

Original BMW Accessory. Installation Instructions.



Rear View Retrofit BMW 7 Series (E65 and E66)

These installation instructions are only valid for cars with SA 609 (navigation system) before 03/05.

Retrofit kit No.:	84 21 0 302 940	Rear view retrofit kit
	66 21 0 303 087	Rear view retrofit kit
	66 21 0 303 090	Additional switchbox kit

Installation time

The installation time is **approx. 3.0 - 3.5 hours**. 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.

If you experience installation or function problems, limit troubleshooting to approx. 0.5 hour for mechanical or 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 instructions that draw your attention to special features.

◀ Denotes the end of the instruction or other text.

Installation information

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 occupied, bridges, double crimps or twin-lead terminals must be used.

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

Ordering instructions

The additional switchbox kit is not included in the retrofit kit and must be ordered separately (see EPC for part number and documentation).

List of special equipment

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

- SA 603** Rear monitor
- SA 609** Navigation system

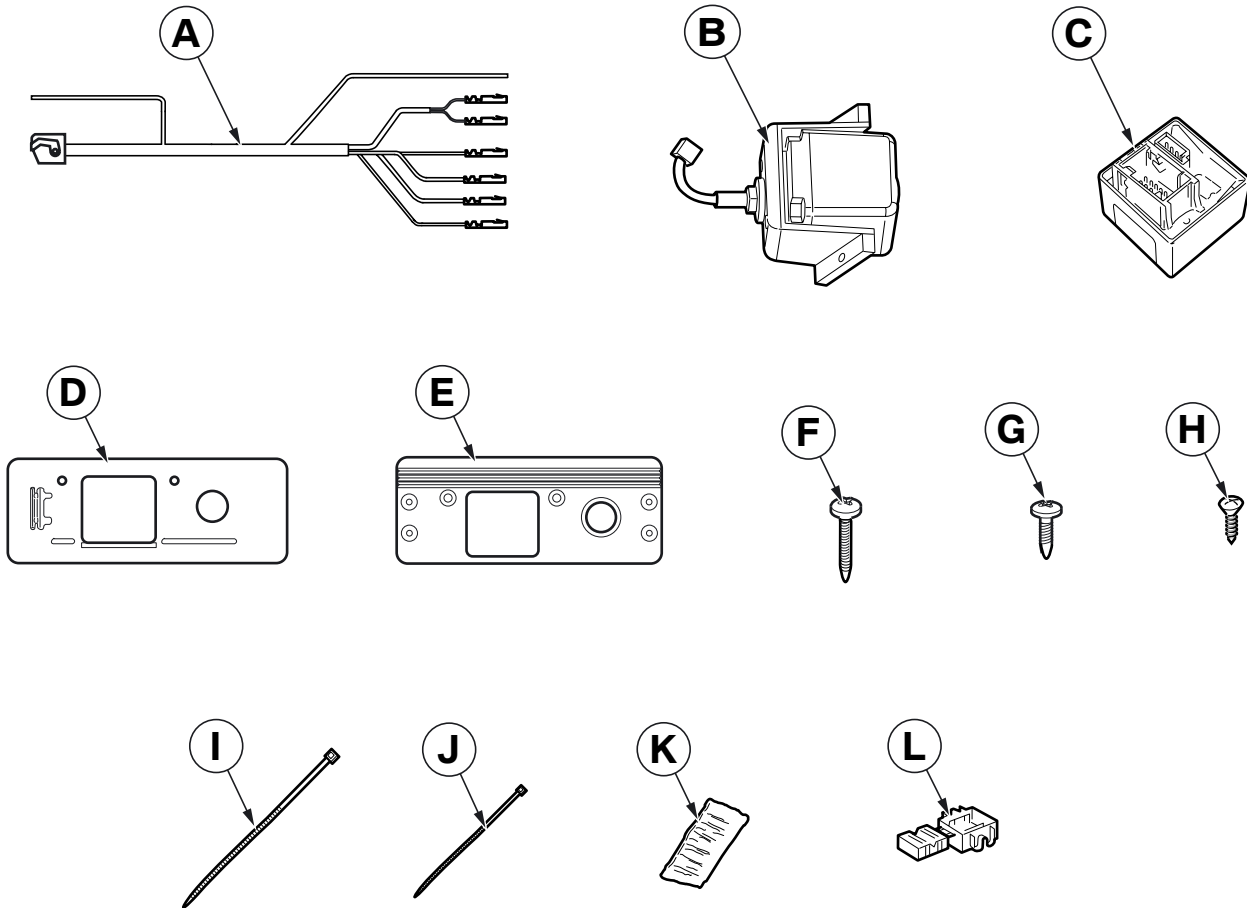
Special tools required

None

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1. Rear view parts list

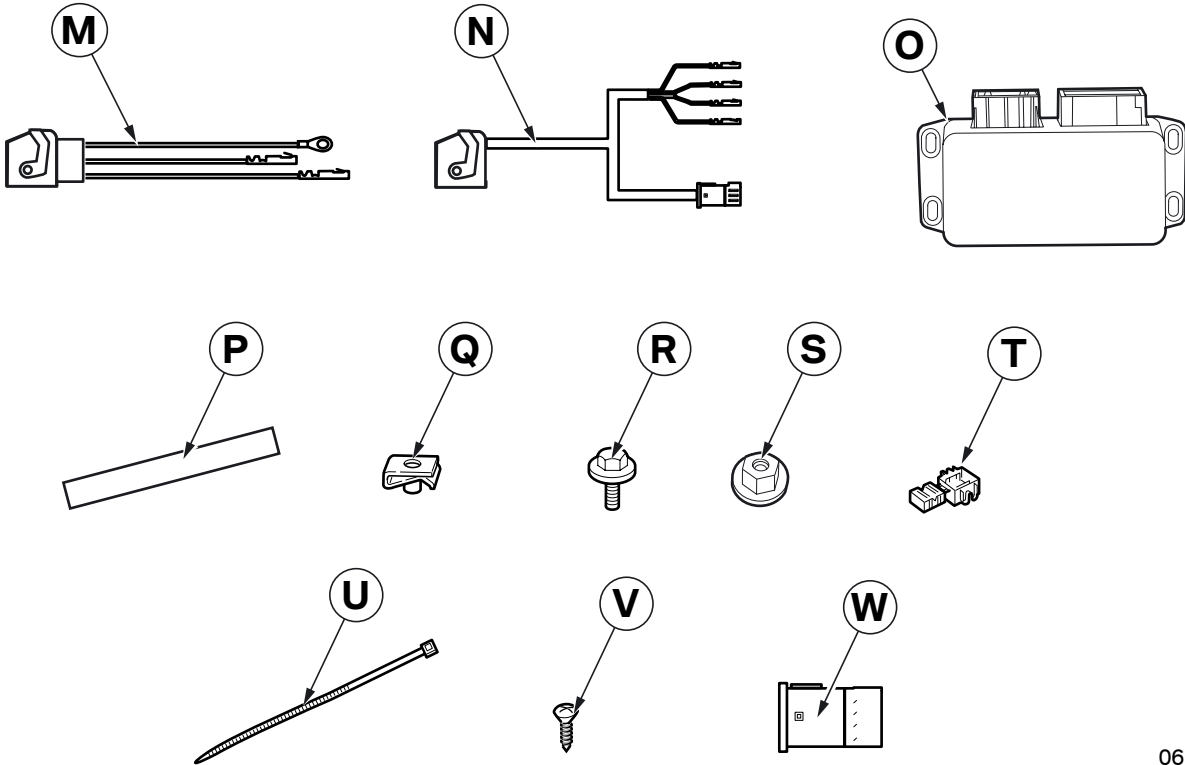


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Legend

- A** Wiring harness
- B** Rear view
- C** Control module
- D** Mounting plate (not required)
- E** Mounting plate (not required)
- F** Philips screw 3.5 x 16 mm (6x, not required)
- G** Philips screw 3.5 x 9.5 mm (4x)
- H** Fillister head screw 3.5 x 9.5 mm (2x)
- I** Cable tie 292 x 4.8 mm
- J** Cable tie 200 x 3.6 mm (20x)
- K** Protective strip
- L** Miniature connector (5x)

2. Additional switchbox kit parts list



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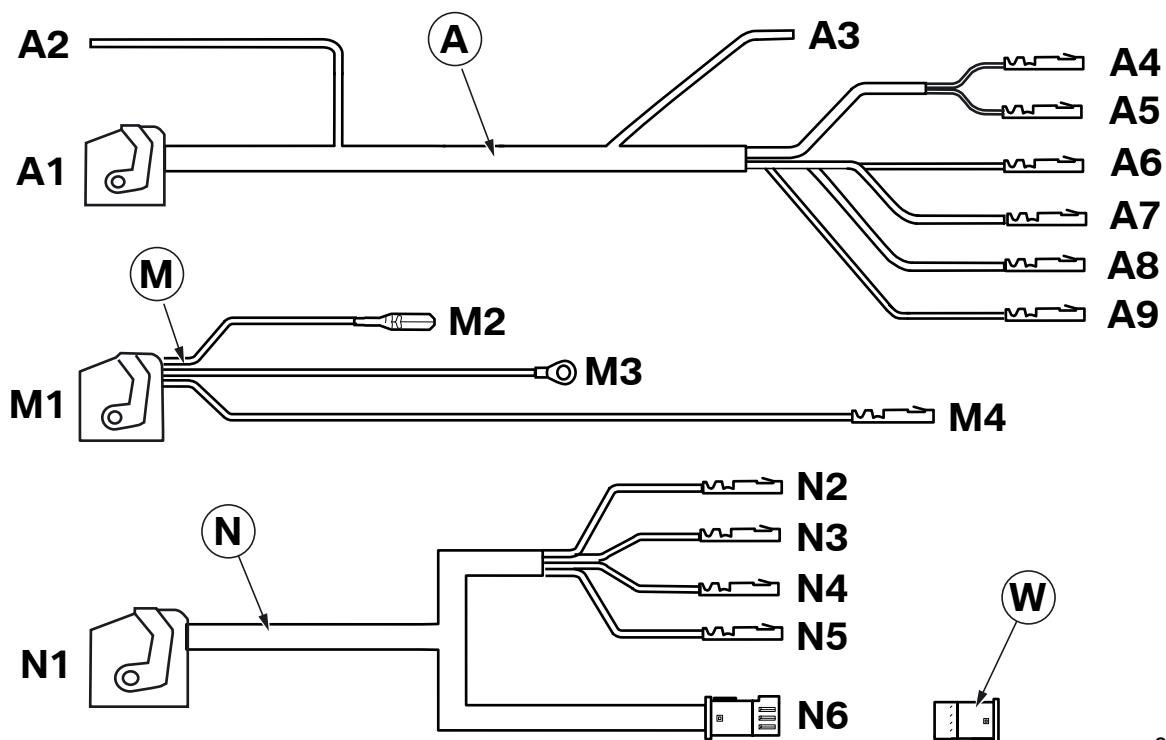
Legend

- M** Supply cable
- N** Adapter cable
- O** Switchbox
- P** Sealing strip (2x)
- Q** Speed nut M5 (4x, not required)
- R** Hexagonal screw with washer M5 x 14 mm (4x, not required)
- S** Hexagonal nut with washer M5 (4x, not required)
- T** Miniature connector (3x)
- U** Cable tie 200 x 3.6 mm (15x)
- V** Fillister head screw 4.2 x 13 mm (4x)
- W** Blue 4-pin socket casing

3. 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	
Trim for boot lid bottom section	51 49 005
Trim for boot lid top section	51 49 006
Rear ornamental trim	51 13 400
Centre rear lamp	63 21 186
Boot floor trim	51 47 101
Left boot wheel arch trim	51 47 151
Right boot wheel arch trim	51 47 161
Control module cover right (splash guard)	---
Rear closing panel trim	---
Navigation computer (cars without SA 603 only)	65 90 510

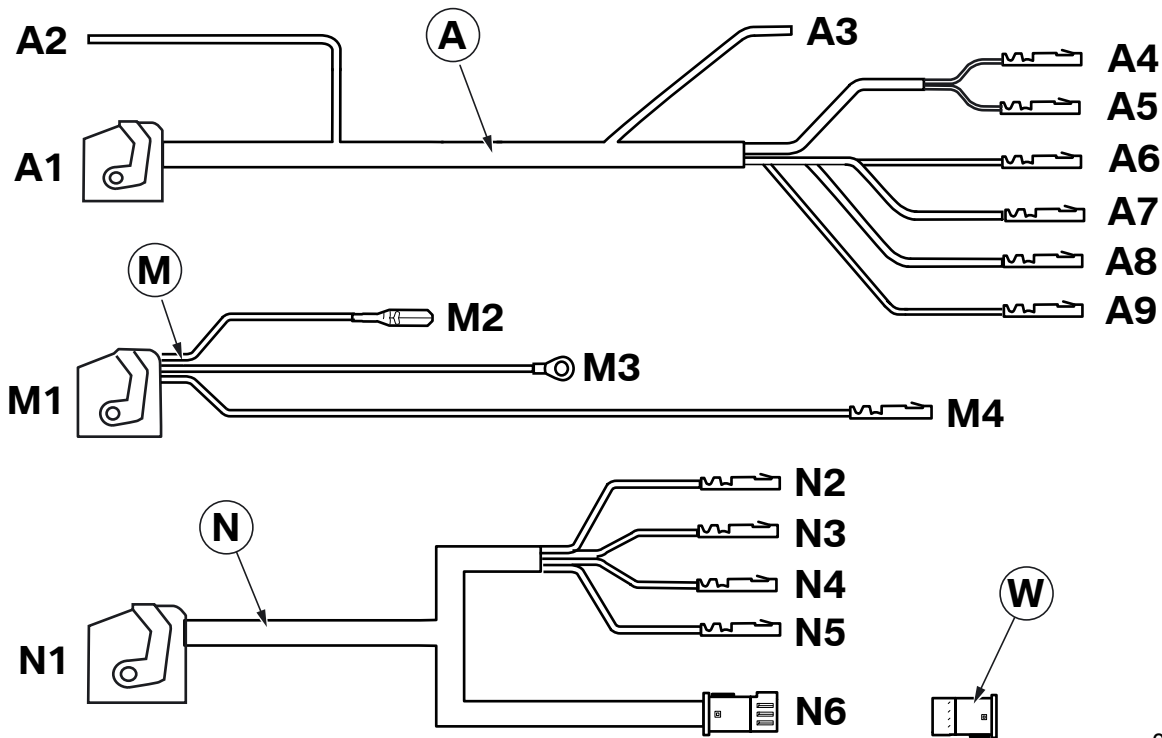
4. Connection diagram



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Item	Designation	Signal	Cable colour / Cross-section	Connection location in car	Abbreviation / Slot
A	Wiring harness	---	---	---	---
A1	Black 12-pin socket casing	---	---	On control unit C	---
A2	Cable open	RFS	GN 0.75 mm ²	To left licence plate light or reversing light, with miniature connector L to WS/GE cable	X709 PIN 1
A3	Cable open	RFS	GN 0.75 mm ²	Insulate and tie back	---
A4	Socket contact	Video +	TR 0.14 mm ²	On branch M1	PIN 24
A5	Socket contact	Video -	SW/BR 0.35 mm ²	On branch M1	PIN 11
A6	Socket contact	RSF inv	SW 0.25 mm ²	On branch M1	PIN 23
A7	Socket contact	Terminal 30	RT 0.75 mm ²	On branch M1	PIN 25
A8	Socket contact	Terminal 31	BR 0.75 mm ²	On branch M1	PIN 12
A9	Socket contact	TA	WS 0.25 mm ²	Insulate and tie back	---

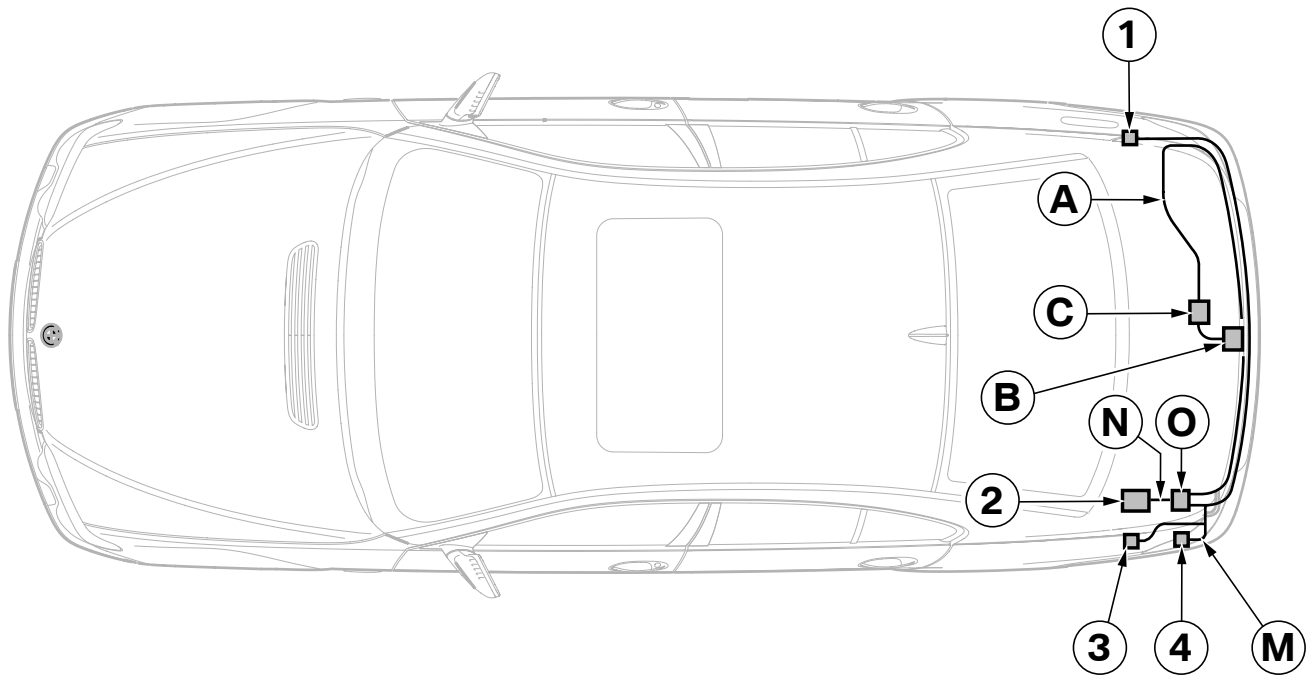
4. Connection diagram



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Item	Designation	Signal	Cable colour / Cross-section	Connection location in car	Abbreviation / Slot
M	Supply cable	---	---	---	---
M1	Blue 26-pin socket casing	---	---	On switchbox O	---
M2	Joint connector contact	Terminal 30	RT 0.75 mm ²	On joint connector, red/white cables, behind module holder	X1889
M3	Eyelet M6	Terminal 31	BR 0.75 mm ²	To joint connector, brown and brown/black cables, below the left tail light	X13094
M4	Socket contact	Terminal R	VI/WS 0.50 mm ²	On power module	X1856 PIN 18
N	Adapter cable	---	---	---	---
N1	Natural 18-pin socket casing	---	---	On switchbox O	---
N2	Socket contact	NAVR	WS/RT 0.35 mm ²	Cars without SA 603 only On navigation computer Cars with SA 603 only To video module	X1312 PIN 3 X18803 PIN 3
N3	Socket contact	NAVG	WS/GN 0.35 mm ²	Cars without SA 603 only On navigation computer Cars with SA 603 only To video module	X1312 PIN 4 X18803 PIN 4
N4	Socket contact	NAVB	VI 0.35 mm ²	Cars without SA 603 only On navigation computer Cars with SA 603 only To video module	X1312 PIN 5 X18803 PIN 5
N5	Socket contact	NAV_31	Shield	Cars without SA 603 only On navigation computer Cars with SA 603 only To video module	X1312 PIN 13 X18803 PIN 13
N6	Blue 4-pin plug casing	---	---	On disconnected cables in car, with socket casing W	---
W	Blue 4-pin socket casing	---	---	On branch N6	---

5. Installation and cabling diagram



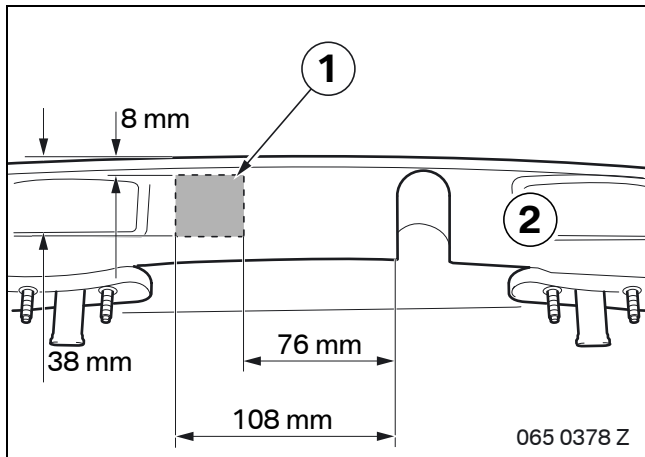
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Legend

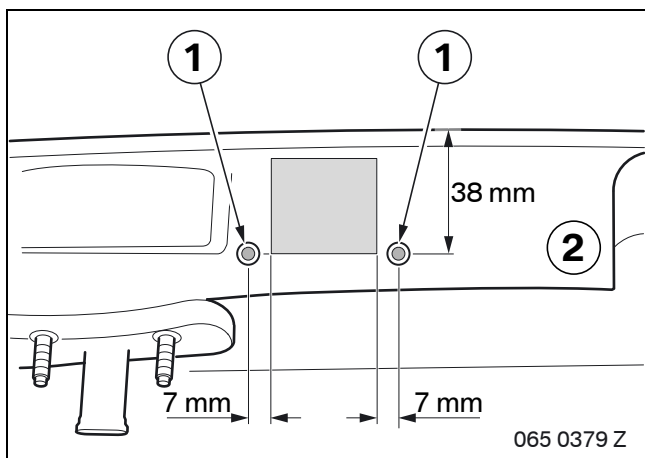
- A** Wiring harness
- B** Rear view
- C** Control module
- M** Supply cable
- N** Adapter cable
- O** Switchbox

- 1** Terminal R pick-up on power module, socket casing **X1856**
- 2** Navigation computer, socket casing **X1312** (cars without SA 603 only)
Video module, socket casing **X18803** (cars with SA 603 only)
- 3** Terminal 30 pick-up on joint connector **X1889**
- 4** Terminal 31 pick-up on joint connector **X13094**

6. To install Rear View

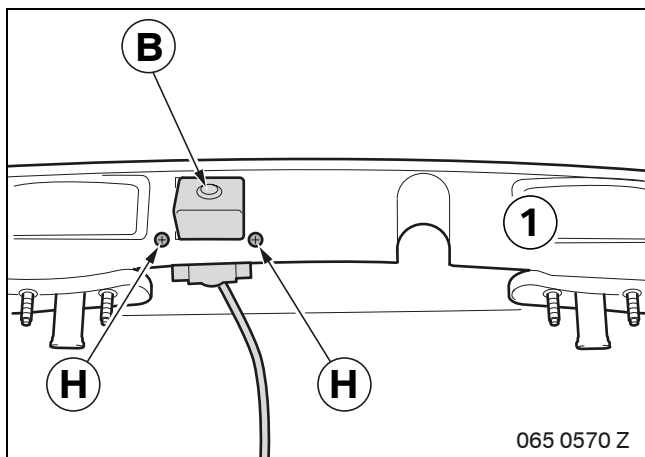


Mark the dimensions on the rear lamp (2) and cut out in the marked area (1) with a saw.

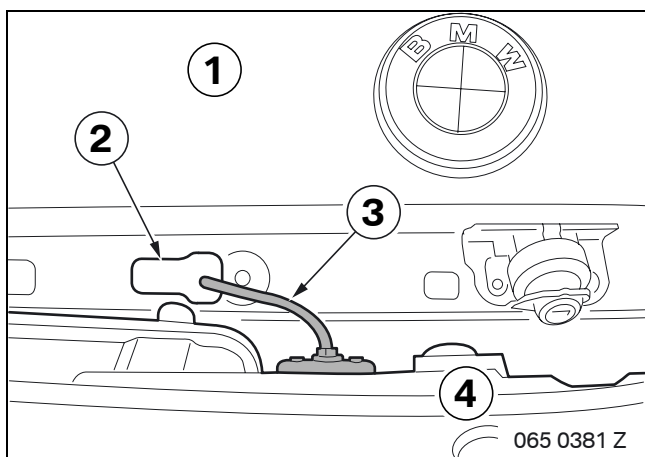


Mark the dimensions on the rear lamp (2) and drill out the drilling positions (1) with a 3.5 mm twist drill bit.

Countersink the drilling positions (1).



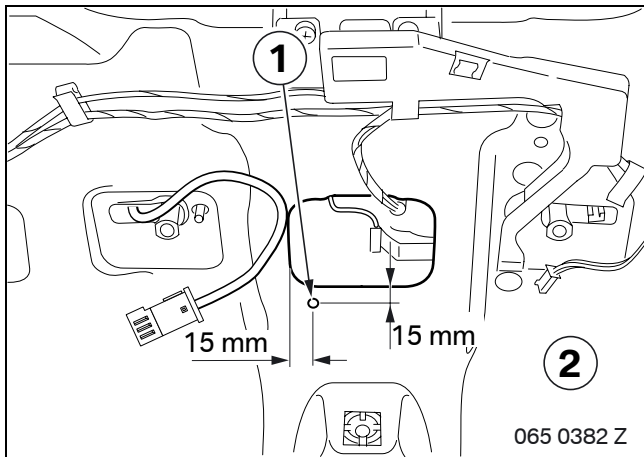
Use fillister head screws **H** to secure Rear View **B** on the tail light (1).



Route the cable (3) of the Rear View through the opening (2) in the boot lid (1).

Fit the rear lamp (4).

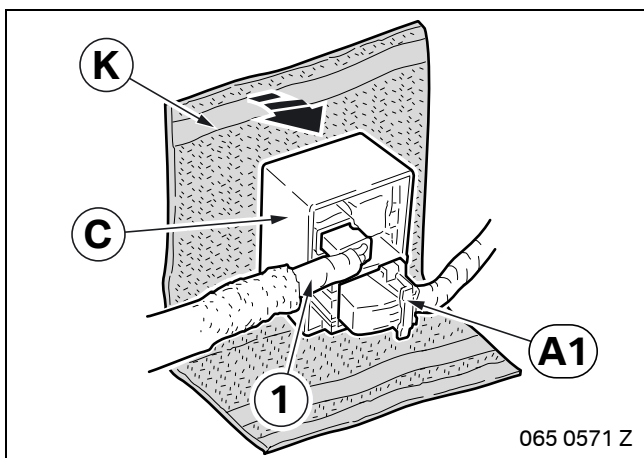
7. To install and connect the control unit



Do not damage the external panel of the boot lid (2). ◀

Mark the dimensions on the boot lid (2) and drill out the drilling position (1) with a 6 mm twist drill bit.

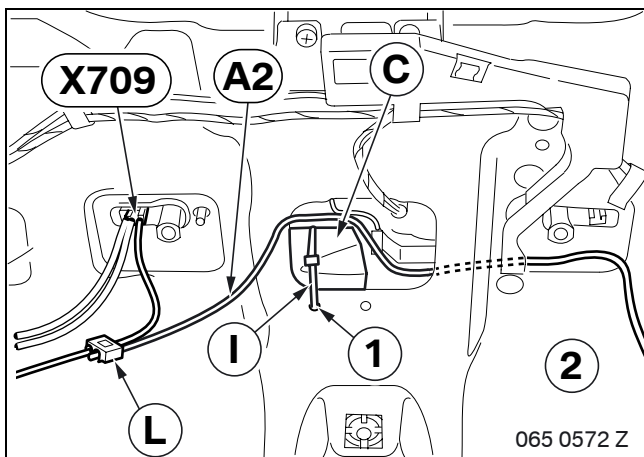
Deburr the hole and coat the bare surfaces with preservative.



Connect the connection plug (1) of the Rear View and branch **A1** (12-pin SW socket casing) to control unit **C**.

Affix protective strip **K** to control unit **C**.

Cut off any excess lengths.

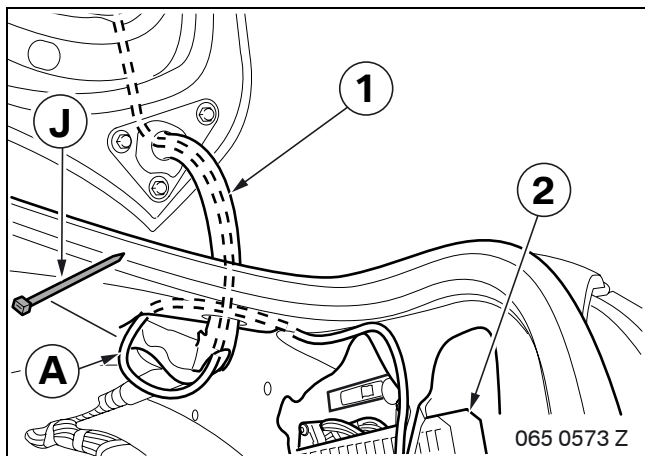


Use cable tie **I** to secure control unit **C** to the hole (1) in the boot lid (2).

Route branch **A2**, GN cable, to socket casing **X709** on the left licence plate light.

Use miniature connector **L** to connect branch **A2** to the WS/GE cable of socket casing **X709** (PIN 1).

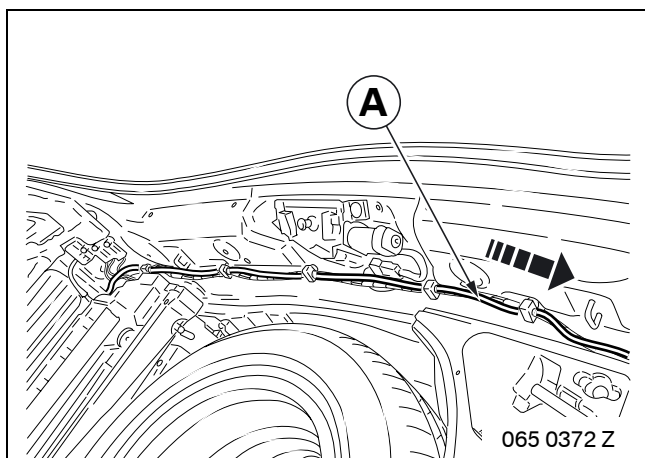
8. To install and connect wiring harness A



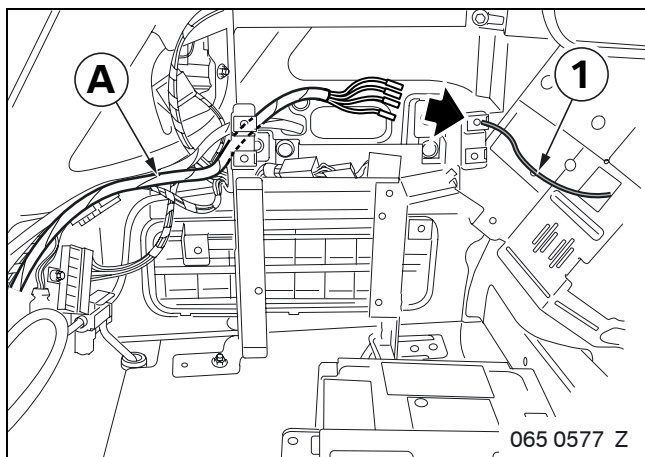
⚠ Danger of kinking and chafing.
Wiring harness **A** must be attached to the standard wiring harness using cable ties **J**. ◀

Route wiring harness **A** through the hinge pillar (1) into the boot to the fuse holder (2).

Route wiring harness **A** to the left side of the boot.



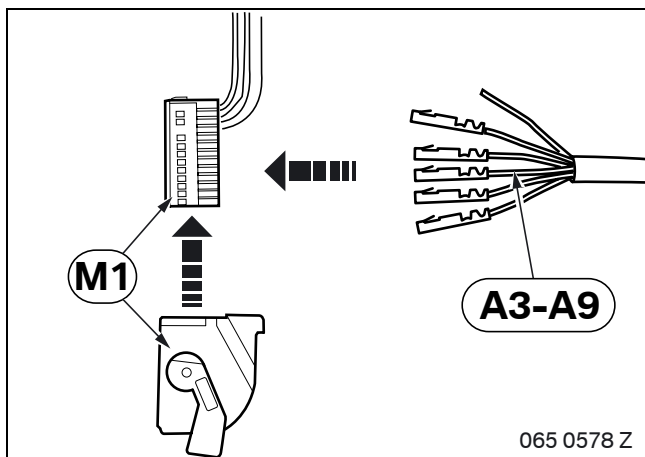
Remove the insertion tool (1).



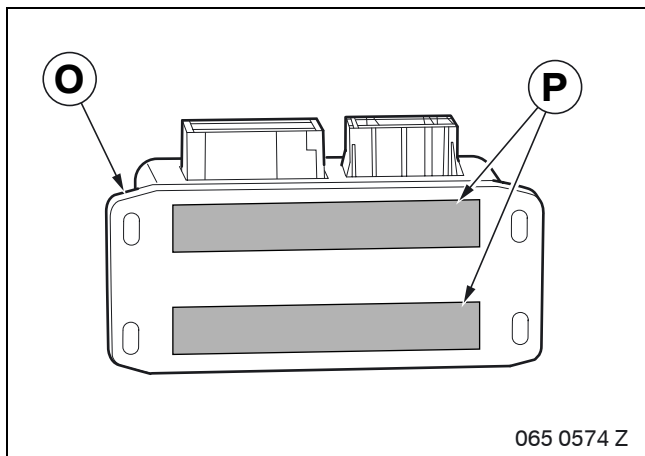
Insulate branch **A3**, GN cable, and branch **A9**, WS cable, and tie them back.

Connect branches **A4 - A8** to branch **M1** (26-pin BL socket casing) as follows:

- Branch **A4**, TR cable, to PIN 24
- Branch **A5**, SW/BR cable, to PIN 11
- Branch **A6**, SW cable, to PIN 23
- Branch **A7**, RT cable, to PIN 25
- Branch **A8**, BR cable, to PIN 12

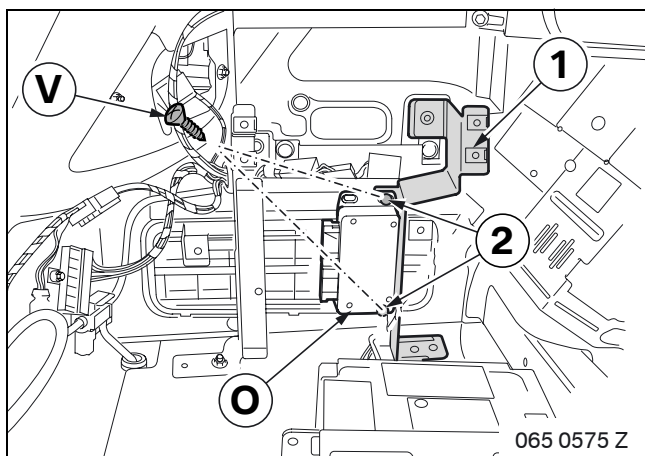


9. To install the switchbox



Affix sealing strip **P** to the rear of switchbox **O**.

Depending on accessibility and equipment, there are two possible ways of installing switchbox **O**. ◀

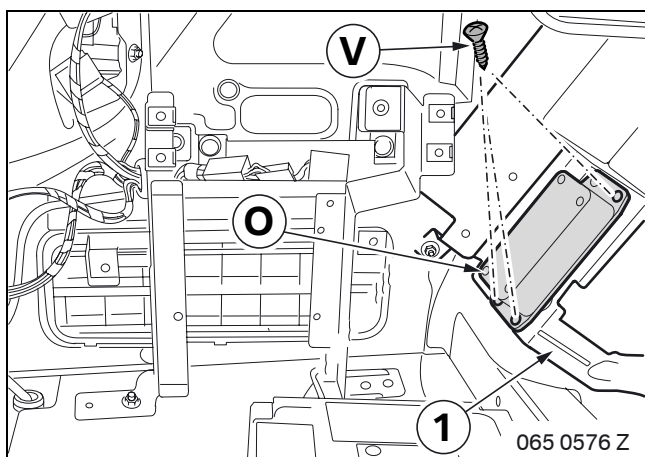


First possibility

Place switchbox **O** against the front base support system (1) and mark the holes (2).

Drill through the base support (1) using a 3.5 mm twist drill bit.

Secure switchbox **O** using fillister head screws **V**.



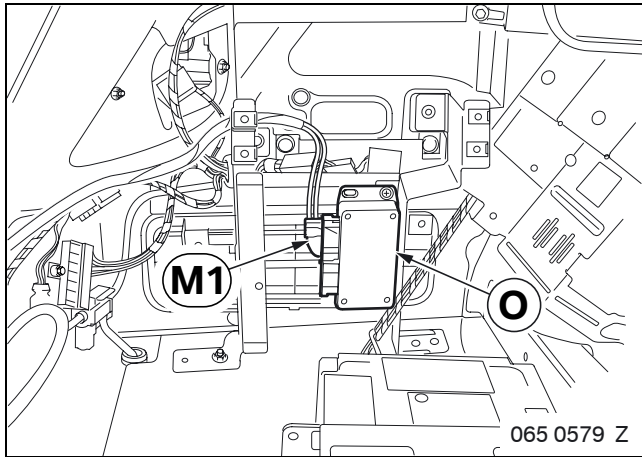
Second possibility

Place switchbox **O** against the holder (1) and mark three holes.

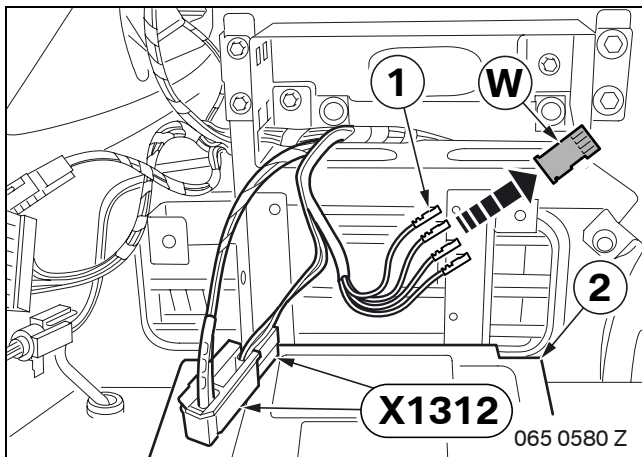
Drill through the holder (1) using a 3.5 mm twist drill bit.

Secure switchbox **O** using fillister head screws **V**.

10. To connect the switchbox



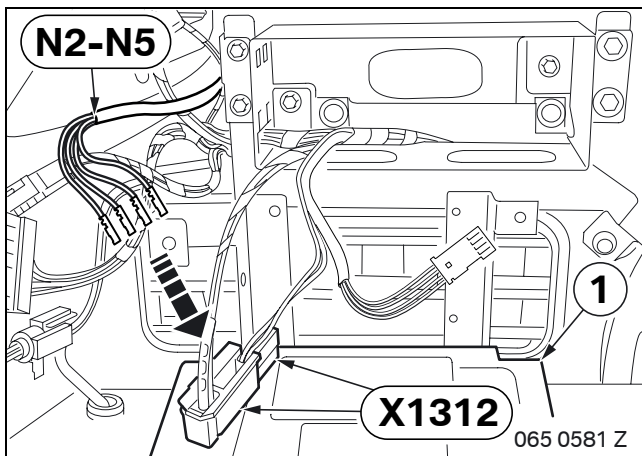
Connect branch **M1** to switchbox **O**.



Cars without SA 603 only

Disconnect the following cables (1) from socket casing **X1312** on the navigation computer (2) and connect them to socket casing **W**:

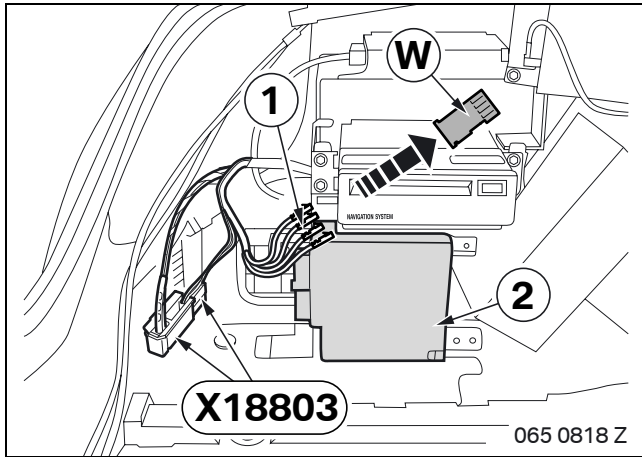
- Red cable from PIN 3 to PIN 3 of socket casing **W**
- Green cable from PIN 4 to PIN 1 of socket casing **W**
- Blue cable from PIN 5 to PIN 2 of socket casing **W**
- Shield from PIN 13 to PIN 4 of socket casing **W**



Connect branches **N2 - N5** as follows to socket casing **X1312** on the navigation computer (1):

- Branch **N2**, white/red cable, to PIN 3
- Branch **N3**, white/green cable, to PIN 4
- Branch **N4**, violet cable, to PIN 5
- Branch **N5**, shield, to PIN 13

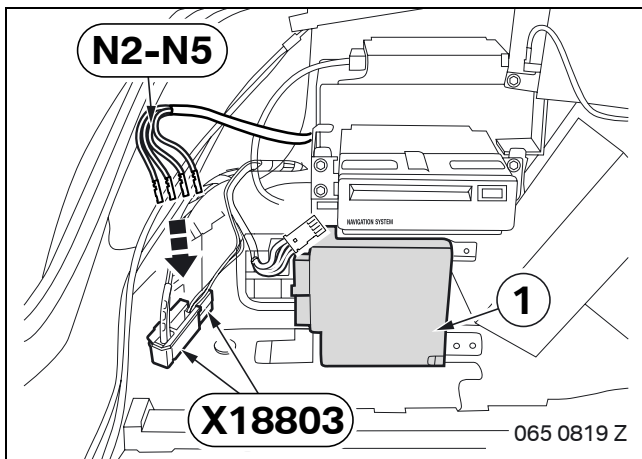
10. To connect the switchbox



Cars with SA 603 only

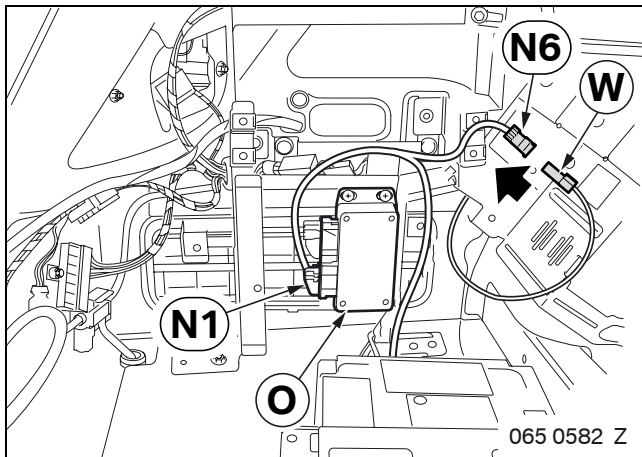
Disconnect the following cables (1) from socket casing **X18803** on the video module (2) and connect them to socket casing **W**:

- Red cable from PIN 3 to PIN 3 of socket casing **W**
- Green cable from PIN 4 to PIN 1 of socket casing **W**
- Blue cable from PIN 5 to PIN 2 of socket casing **W**
- Shield from PIN 13 to PIN 4 of socket casing **W**



Connect branches **N2 - N5** as follows to socket casing **X18803** on the video module (1):

- Branch **N2**, white/red cable, to PIN 3
- Branch **N3**, white/green cable, to PIN 4
- Branch **N4**, violet cable, to PIN 5
- Branch **N5**, shield, to PIN 13

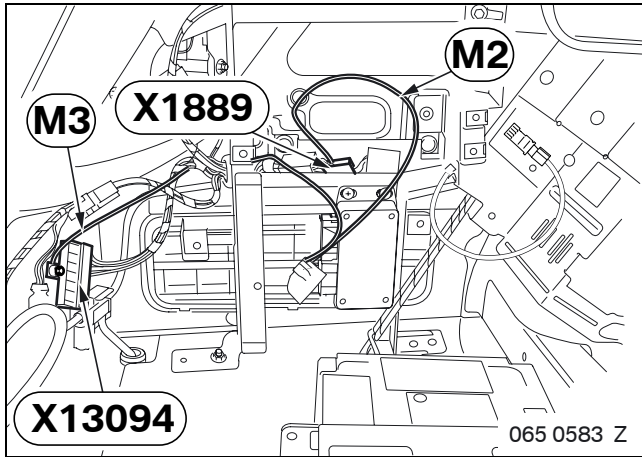


All cars

Connect branch **N6** to socket casing **W**.

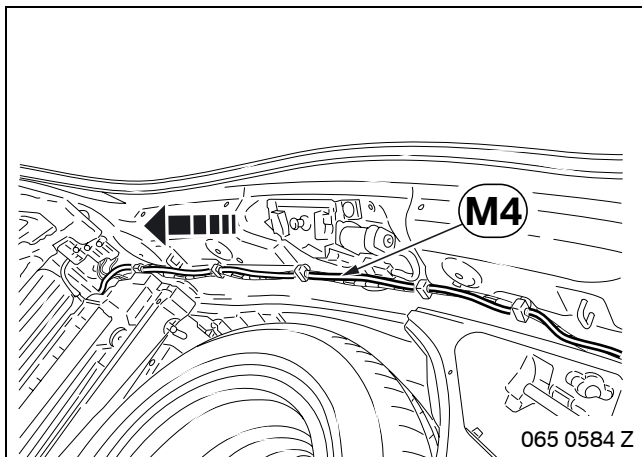
Connect branch **N** to switchbox **O**.

10. To connect the switchbox

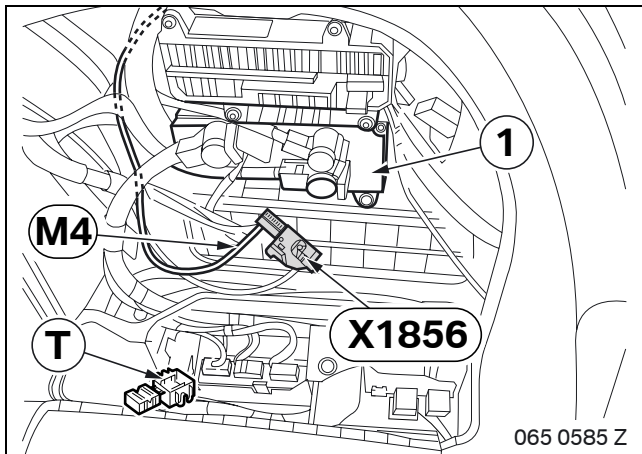


Connect branch **M2**, RT cable, to tied-back joint connector **X1889**, RT/WS cable.

Connect branch **M3**, BR cable, to joint connector **X13094**, BR and BR/SW cables.




Route branch **M4**, VIWS cable, to the right-hand side of the boot.



Route branch **M4** to the power module (1).


Connect branch **M4** to PIN 18 of socket casing **X1856**.

 If pin chamber 18 is occupied, use miniature connector **T** to connect branch **M4** to the violet/brown or yellow/red cable from PIN 18. ◀

11. Concluding work and coding

This retrofit system does not require coding.

- Connect the battery
- Conduct a brief test

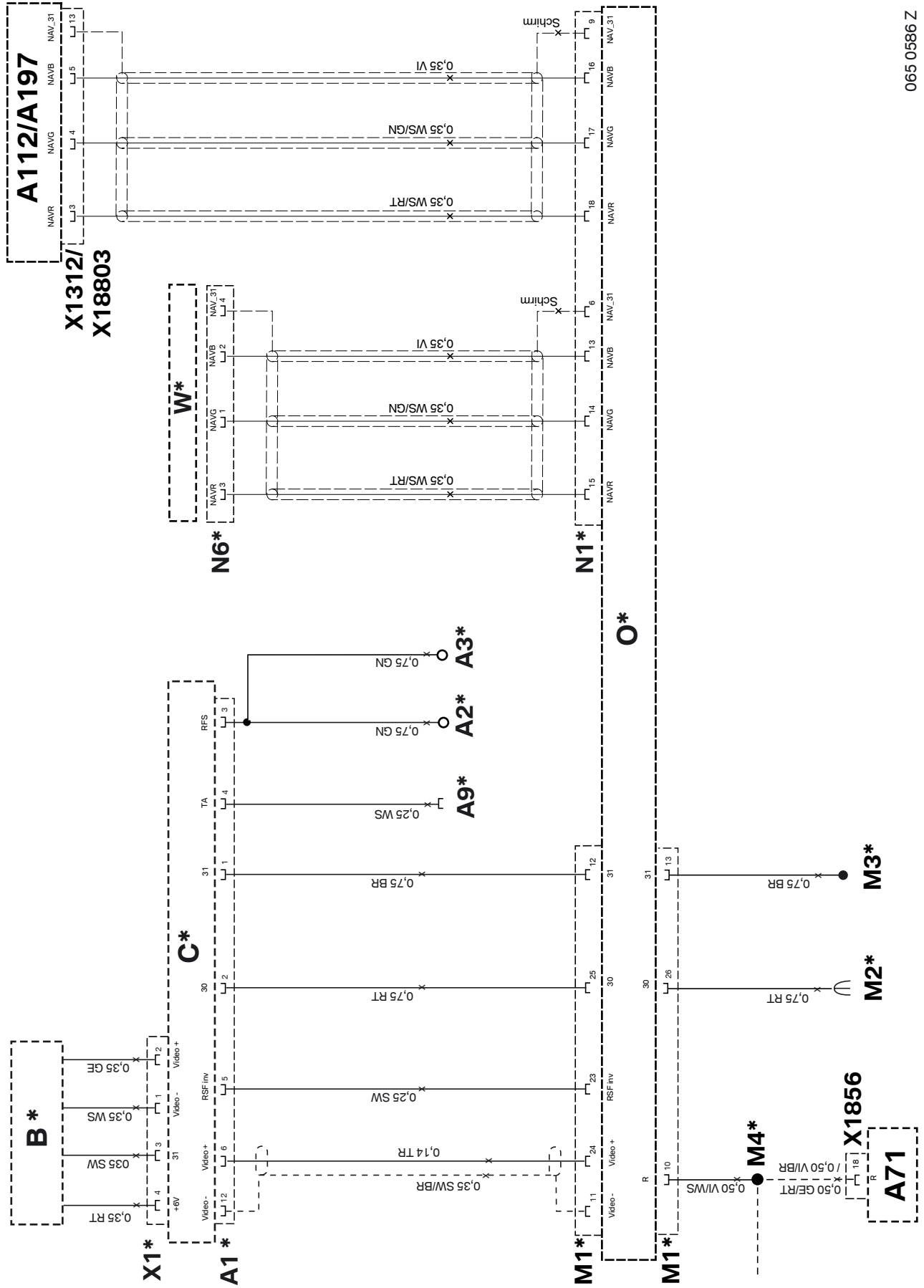
 Make the basic settings in accordance with the owner's manual, otherwise the picture will not be displayed properly. ◀

Check the function of the rear view as follows:

- Switch on the ignition
- Engage reverse, a picture must appear on the Control Display
- Disengage reverse gear; the Control Display must switch over after approx. 5 seconds

- Re-assemble the car

12. Circuit diagram



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12. Circuit diagram

Legend

A71	Power module
A112	Navigation computer (cars without SA 603 only)
A197	Video module (cars with SA 603 only)
B*	Rear view
C*	Control module
O*	Switchbox
A1*	Black 12-pin socket casing
A2*	Open cable, RFS terminal pick-up
A3*	Open cable, insulate and tie back
A9*	Socket contact, insulate and tie back
M1*	Blue 26-pin socket casing
M2*	Joint connector contact, terminal 30 pick-up
M3*	Ring eyelet M6, terminal 31 pick-up
M4*	Socket contact, terminal R pick-up (connect using miniature connector if necessary)
N1*	Natural 18-pin socket casing
N6*	Black 4-pin socket casing
W*	Blue 4-pin plug casing
X1*	Black 4-pin socket casing
X1312	Black 20-pin socket casing
X18803	Blue 20-pin socket casing

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

Cable colours

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