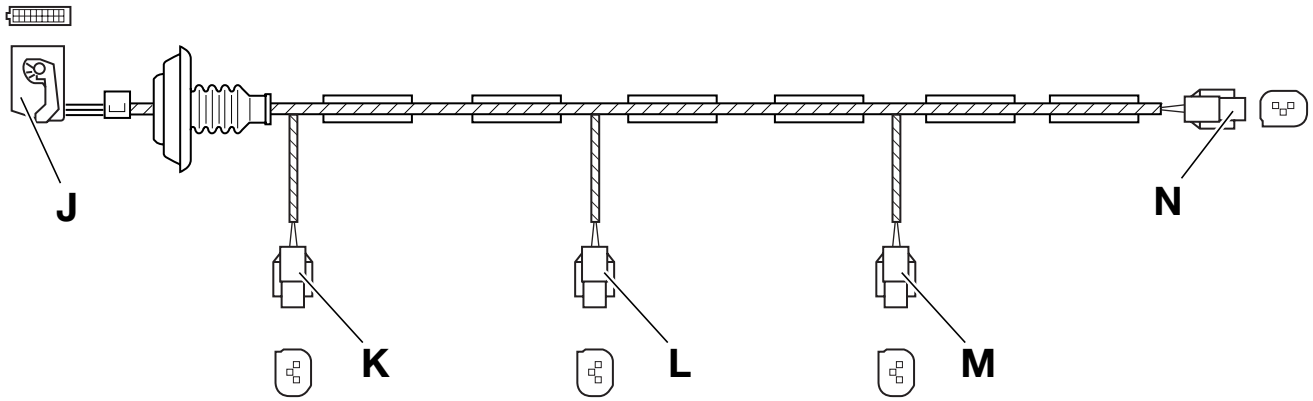
F 53 0021 2W

Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
a	PDC front wiring harness	---	---	---	---
A1	3-pin black plug	---	---	PDC converter, front left outside	X18016
A1.1	1-pin plug	---	GNSW 0.35 mm²	PDC converter, front left outside	X18016 PIN 1
A1.2	1-pin plug	---	GEGR 0.35 mm²	PDC converter, front left outside	X18016 PIN 2
A1.3	1-pin plug	---	BRWS 0.35 mm²	PDC converter, front left outside	X18016 PIN 3
A2	3-pin black plug	---	---	PDC converter, front left centre	X18017
A2.1	1-pin plug	---	GNBR 0.35 mm²	PDC converter, front left centre	X18017 PIN 1
A2.2	1-pin plug	---	GEGN 0.35 mm²	PDC converter, front left centre	X18017 PIN 2
A2.3	1-pin plug	---	BRSW 0.35 mm²	PDC converter, front left centre	X18017 PIN 3
A3	3-pin black plug	---	---	PDC converter, front right centre	X18018
A3.1	1-pin plug	---	GNGR 0.35 mm²	PDC converter, front right centre	X18018 PIN 1
A3.2	1-pin plug	---	GESW 0.35 mm²	PDC converter, front right centre	X18018 PIN 2
A3.3	1-pin plug	---	BRBL 0.35 mm²	PDC converter, front right centre	X18018 PIN 3
A4	3-pin black plug	---	---	PDC converter, front right outside	X18019
A4.1	1-pin plug	---	GNVI 0.35 mm²	PDC converter, front right outside	X18019 PIN 1

2. Connection diagram

Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A4.2	1-pin plug	---	GEBR 0.35 mm²	PDC converter, front right outside	X18019 PIN 2
A4.3	1-pin plug	---	BRGE 0.35 mm²	PDC converter, front right outside	X18019 PIN 3
B	1-pin plug	---	GNBR 0.5 mm²	Fuse box A46	X10461 PIN 32
C1	1-pin plug	---	BRBLGE 0.35 mm²	To switch centre A169	X1869 PIN 9
C2	1-pin plug	---	BRWSGE 0.35 mm²	To switch centre A169	X1869 PIN 8
D	2-pin black plug	---	---	Signal generator H40	X362
E	18-pin plug	---	---	To rear closing panel	X11335
F	1-pin plug	---	BRSW 0.5 mm²	Terminal 31 joint connector	X493
G1	12-pin white socket casing	---	---	PDC control module A81	X18013
G2	Black 12-pin socket casing	---	---	PDC control module A81	X300
G3	12-pin blue socket casing	---	---	PDC control module A81	X18362
H	1-pin black socket casing	---	BLGR 0.35 mm²	Signal generator H10	Pin 1 (T4)
I	1-pin plug	---	WSGRGE 0.35 mm²	Light module A3	X10117 PIN 36

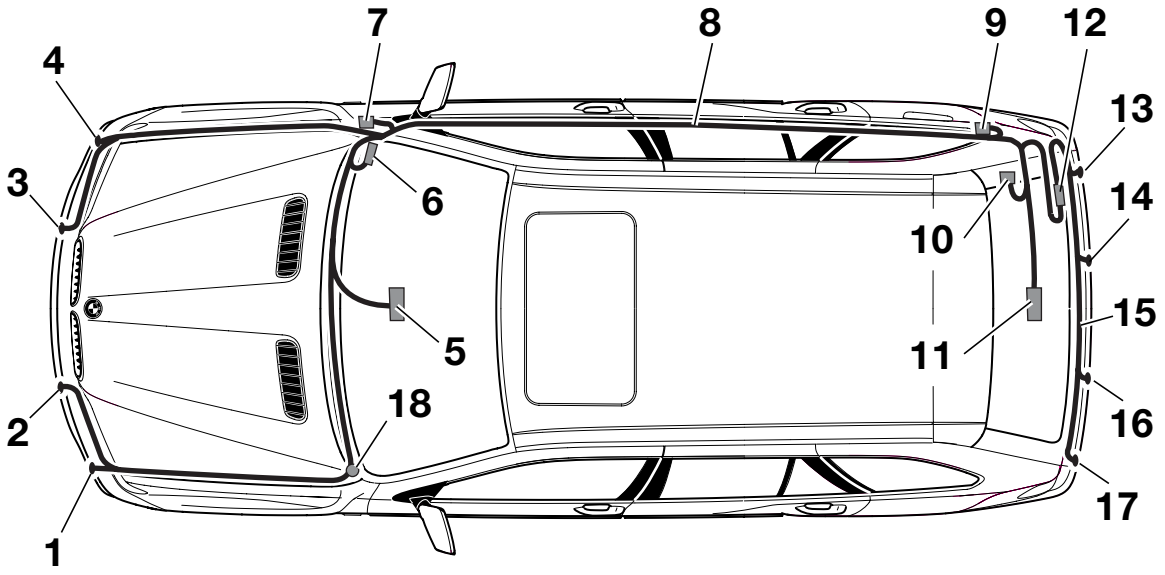
2. Connection diagram



F 53 0023 2V

Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
b	PDC rear wiring harness	---	---	---	---
J	18-pin black plug	---	---	To rear closing panel	X11335
K	3-pin black plug	---	---	PDC converter, rear right outside	X18023
L	3-pin black plug	---	---	PDC converter, rear right centre	X18022
M	3-pin black plug	---	---	PDC converter, rear left centre	X18021
N	3-pin black plug	---	---	PDC converter, rear left outside	X18020

3. Installation and cabling diagram

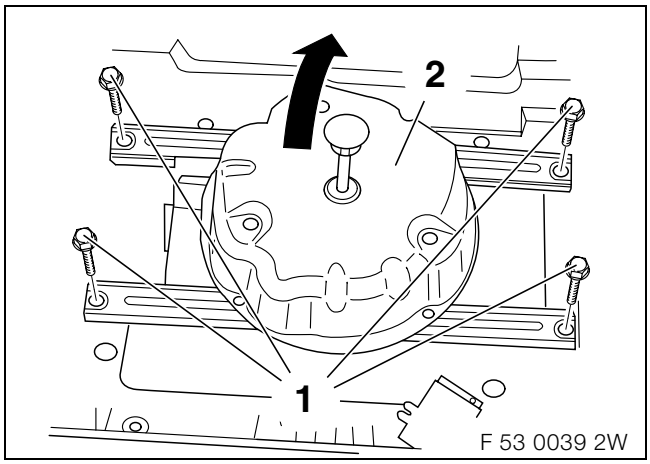


F 53 0012 2W

Legend

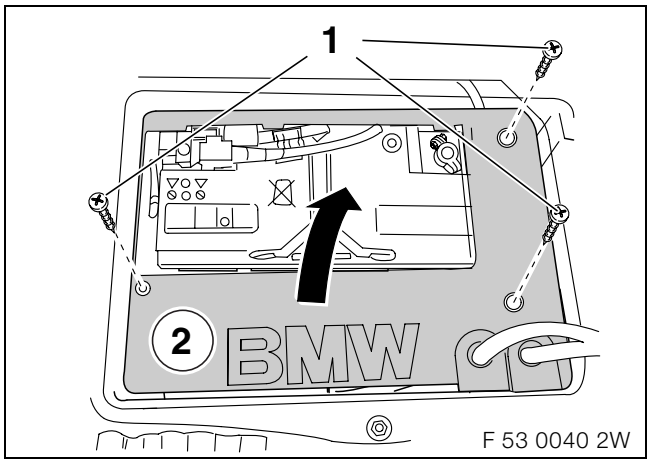
1 PDC converter, front left outside
2 PDC converter, front left centre
3 PDC converter, front right centre
4 PDC converter, front right outside
5 Switch centre, centre console
6 Fuse box
7 Light module
8 PDC front wiring harness
9 Signal generator rear
10 Terminal 31 connector
11 PDC control module
12 PDC front/rear wiring harnesses plug connector
13 PDC converter, rear right outside
14 PDC converter, rear right centre
15 PDC rear wiring harness
16 PDC converter, rear left centre
17 PDC converter, rear left outside
18 Signal generator front

4. Installation work

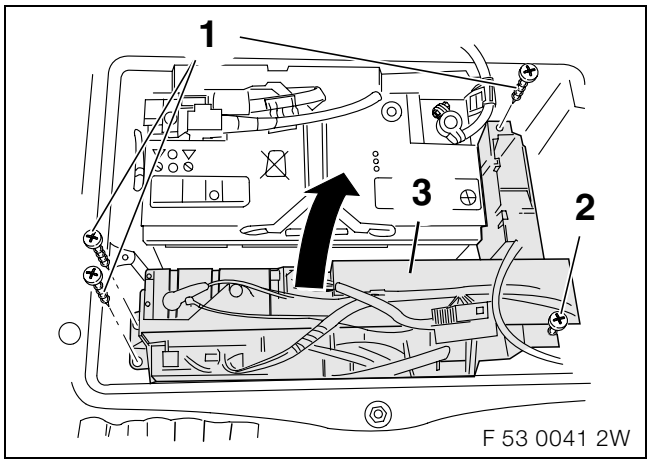


Remove the screws (1) and swing the air supply system (2) to the side.

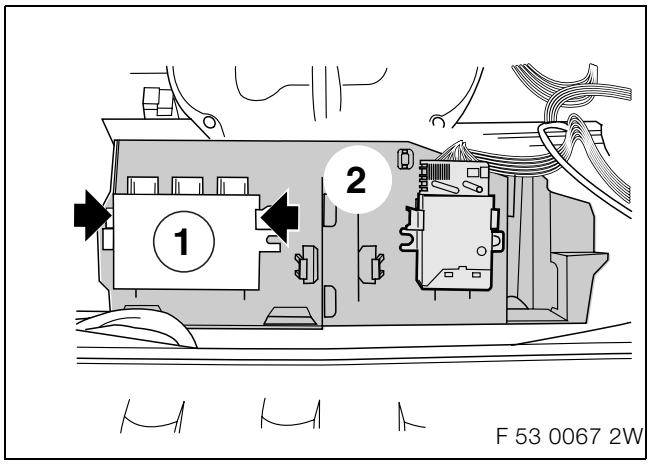
Do not kink air lines. ◂



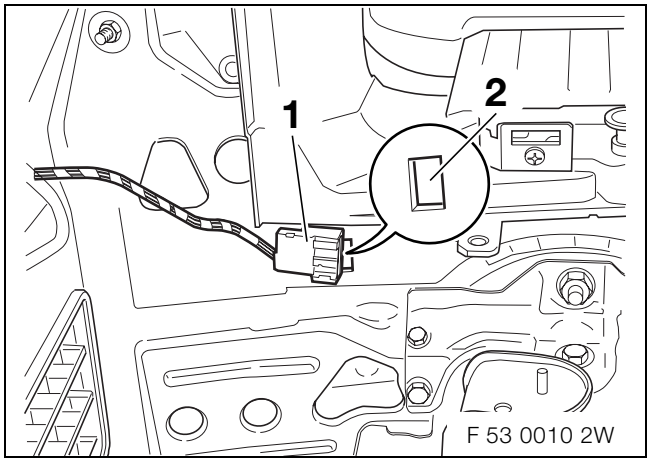
Remove the screws (1) take out the cover (2).



Remove the screws (1) take out the screw (2). Pull the retaining plate (3) upwards.

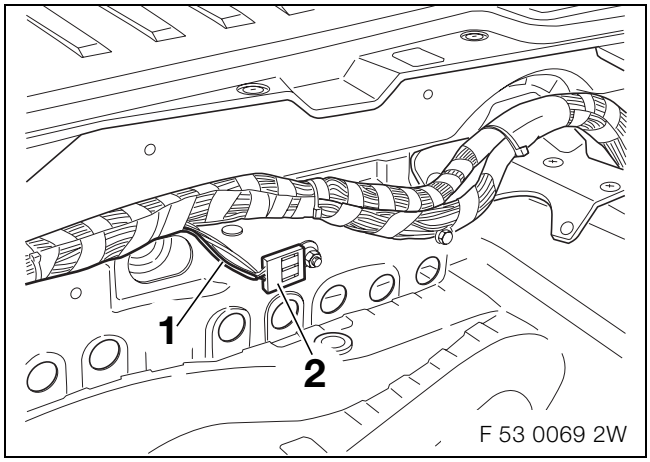


Clip the PDC control module (1) into the retaining plate (2).



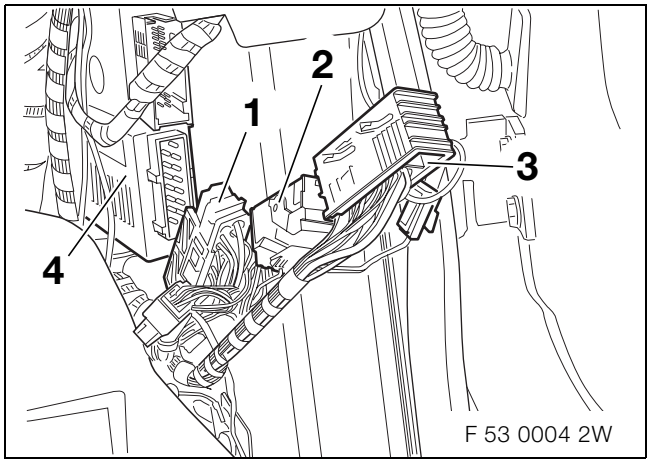
▷ The PDC wiring harness only has to be fitted if the car is only fitted with a level 1 wiring harness. As from the level 2 wiring harness, this wiring harness is already installed (see details in the EPC). ◁

Clip branch **E** (1) into the recess (2) on the rear closing panel.



Connect branch **F**(1), BRSW cable to joint connector X493 (2).

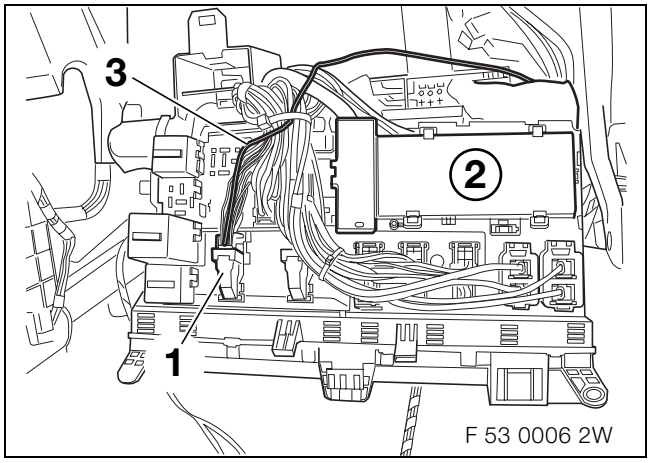
Route the wiring harness in the right side skirt along the standard wiring harness to the front.



Disconnect the plugs (1, 2 and 3) from the light module (4).

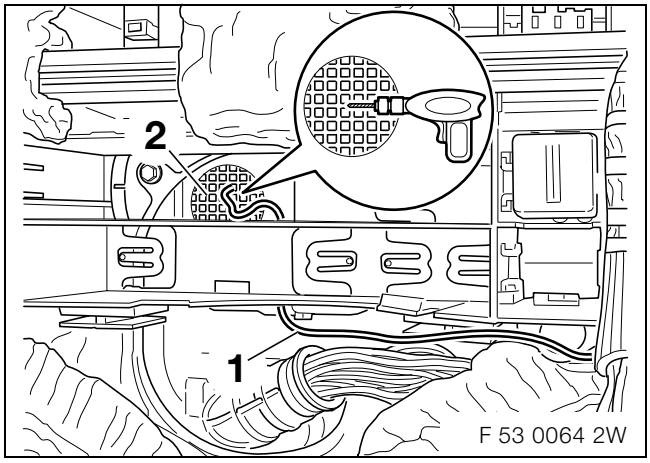
Open plug (2) X10117 (54-pin black). Connect branch **I**, WSGRGE cable, to PIN 36.

▷ If PIN 36 on plug X10117 is already occupied, connect branch **I** using a miniature connector. ◁

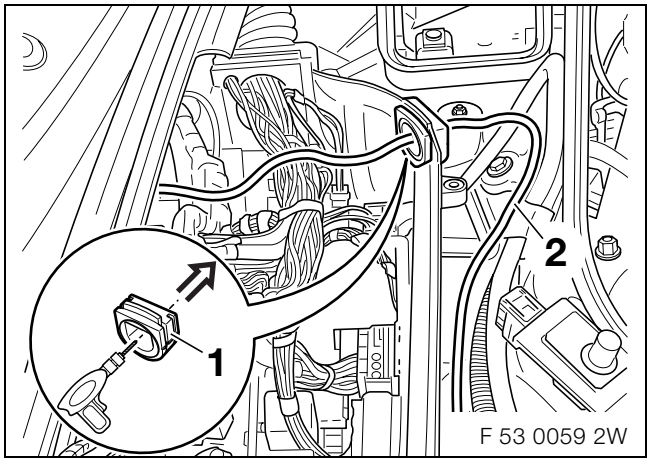


Disconnect plug (1) X10461 (32-pin white) from the fuse box (2) and open it. Connect branch **B** (3), GNBL cable, to PIN 32.

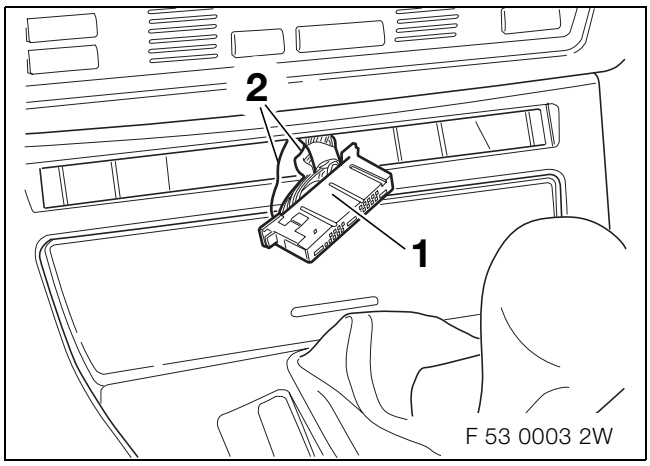
Insert a 5 A fuse in slot F6.



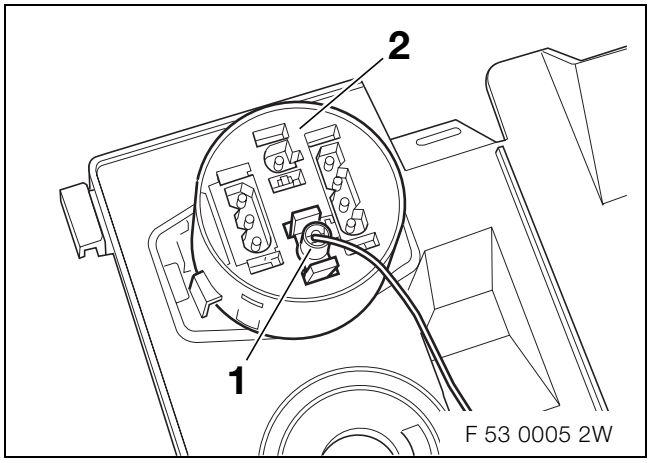
Drill an 8 mm hole through to the E box in the area shown (2).
Route branches **A3** and **A4** (1) through the hole and into the E box.



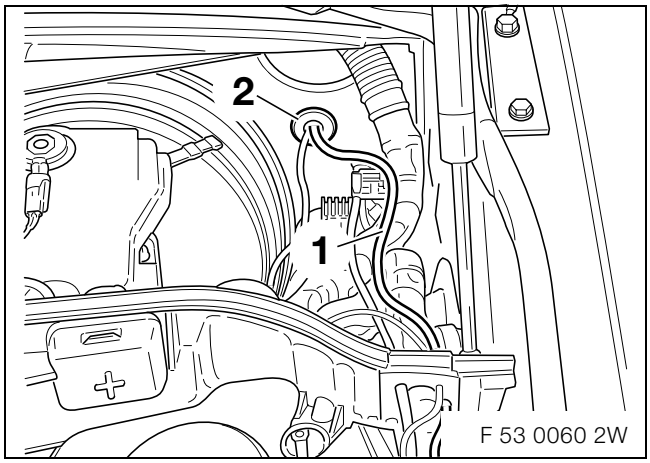
Remove the grommet (1) and drill a hole through it with an 8 mm twist drill bit.
Route branches **A3** and **A4** (2) through the grommet and along the standard wiring harness to the front under the headlight.



Route branches **A1**, **A2** and **H** behind the centre console to the left-hand side of the car.
Route branches **C1** and **C2** (2) to plug X1869 in the centre console.
Open plug X1869.
Connect branch **C1**, BRBLGE cable, to PIN 9.
Connect branch **C2**, BRWSGE cable, to PIN 8.



Connect branch **h** (1), BLGR cable, to the signal generator (2) PIN 1.



Drill through the seal (2) with a 8 mm twist drill. Route branches (1) **A1** and **A2** through the hole into the engine compartment and along the standard wiring harness to the front under the headlight.

Seal the hole with body sealing compound. ◂

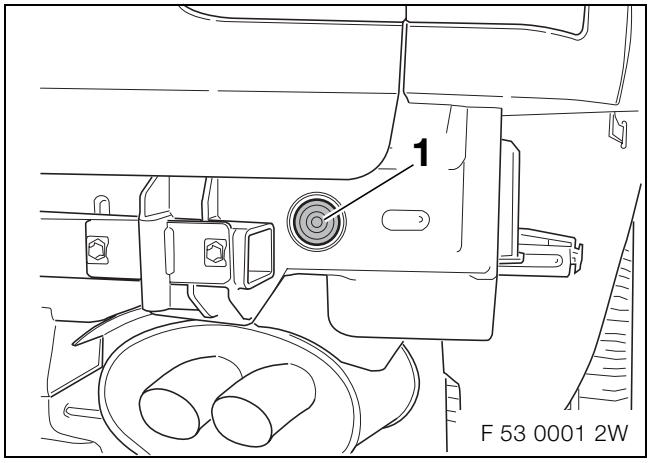
Connect the plugs in branches A1 to A4 as follows:

A1 Plug X18016, PDC converter front left outside:
A1.1, GNSW cable, to PIN 1
A1.2, GEGR cable, to PIN 2
A1.3, BRWS cable, to PIN 3

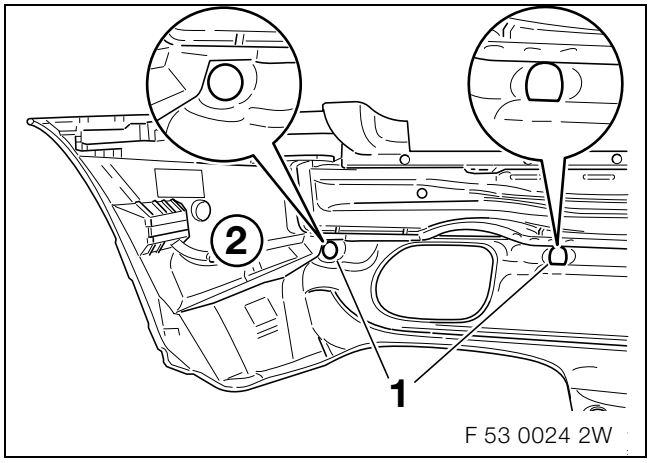
A2 Plug X18017, PDC converter front left centre:
A2.1, GNBR cable, to PIN 1
A2.2, GEGN cable, to PIN 2
A2.2, BRSW cable, to PIN 3

A3 Plug X1808, PDC converter front right centre:
A3.1, GNGR cable, to PIN 1
A3.2, GESW cable, to PIN 2
A3.3, BRBL cable, to PIN 3

A4 Plug X1808, PDC converter front right outside:
A4.1 GNVI cable, to PIN 1
A4.2 GEBR cable, to PIN 2
A4.3 BRGE cable, to PIN 3

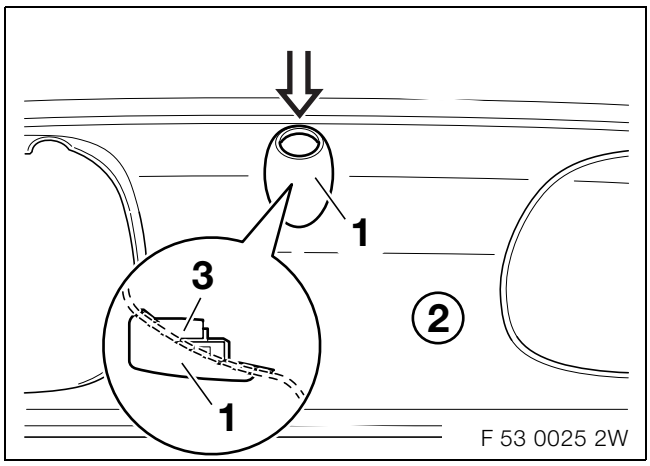


Remove the grommet (1).



To avoid pressure points and scratches on the bumper trim, mask the front around the cutting point and work on a soft surface (blanket, etc.). ◂

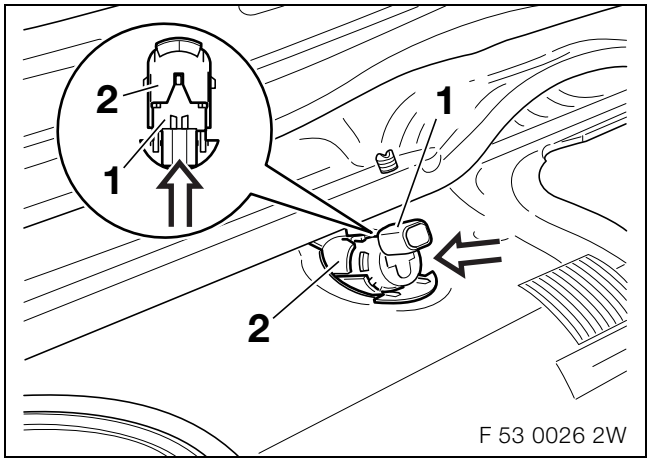
Cut out the embossed points (1) in the bumper trim (2) on the left and right using a suitable tool. Deburr the holes with a file.



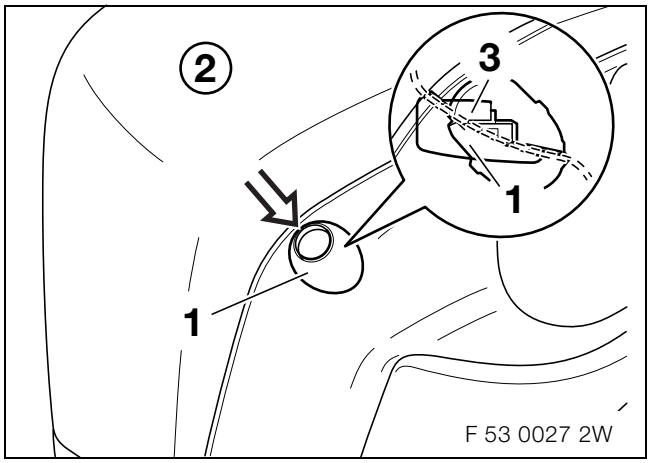
The following part numbers each form a pair:

Trims rear centre (left and right):
Part number 8 268 367
Mountings rear centre (left and right):
Part number 8 408 389. ◂

Install both rear centre trims (1) in the bumper trim (2). Insert the mountings (3) from the rear and lock them into place.



Press the PDC converters (1) for the rear centre left and right into the mountings (2) and lock them into place.

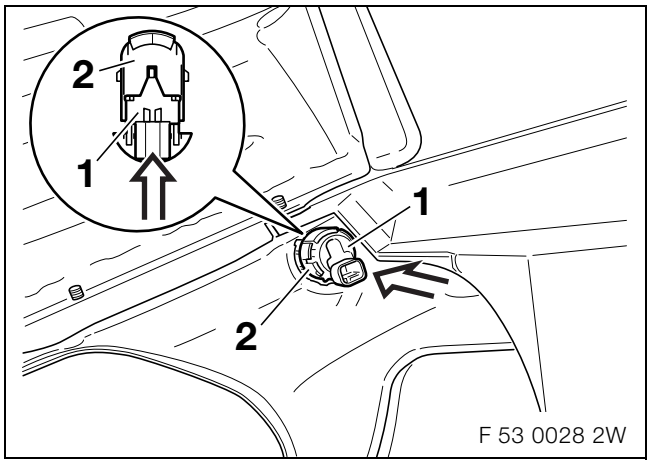


The following part numbers each form a pair:

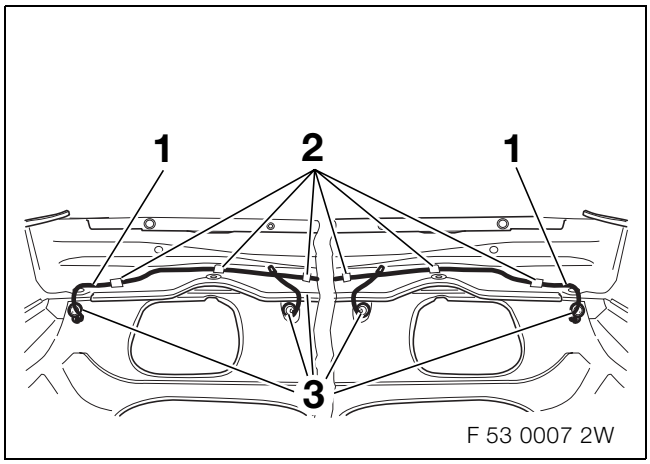
Trim rear left outside:
Part number 8 268 369
Mounting rear right outside:
Part number 8 408 391,

Trim rear right outside:
Part number 8 268 370
Mounting rear right outside:
Part number 8 408 392. ◂

Install the trims (1) for the rear left and right outside in the bumper trim (2).
Insert the mountings (3) from the rear and lock them into place.

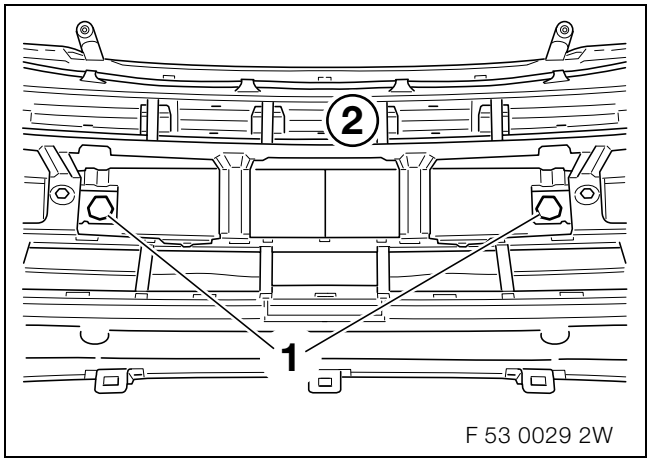


Press the PDC converters (1) for the rear left and right outside into the mountings (2) and lock them into place.



Clip the wiring harness **b** (1), rear section, into the holders (2) and connect the plug (3).

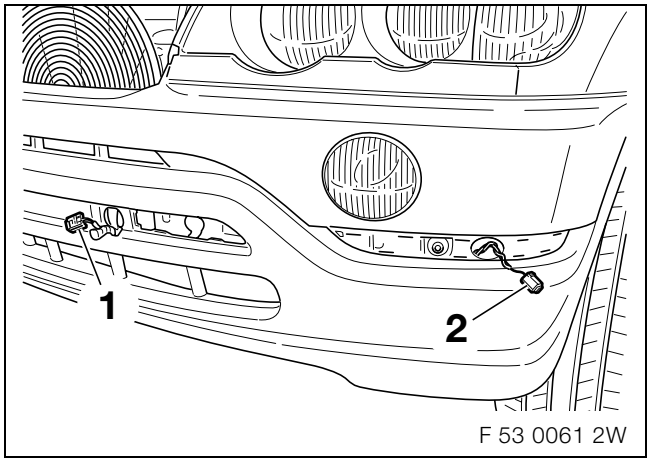
Reinstall the rear bumper trim.
As you do so thread the 18-pin plug **J** through the hole.



For cars before 9/03:

▷ To avoid pressure points and scratches on the bumper trim, mask the front around the cutting point and work on a soft surface (blanket, etc.). ◁

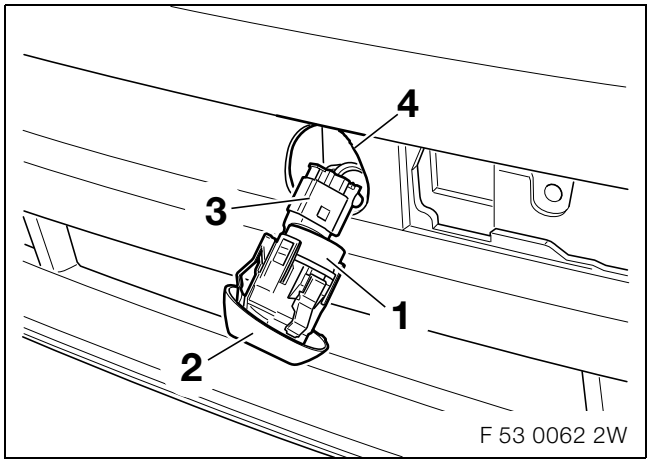
Cut out the embossed points (1) in the bumper trim (2) on the left and right using a pneumatic saw. Deburr the holes with a file.



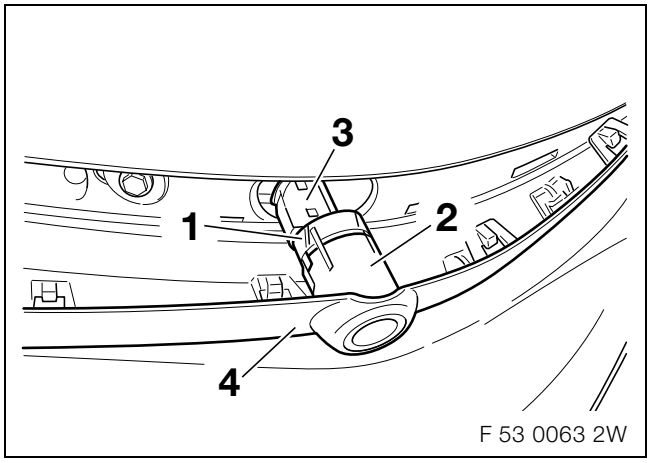
Route branches **A1** to **A4** to the appropriate connection point.

▷ For cars with the wiring harness already fitted, release the tied-back branches and route them to the appropriate connection point. ◁

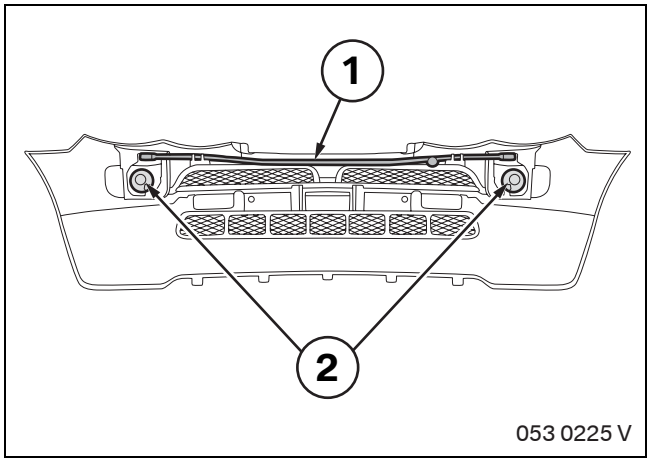
Reinstall the front bumper trim. As you do so thread the branches (1 and 2) through the holes.



Insert the centre PDC converters (1) into the mountings. Connect the plugs (3) and insert the unit into the hole (4).

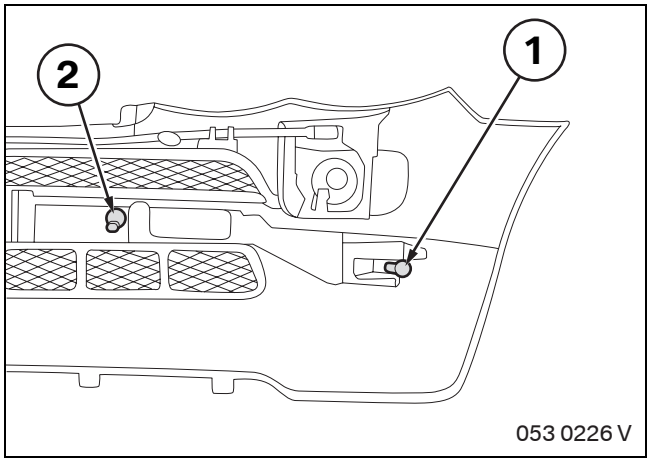


Press the PDC converters (1) for the left and right outside into the mountings (2). Connect the plugs (3) and fit the trims (4).



For cars after 10/03:

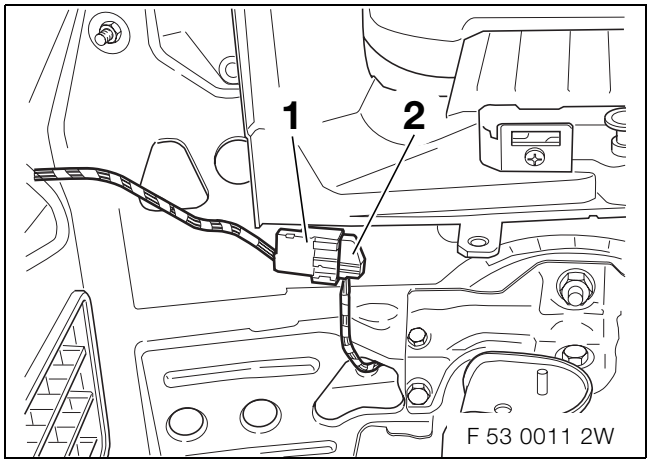
If necessary remove the pressure line for the headlight cleaning system (1) and the fog lights (2) from the old bumper trim and fit it on the new bumper trim.



Lock the angled ultrasonic converters (1) into the outer holders.

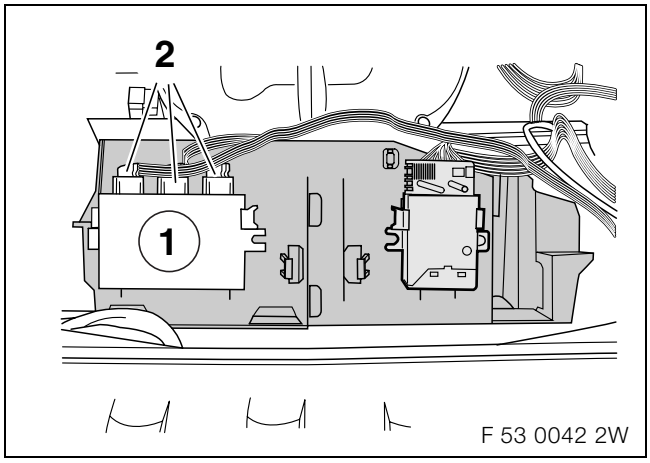
Lock the other ultrasonic converters (2) into the centre holders.

Fit the bumper trim and connect the cables to the ultrasonic converters.

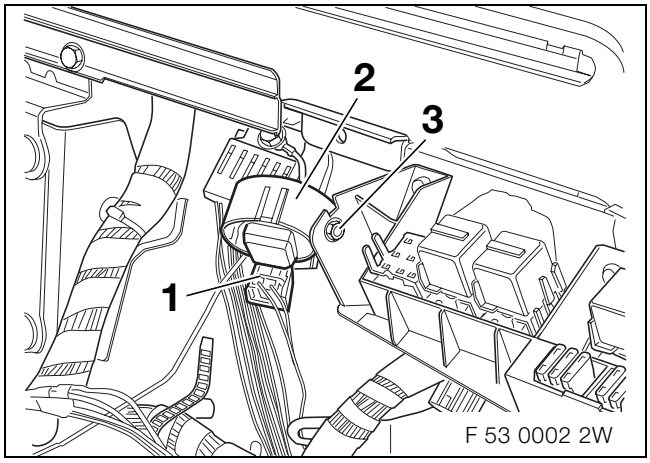


For all cars:

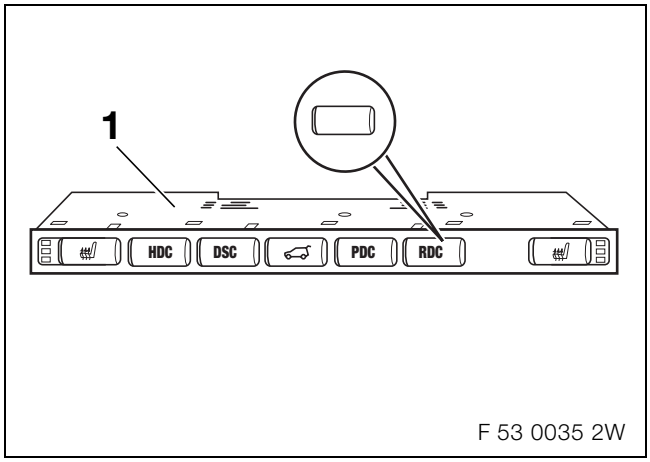
Connect branches **J** (2) and **E** (1), plug X11335.



Connect the plugs (2) X18013, X300 and X18362 to the PDC control module (1).



Secure the signal generator (2) on the fuse box using a hexagonal nut M6 (3).
Connect branch **D** (1), plug X362, to the signal generator (2).



Install the switch centre (1) from the installation kit.

Cover any switches for special equipment that is not fitted by gluing on the supplied caps.

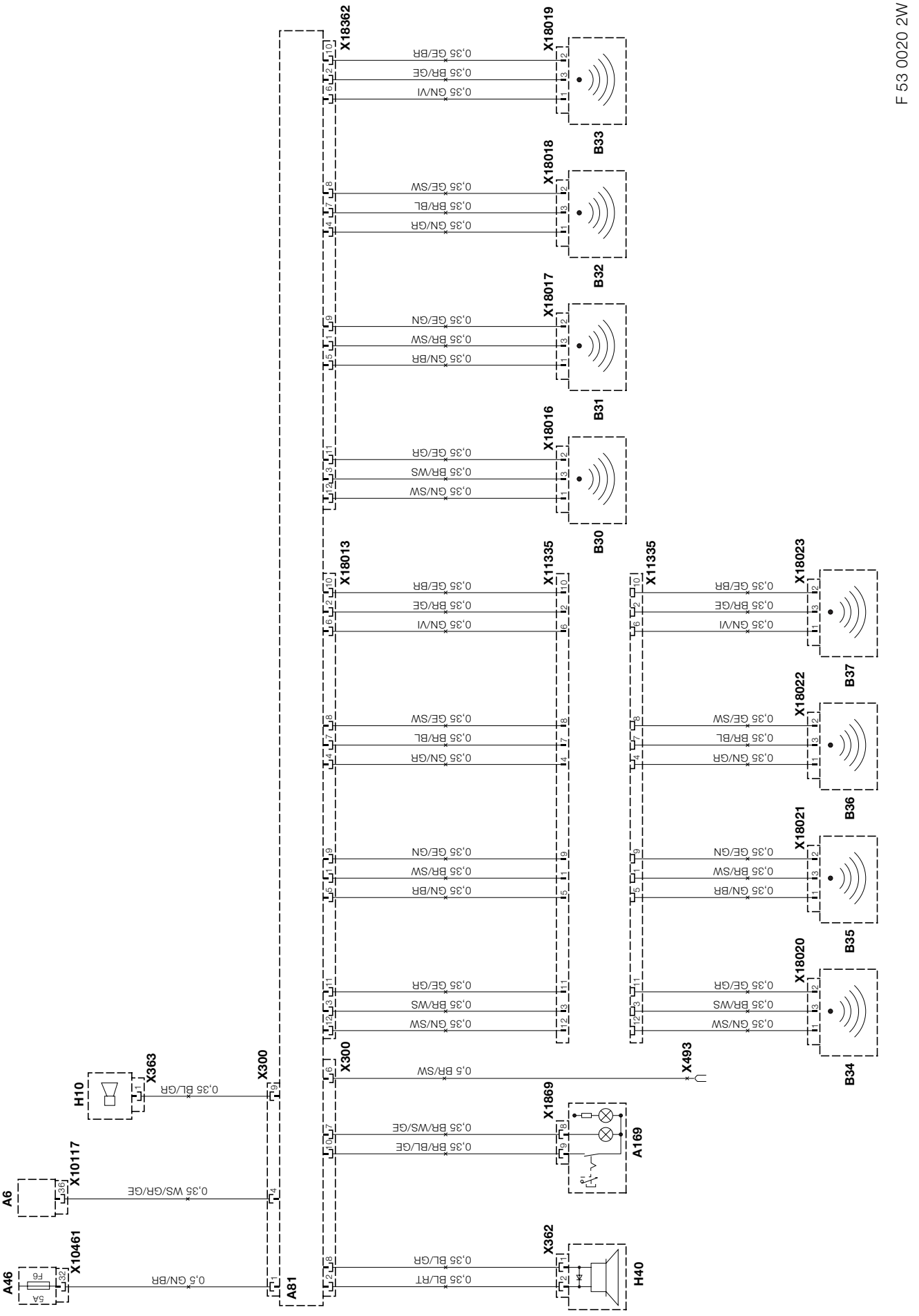
5. Concluding work and coding

⚠ The control module supplied in the installation kit must not be encoded for cars built before 04/2004.

A modified control unit must be used for cars built after 04/2004. This must be encoded using DISPlus or GT-1 via path **Retrofit.** ◂

- Re-assemble the car
- Connect the battery
- Encode the retrofit using DISPlus or GT-1 via path **Retrofit**
- Conduct a brief test
- Conduct a function test

6. Circuit diagram



6. Circuit diagram

A3	Light module
A46	Fuse box
A81	PDC control module
A169	Switch centre, centre console
B30	PDC converter, front left outside
B31	PDC converter, front left centre
B32	PDC converter, front right centre
B33	PDC converter, front right outside
B34	PDC converter, rear left outside
B35	PDC converter, rear left centre
B36	PDC converter, rear right centre
B37	PDC converter, rear right outside
H10	PDC signal generator, front
H40	PDC signal generator, rear
X300	PDC control module, 12-pin black plug
X362	PDC signal generator, rear, 2-pin black plug
X363	PDC signal generator, front, 1-pin black plug
X493	Terminal 31 joint connector
X1869	Centre console switch centre, 23-pin black plug
X10117	Light module, 54-pin black plug
X10461	Fuse distributor, 32-pin white plug
X11335	PDC connection plug, 12-pin black plug
X18013	PDC control module, 12-pin white plug
X18016	Front left outside PDC converter, 3-pin black plug
X18017	Front left centre PDC converter, 3-pin black plug
X18018	Front right centre PDC converter, 3-pin black plug
X18019	Front right outside PDC converter, 3-pin black plug
X18020	Rear left outside PDC converter, 3-pin black plug
X18021	Rear left centre PDC converter, 3-pin black plug
X18022	Rear right centre PDC converter, 3-pin black plug
X18023	Rear right outside PDC converter, 3-pin black plug
X18362	PDC control module, 12-pin blue plug
BR	Brown
GE	Yellow
GN	Green
GR	Grey
RT	Red
SW	Black
VI	Violet
WS	White