

Original BMW Accessory. Installation Instructions.



Rear View Retrofit BMW 5 Series Saloon (E60)

Retrofit kit No. 66 21 0 406 999 LVDS converter extras kit
 66 21 0 412 010 Rear view retrofit kit

Installation time

The installation time is **approx. 2.5 to 3.0 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).

Please provide the following information:

- Chassis number
- Part number of the retrofit kit
- A precise description of the problem
- Work steps already carried out

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

Pictograms



Denotes instructions that draw your attention to special features.

- ◀ Denotes the end of the instruction or other text.

Installation information

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.

In most cases, after installation of the retrofit, repairs or a software update of the car, an image misalignment appears on the control display. To correct the image misalignment, the LVDS converter M must be initialised.

The initialisation is to be carried out as detailed in the separate initialisation instructions 01 29 0 432 055.

Ordering instructions

The LVDS converter extras kit is not included in the retrofit kit and must be ordered separately (see EPC for part number and further details).

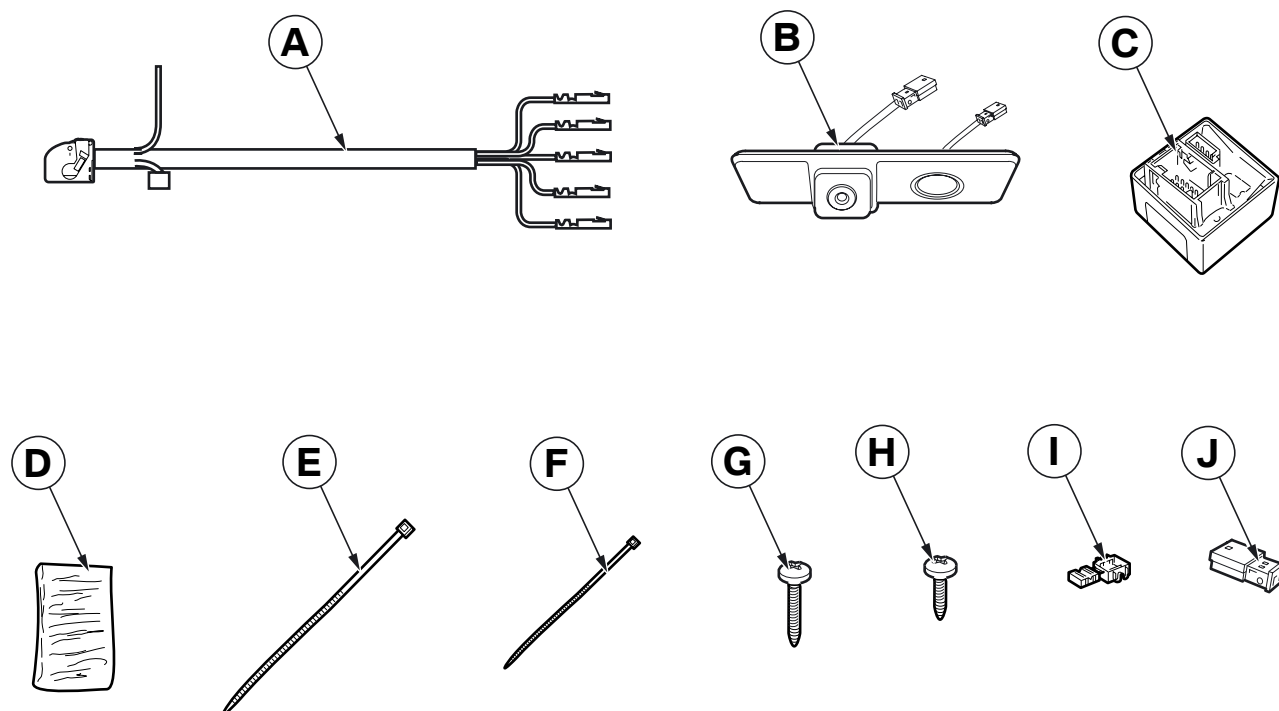
Special tools required

00 9 310, Installation wedges

Table of contents

Section	Page
1. Rear view parts list	4
2. LVDS converter parts list	5
3. Preparatory work	6
4. Rear view connection diagram	7
5. LVDS converter extras kit connection diagram	8
6. Installation and cabling diagram	9
7. Installing the Rear View with button and control unit	10
8. Routing and connecting the Rear View wiring harness	12
9. Installing and connecting the connection cable	13
10. Installing and connecting the LVDS wiring harness	14
11. Installing and connecting the LVDS converter	15
12. Concluding work and coding	16
13. Circuit diagram	17

1. Rear View parts list

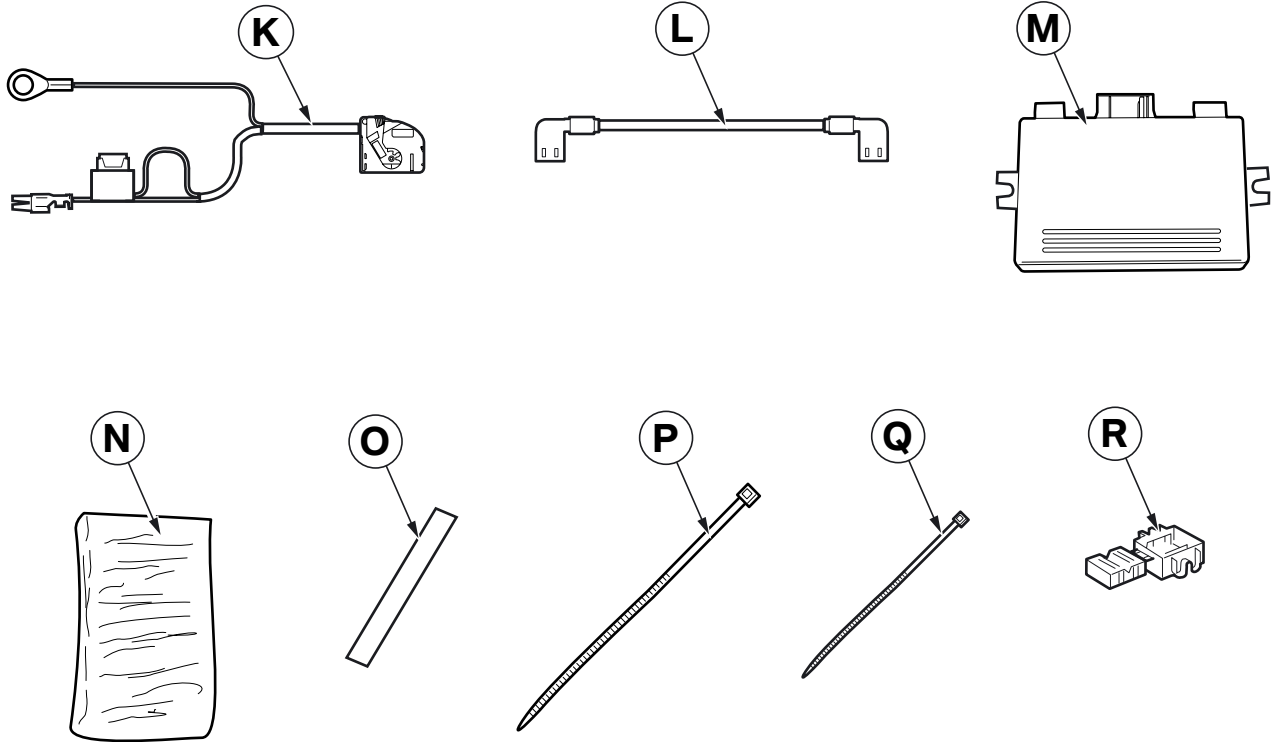


060 0783 Z

Legend

- A** Rear view wiring harness
- B** Rear View with button
- C** Control module
- D** Protective strip
- E** Cable tie 292 x 4.8 mm
- F** Cable tie 200 x 3.6 mm (20x)
- G** Philips screw 3.5 x 16 mm (6x, not required)
- H** Philips screw 3.5 x 9.5 mm (4x, not required)
- I** Miniature connector (5x)
- J** 2-pin plug casing

2. LVDS converter parts list



060 0743 Z

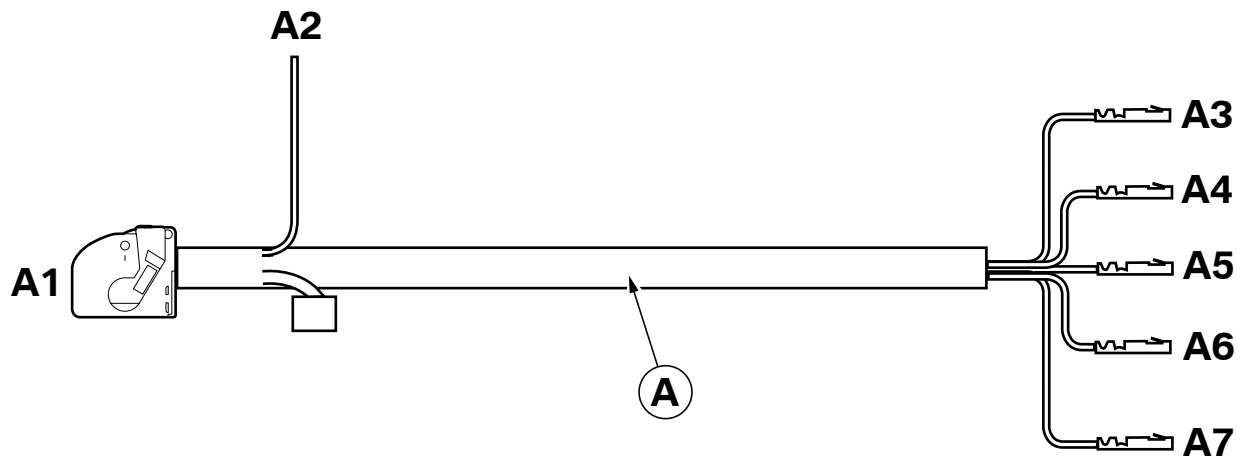
Legend

- K** LVDS wiring harness
- L** Connection cable
- M** LVDS converter
- N** Protective strip (2x, not required)
- O** Sealing strip (3x, not required)
- P** Cable tie 445 x 4.8 mm (2x)
- Q** Cable tie 200 x 3.6 mm (10x)
- R** Miniature connector (2x)

3. Preparatory work

	TIS No.
Conduct a brief test	---
Disconnect negative pole of battery	12 00 ...
The following components must be removed first of all	
Control Display	65 82 050
Pedal trim	51 45 185
Trim at the bottom right of the dashboard	51 45 181
Door sill strip, front (interior) right	51 47 000
Side footwell trim on right A pillar	51 43 070
Door sill strip, rear (interior) right	51 47 030
Trim for door pillar at the bottom right	51 43 150
Backrest side section, rear seat, right	52 26 008
Luggage compartment wheel arch trim flap, right	---
Trim for the boot-lid	51 49 000
Button for opening the boot-lid, no longer required	51 24 145

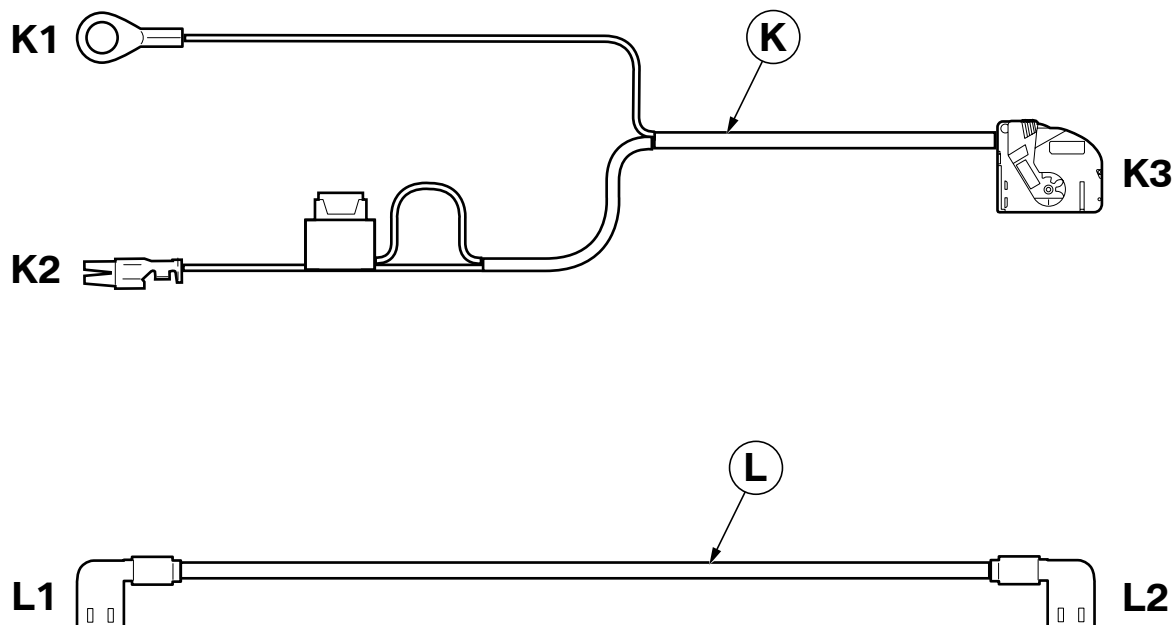
4. Rear view connection diagram



060 0744 Z

Branch/ Item	Designation	Signal	Cable colour / Cross- section	Connection site in the car	Abbreviation / Slot
A	Rear view wiring harness	---	---	---	---
A1	Black 12-pin socket casing	---	---	On control unit C	---
A2	Cable open	RFS	GN 0.5 mm ²	With miniature connector I to yellow/white cable from right reversing light	X318 PIN 3
A3	Socket contact	Video +	TR 0.14 mm ²	On branch K3 from LVDS wiring harness	PIN 9
A4	Socket contact	Video -	BR/SW 0.5 mm ²	On branch K3 from LVDS wiring harness	PIN 18
A5	Socket contact	Terminal 30g	RT 0.75 mm ²	On branch K3 from LVDS wiring harness	PIN 4
A6	Socket contact	Terminal 31	BR 0.75 mm ²	On branch K3 from LVDS wiring harness	PIN 6
A7	Socket contact	RFSg	GN 0.5 mm ²	On branch K3 from LVDS wiring harness	PIN 10

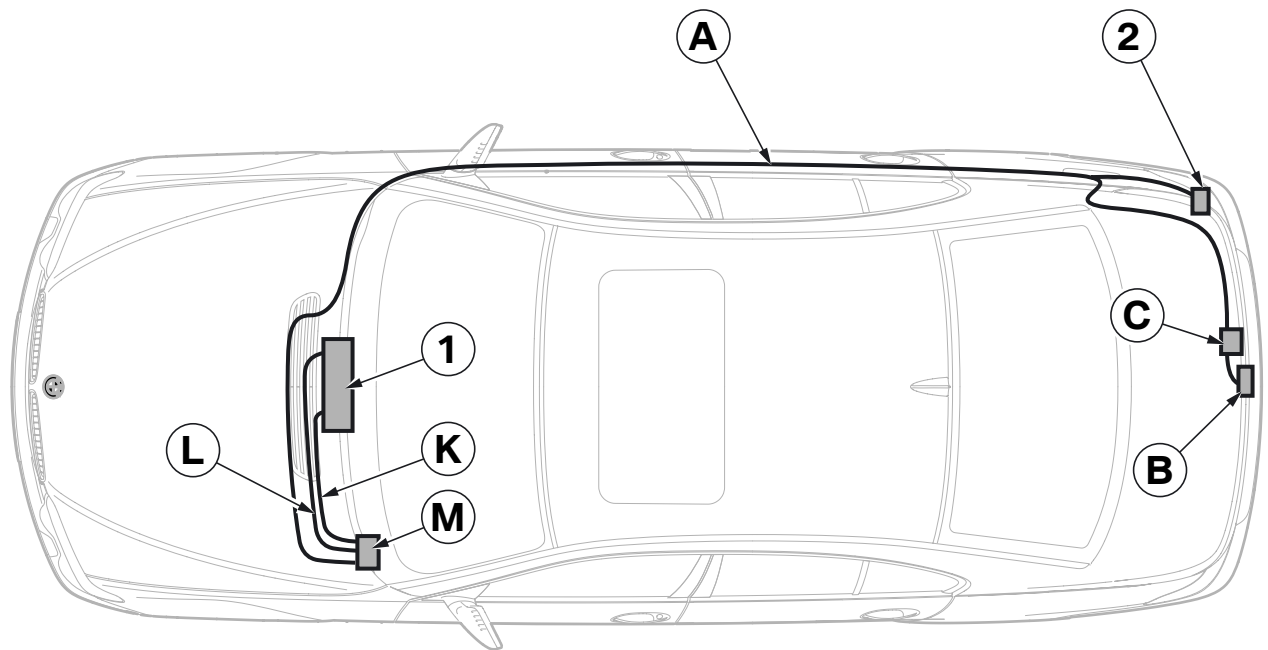
5. LVDS converter extras kit connection diagram



060 0745 Z

Branch/ Item	Designation	Signal	Cable colour / Cross-section	Connection site in the car	Abbreviation / Slot
K	LVDS wiring harness	---	---	---	---
K1	Eyelet M6	Terminal 31	BR 0.75 mm ²	On on-board monitor using miniature connector R on brown/black cable	X13822 PIN 3
K2	Double flat spring contact	Terminal 30g	RT 0.75 mm ²	On on-board monitor using miniature connector R on red/violet cable	X13822 PIN 1
K3	Blue 18-pin socket casing	---	---	On LVDS converter M	---
L	Connection cable	---	---	---	---
L1	Violet 10-pin socket casing	---	---	To Control Display	X13823
L2	White 10-pin socket casing	---	---	On LVDS converter M	---

6. Installation and cabling diagram



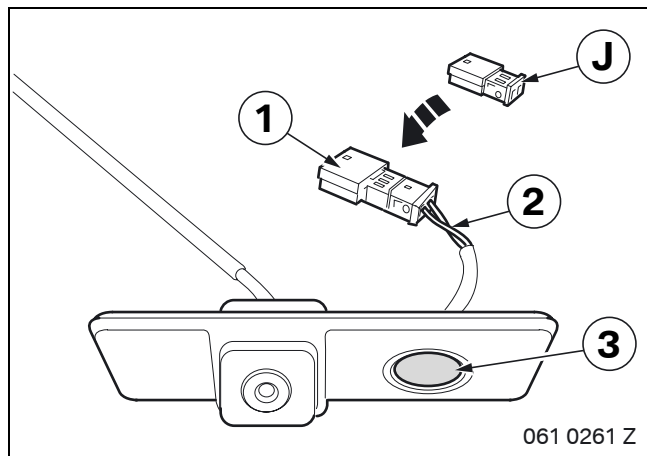
060 0746 Z

Legend

- A** Rear view wiring harness
- B** Rear View with button
- C** Control module
- K** LVDS wiring harness
- L** Connection cable
- M** LVDS converter

- 1** Terminal 30g and terminal 31 tap on on-board monitor, plug **X13822**
- 2** RFS tap on reversing light, plug **X318**

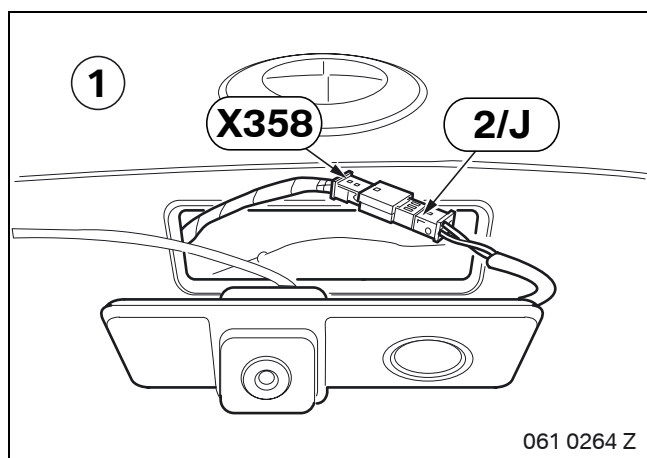
7. Installing the Rear View with button and control unit



Cars built after 09/05 only

Plug casing **J** (2-pin GN) is attached to the connection cable of the button (3). ◀

Disconnect the cable (2) of the button (3) from the existing plug (1) and connect to plug casing **J**.

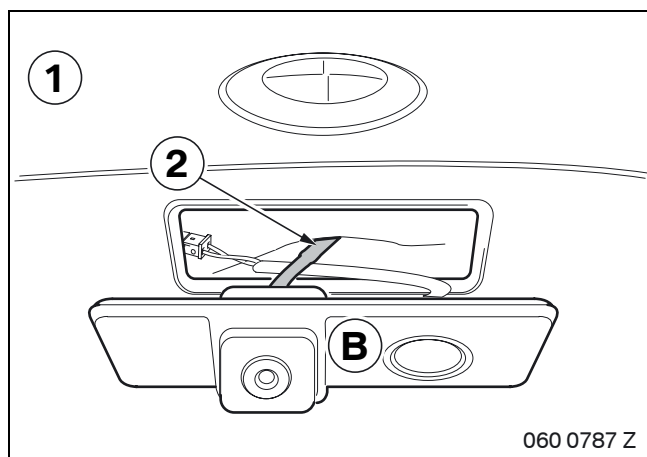


Cars built before 09/05 only

Connect the plug (2) of the button on plug **X358** (Bordeaux 3-pin) of the boot lid (1).

Cars built after 09/05 only

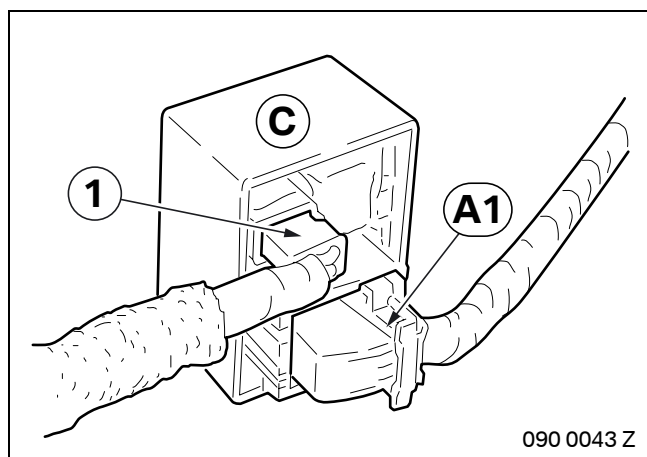
Connect plug casing **J** on plug **X358** (black 2-pin) of the boot lid (1).



All cars

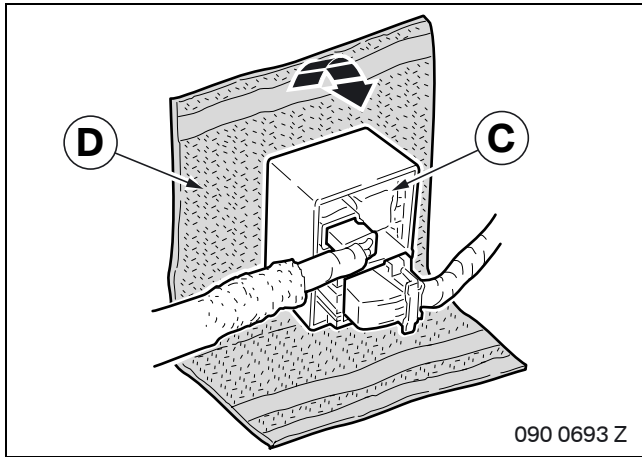
Route the connection plug (2) of the rear view into the boot lid (1).

Clip Rear View with button **B** into the boot lid (1).

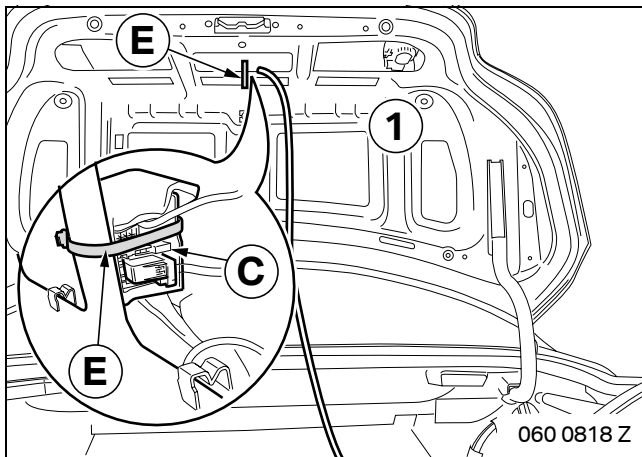


Connect the connection plug (1) of the rear view and branch **A1** (12-pin black plug) to control unit **C**.

7. Installing the Rear View with button and control unit

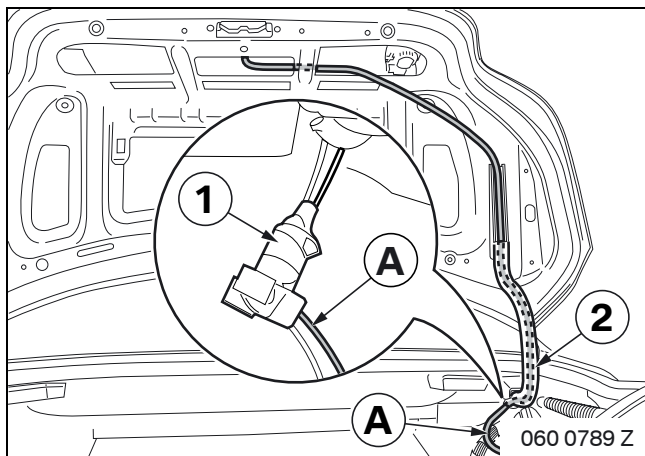


Affix protective strip **D** to control unit **C**.
Cut off any excess lengths.



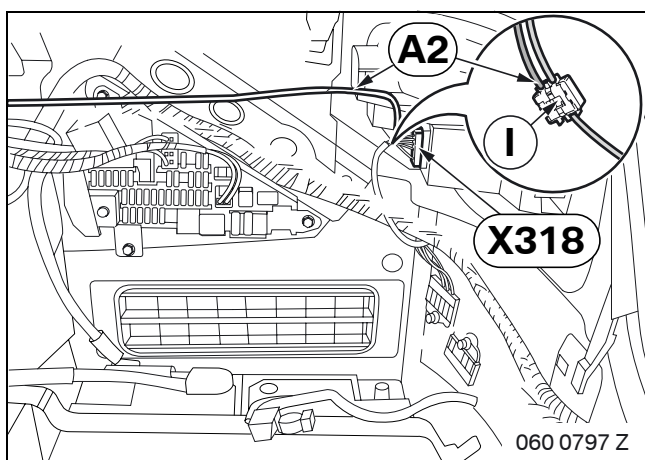
Use cable tie **E** to attach control unit **C** to the web of the boot-lid (1).

8. Routing and connecting the Rear View wiring harness



Route rear view wiring harness **A** through the hinge tube (2) and cable grommet (1) into the boot.

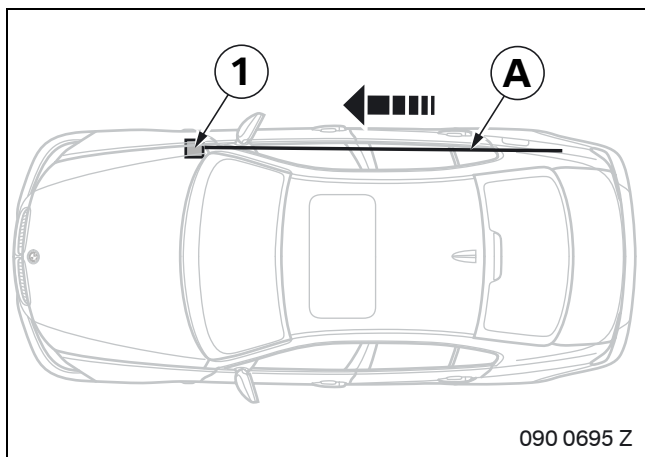
▶ Ensure that rear view wiring harness **A** has sufficient freedom of movement around the hinge. ◀



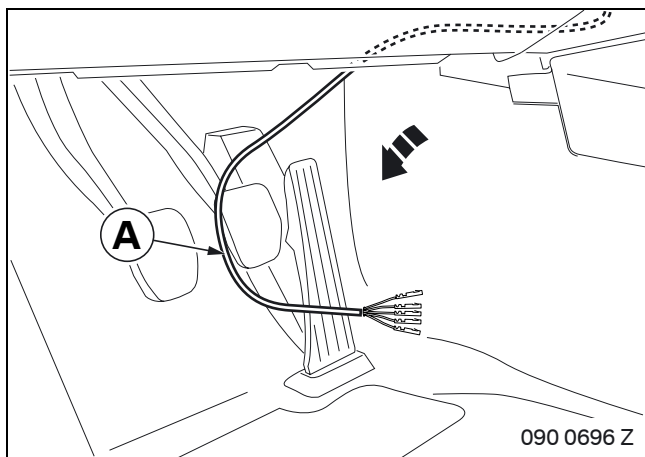
Route branch **A2**, green cable, to the right tail light.

▶ Before connecting, check whether the reversing light signal is present on the yellow/white cable. ◀

Use miniature connector **I** to connect branch **A2** to the yellow/white cable from plug **X318** (PIN 3).

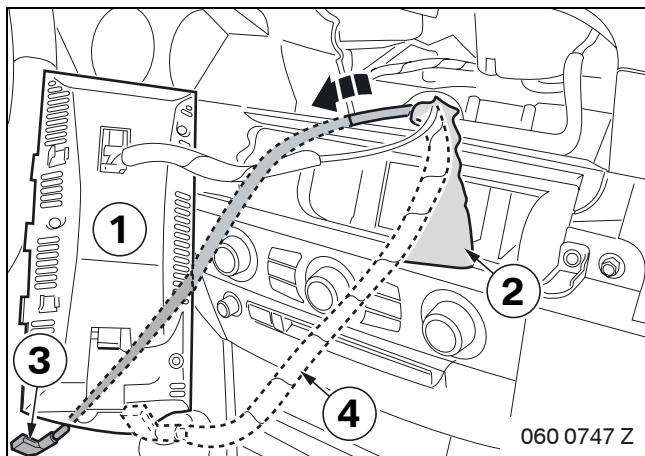


Route Rear View wiring harness **A** along the standard wiring harness into the footwell on the passenger side (1).



Route Rear View wiring harness **A** along the standard wiring harness into the footwell on the driver's side.

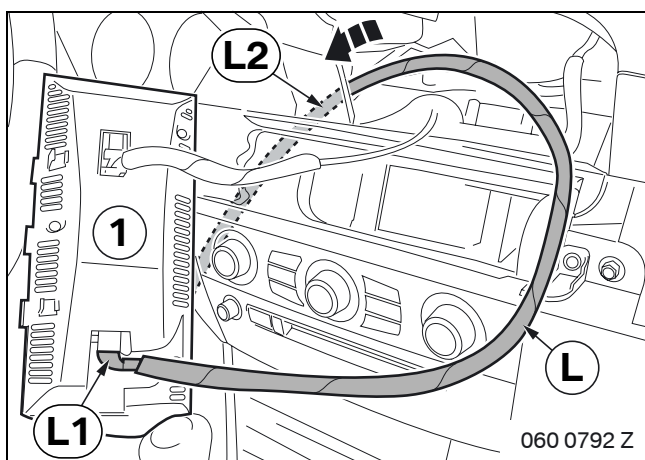
9. Installing and connecting the connection cable



Disconnect the existing signal cable (4) from the control display (1).

Remove the sheath (2) from the existing signal cable (4) as far as possible.

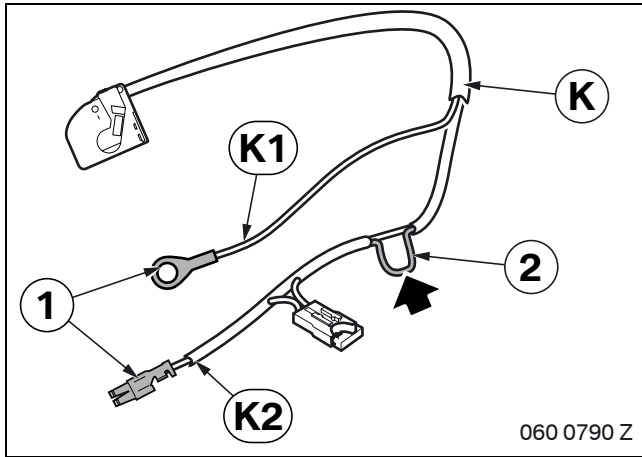
Route the plug (3) on the existing signal cable (4) into the footwell on the driver's side.



Connect branch **L1** (10-pin VI plug) of connection cable **L** on the control display (1).

Route branch **L2** (white 10-pin plug) to the footwell on the driver's side.

10. Installing and connecting the LVDS wiring harness

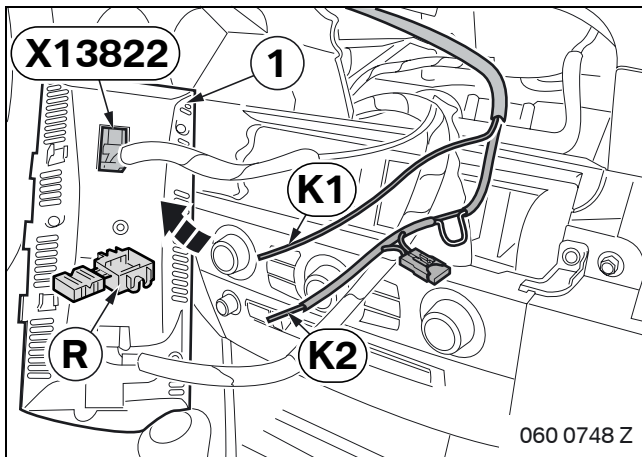


Prepare LVDS wiring harness **K** as follows:

- Remove the contacts (1) from branch **K1**, brown cable, and branch **K2**, red cable

Cars with M-ASK only

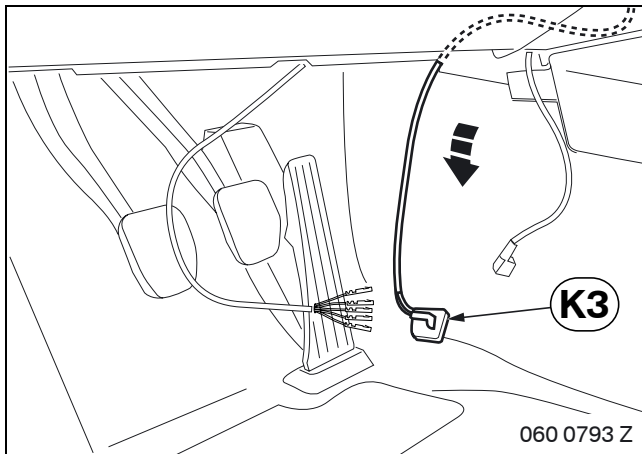
- Cut the cable loop (2), yellow cable
- Insulate the cut cables



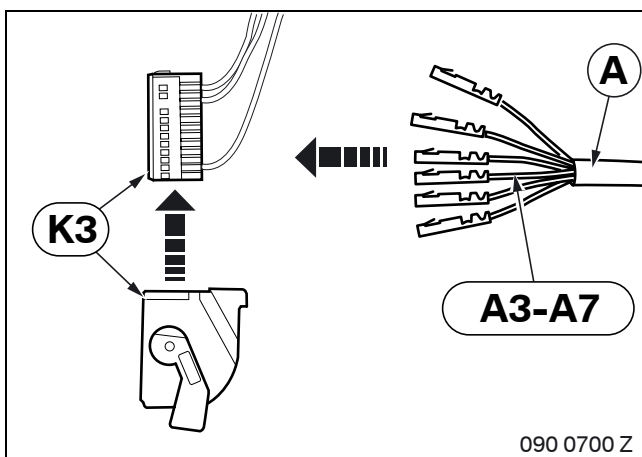
All cars

Connect branches **K1** and **K2** as follows to plug **X13822** (black 12-pin) on the control display (1) using miniature connectors **R**:

- Branch **K1**, brown cable, to brown/black cable from PIN 3
- Branch **K2**, red cable, to red/violet cable from PIN 1



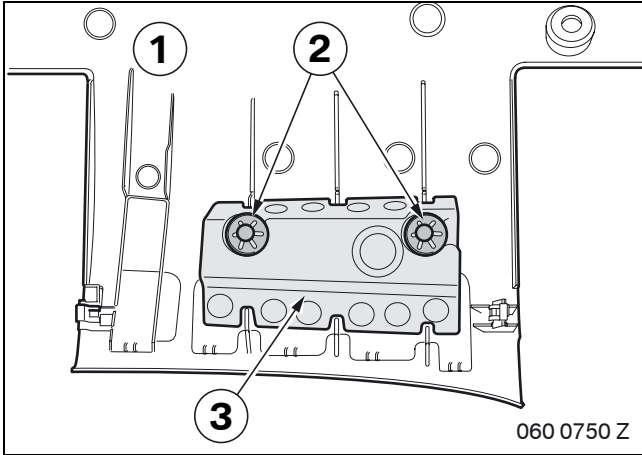
Route branch **K3** (blue 18-pin plug) to the footwell on the driver's side.



Connect Rear-View camera wiring harness **A** to branch **K3** (blue 18-pin plug) as follows:

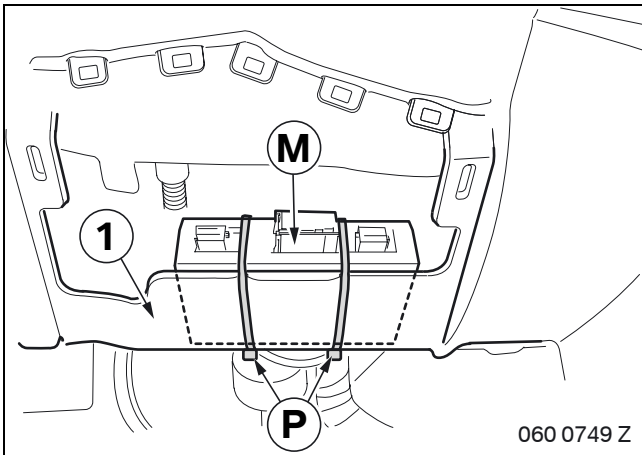
- Branch **A3**, transparent cable, to PIN 9
- Branch **A4**, brown/black cable, to PIN 18
- Branch **A5**, red cable, to PIN 4
- Branch **A6**, brown cable, to PIN 6
- Branch **A7**, green cable, to PIN 10

11. Installing and connecting the LVDS converter



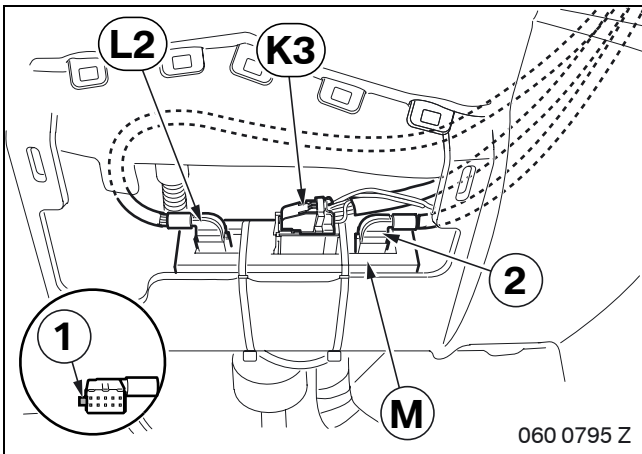
Prepare the pedal trim (1) as follows:

- Remove the lock washers (2)
- Remove the polystyrene (3)



Secure the LVDS converter **M** to the trim (1) below the steering column using cable ties **P**.

- ▶ Ensure that the steering column can still move freely as required. ◀



- ▶ Use the coding (1) on the plugs to connect them correctly. ◀

Connect the plugs on LVDS converter **M**:

- Plug (2) of the existing signal cable (violet 10-pin)
- Branch **K3** (blue 18-pin plug)
- Branch **L2** (white 10-pin plug)

12. Concluding work and coding

This retrofit system does not require coding.

- Connect the battery
- Conduct a brief test

In most cases, after installation of the retrofit, repairs or a software update of the car, an image misalignment appears on the control display. To correct the image misalignment, the LVDS converter M must be initialised.

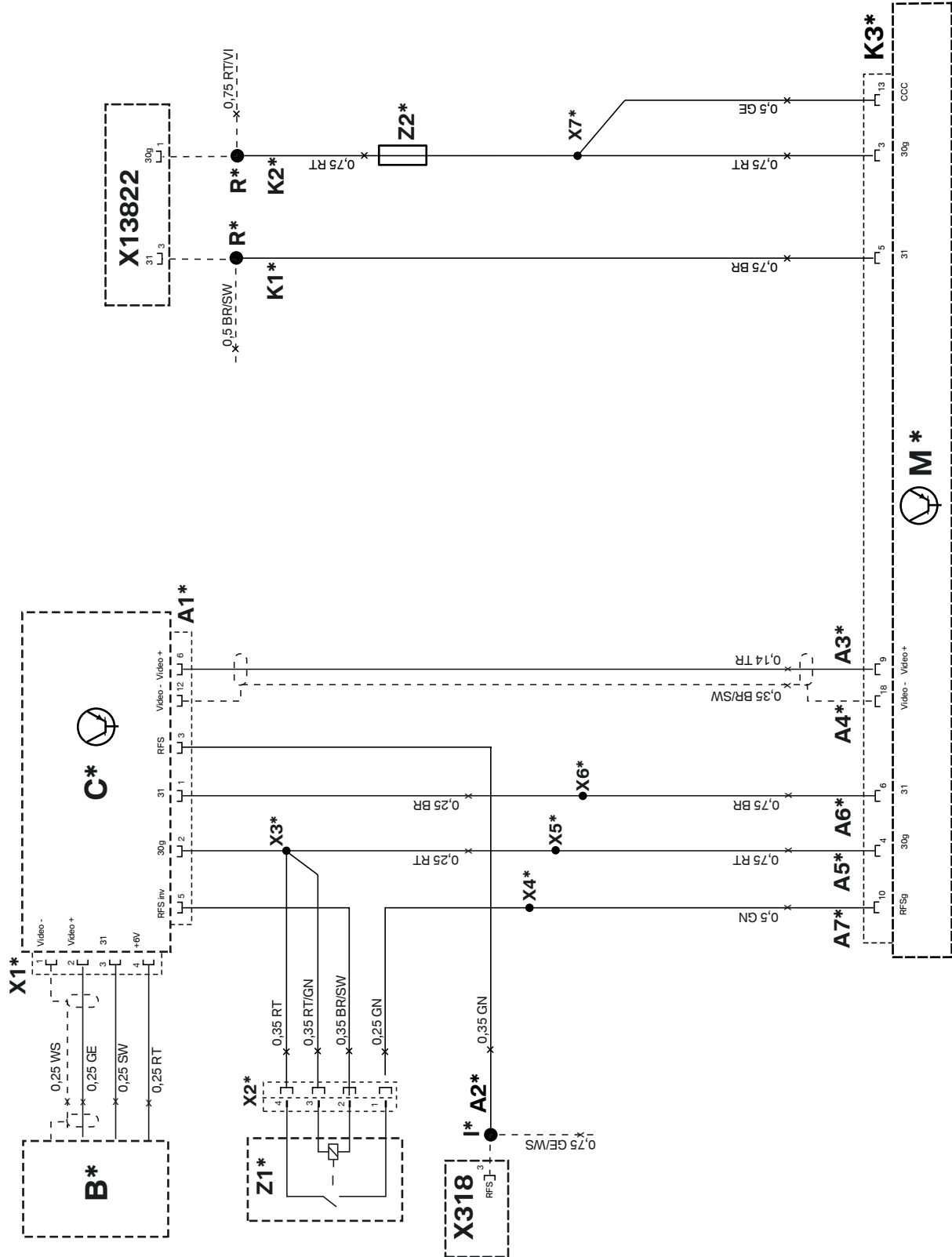
The initialisation is to be carried out as detailed in the separate initialisation instructions 01 29 0 432 055.

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-fit the car components as required

13. Circuit diagram



060 0796 Z

13. Circuit diagram

Legend

A1*	black 12-pin plug
A2*	Open cable, RFS terminal pick-up
A3*	Socket contact
A4*	Socket contact
A5*	Socket contact
A6*	Socket contact
A7*	Socket contact
B*	Rear View
C*	Control module
I*	Miniature connector
K1*	Ring eyelet M6, terminal 31 pick-up
K2*	Double flat spring, terminal 30g tap
K3*	Blue 18-pin plug
M*	LVDS converter
R*	Miniature connector
X1*	black 4-pin plug
X2*	White 4-pin miniature relay plug connector
X3*	Terminal 30 connector
X4*	Terminal RFSg connector
X5*	Terminal 30g connector
X6*	Terminal 31 connector
X7*	Terminal 30g connector
X318	Black 6-pin plug, terminal RFS tap
X13822	Black 12-pin plug, terminal 30g and terminal 31 tap
Z1*	Miniature relay
Z2*	Fusible element 1 A

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

Cable colours

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