

Original BMW Accessories. Installation Instructions.



Rear View Retrofit BMW X5 (E70) BMW X6 (E71)

Retrofit kit No.: 66 21 0 415 170 Rear view retrofit kit
66 21 0 417 943 LVDS converter extras kit

Installation time

The installation time is **approx. 2.5 to 3 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.

In the event of any installation or function problems, restrict the troubleshooting session to about 0.5 hours for mechanical work or 1 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 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. In order to correct the picture offset the LVDS converter M must be initialized.

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 rear view retrofit kit and must be ordered separately (see EPC for part number and further details).

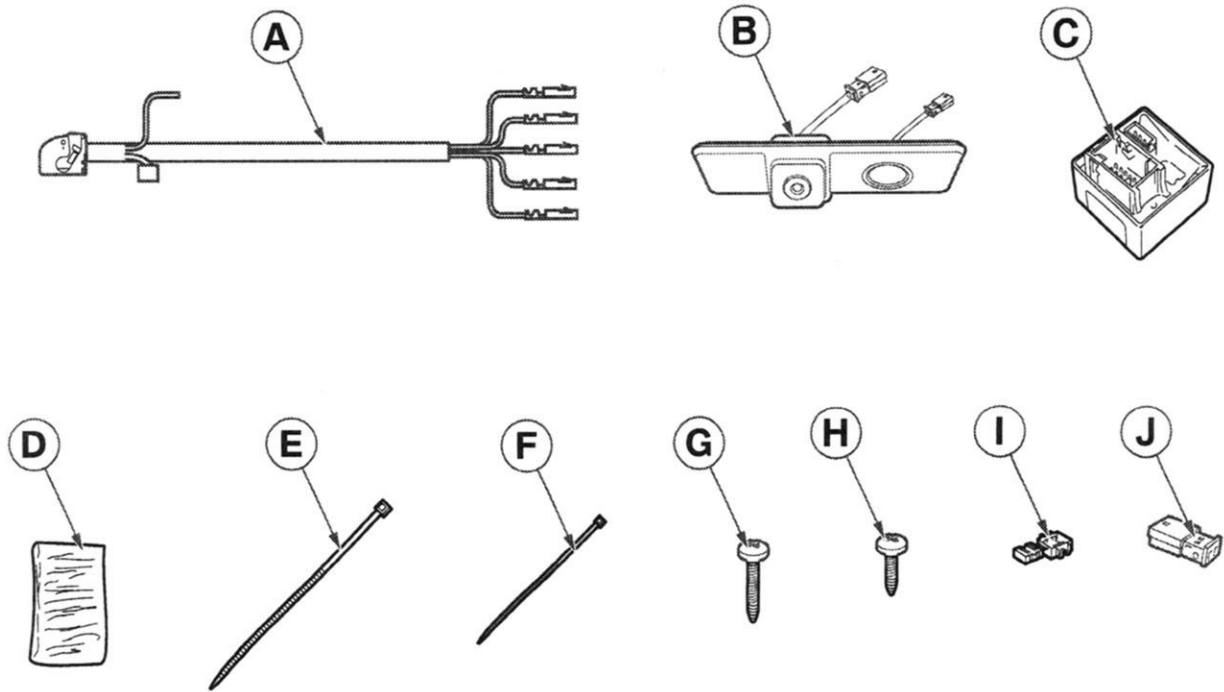
Special tools required

00 9 310, installation wedges

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1. Rear view parts list

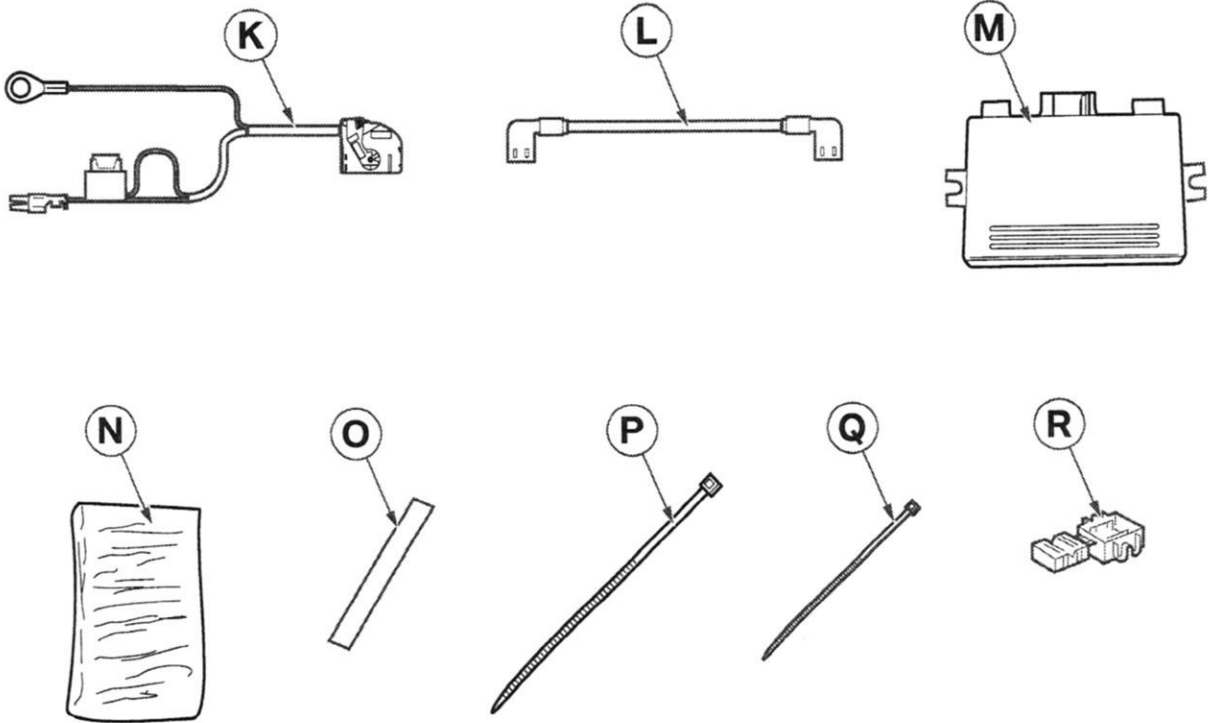


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Legend

- A** Rear view wiring harness
- B** Rear view with button
- C** Control unit
- 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



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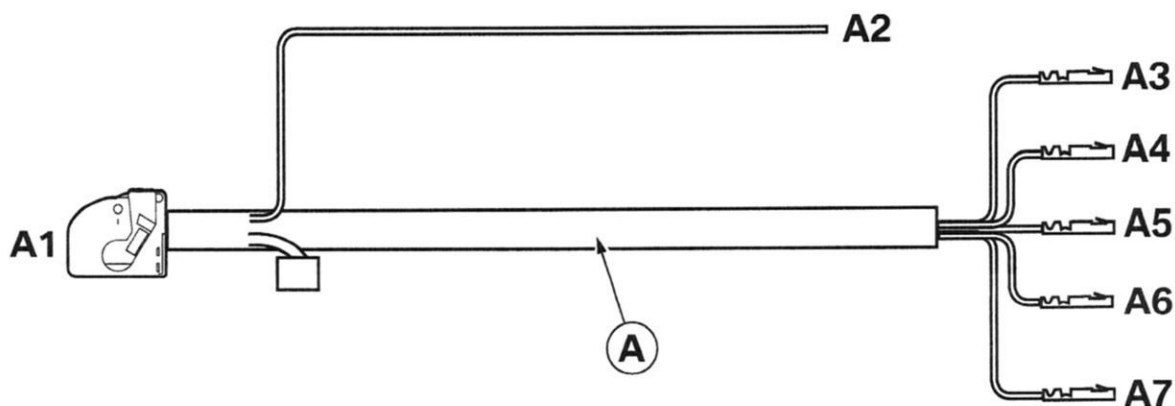
Legend

- K** LVDS wiring harness
- L** Connection cable
- M** LVDS converter
- N** Protective strip (2x)
- 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
Glovebox	51 16 360
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	---
Roof pillar trim, rear (D pillar) right	51 43 252
Trim for the tailgate, left and right	---
Tailgate trim	51 49 000
Button for opening the tailgate, no longer required	51 24 145

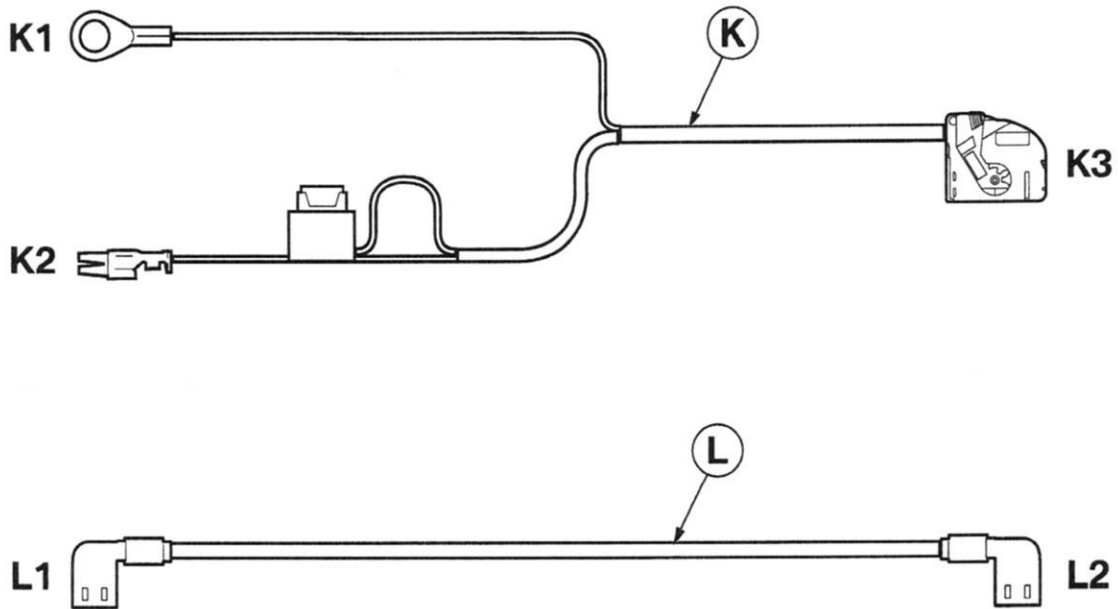
4. Rear view connection diagram



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Branch /Item	Designation	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Rear view wiring harness	---	---	---	---
A1	SW 12-pin socket casing	---	---	On control unit C	---
A2	Cable open	RFS	GN 0.35 mm ²	On right-hand side reversing light using miniature connector I on BL/GE cable	X318 PIN 1
A3	Socket contact	Video +	TR 0.14 mm ²	On branch K3 from LVDS wiring harness	PIN 9
A4	Socket contact	Video -	BR/SW 0.35 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

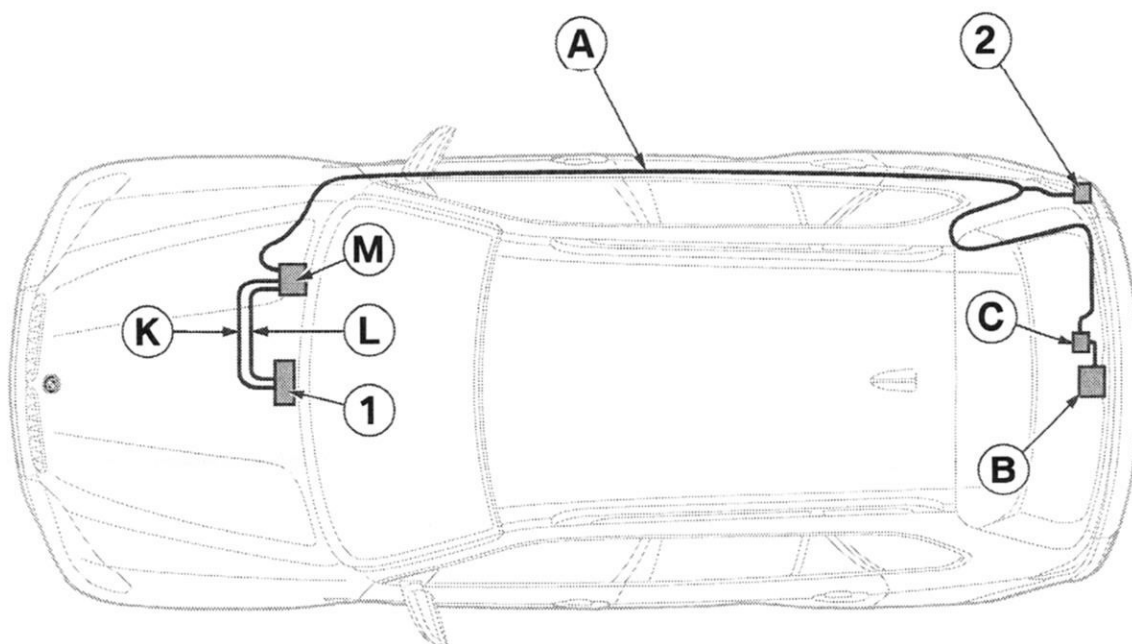
5. LVDS converter extras kit connection diagram



070 0004 Z

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

6. Installation and cabling diagram



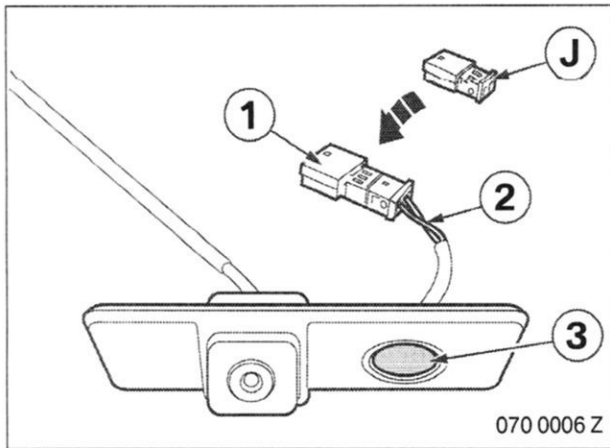
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Legend

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

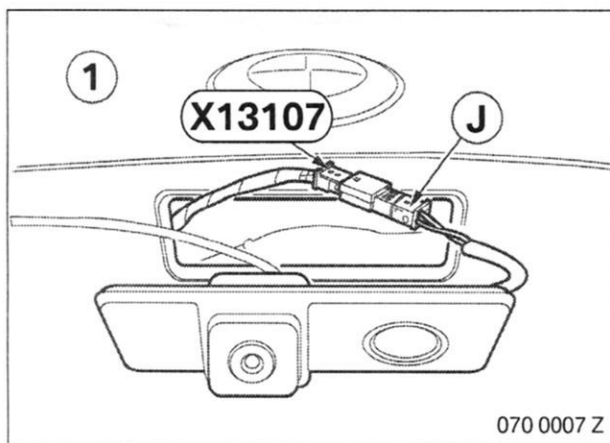
- 1** Terminal 30g and terminal 31 tap on Control Display, socket casing **X13822**
- 2** RFS tap on reversing light, socket casing **X318**

7. To install the rear view with button and control unit

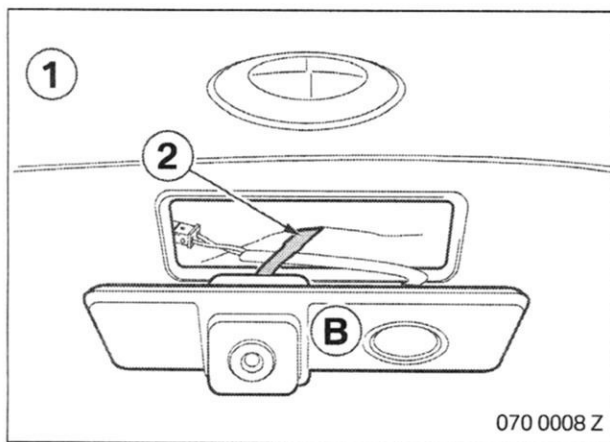


▶ Plug casing **J** (GN 2-pin) is attached to the connection cable of the button (3). ◀

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

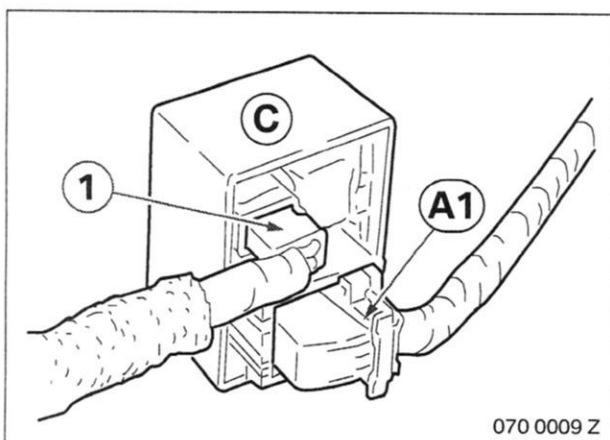


Connect plug casing **J** on socket casing **X13107** (SW 2-pin) of the tailgate (1).



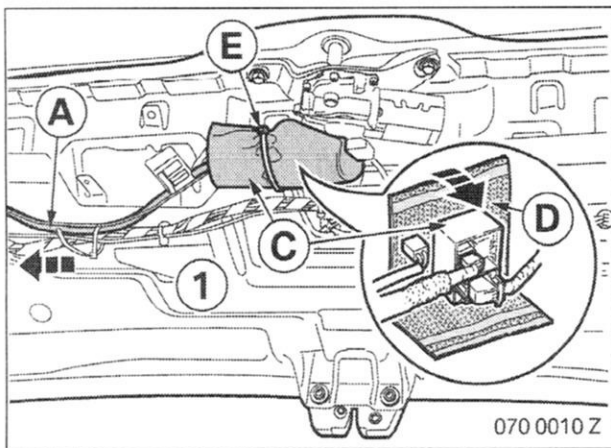
Route the connection plug (2) of the rear view into the tailgate (1) to the wiper motor.

Clip rear view with button **B** into the tailgate (1).



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

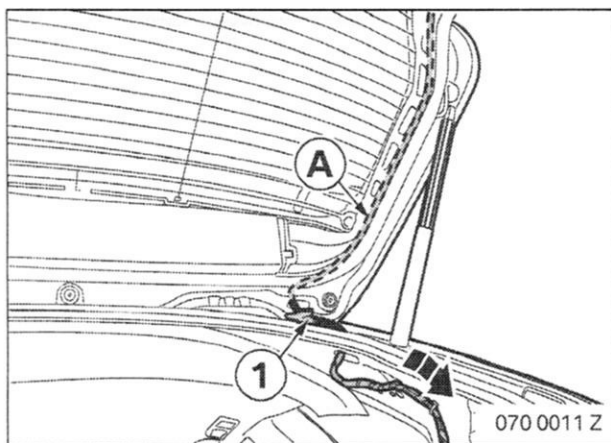
8. To route and connect the rear view wiring harness



Wrap control unit **C** in protective strips **D**.

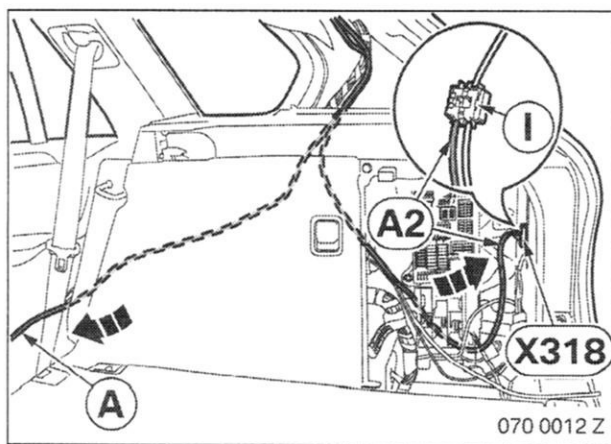
Use cable tie **E** to attach control unit **C** to the web of the tailgate (1).

Route rear view wiring harness **A** along the standard wiring harness to the right-hand side of the tailgate (1).



The headlining must be lowered slightly at the rear right for routing the cable. ◀

Route rear view wiring harness **A** along the standard wiring harness through the grommet (1) into the luggage compartment.



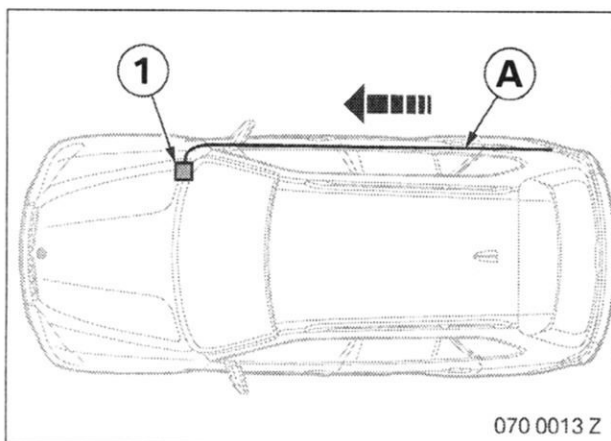
Route branch **A2**, GN cable, to the right rear light.



Before connecting, check whether the reversing light signal is present on the BL/GE cable. ◀

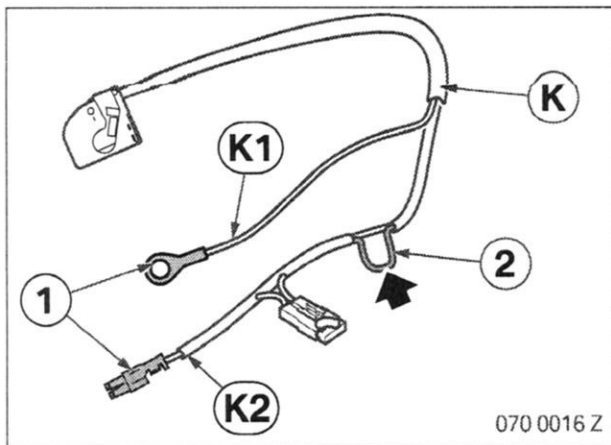
Use miniature connector **I** to connect branch **A2** to the BL/GE cable from socket casing **X318** (PIN 1).

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



Route rear view wiring harness **A** along the standard wiring harness into the footwell on the passenger's side (1).

9. To connect the power supply and connection cable

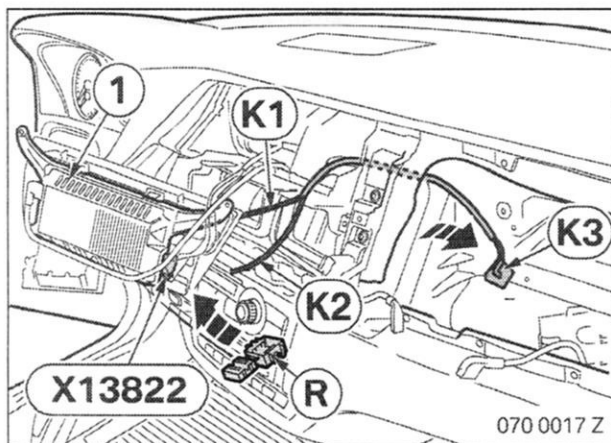


Prepare LVDS wiring harness **K** as follows:

- Remove the contacts (1) from branch **K1**, BR cable, and branch **K2**, RT cable

Cars with ASK only

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

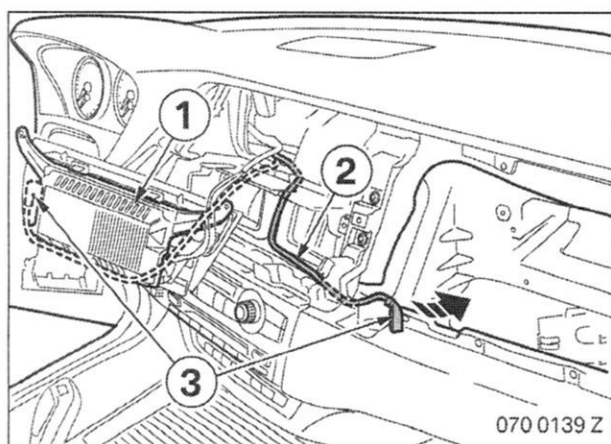


All cars

Connect branches **K1** and **K2** as follows to socket casing **X13822** (SW 12-pin) on the Control Display (1) using miniature connectors **R**:

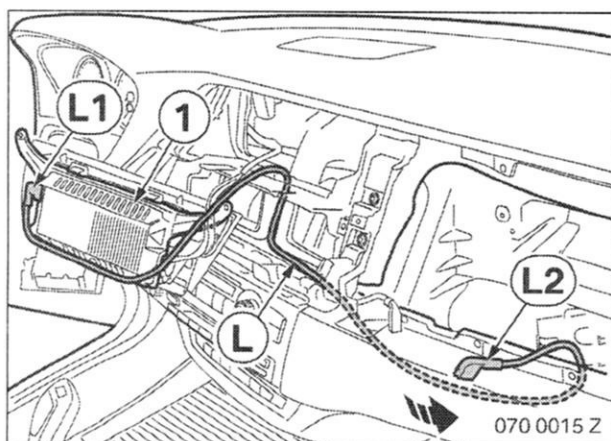
- Branch **K1**, BR cable, to BR cable from PIN 3
- Branch **K2**, RT cable, to RT/VI cable from PIN 1

Route branch **K3** (BL 18-pin socket casing) into the cutout of the glove compartment.



Disconnect the existing signal cable (2) from the Control Display (1).

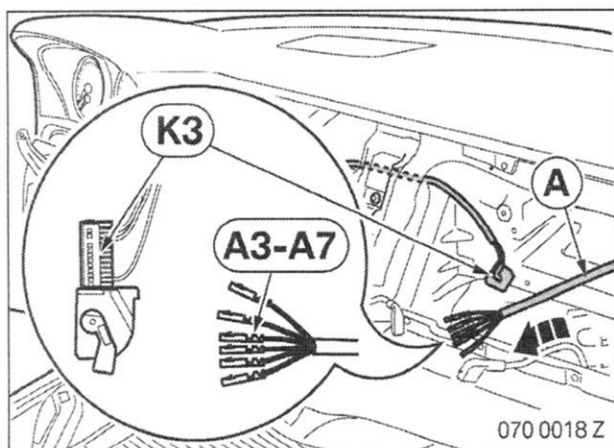
Route the socket casing (3) on the existing signal cable (2) into the cutout of the glove compartment (3).



Connect branch **L1** (VI 10-pin plug) on connection cable **L** to the Control Display (1).

Route branch **L2** (WS 10-pin socket casing) into the cutout of the glove compartment.

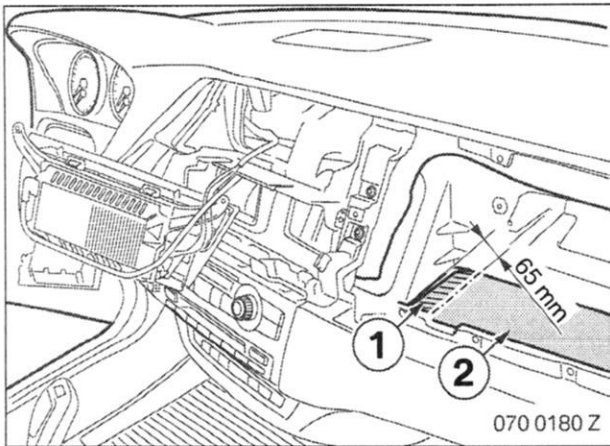
9. To connect the power supply and connection cable



Route rear view wiring harness **A** into the cutout in the glove compartment and connect as follows to branch **K3** (BL 18-pin socket casing):

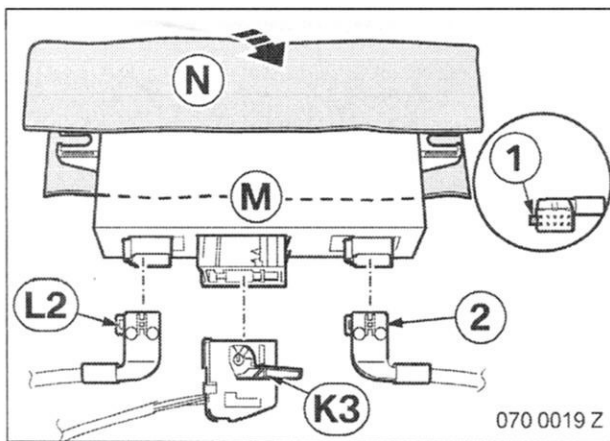
- Branch **A3**, TR cable, to PIN 9
- Branch **A4**, BR/SW cable, to PIN 18
- Branch **A5**, RT cable, to PIN 4
- Branch **A6**, BR cable, to PIN 6
- Branch **A7**, GN cable, to PIN 10


10. Installing and connecting the LVDS converter



Mark the specified dimension on the existing polystyrene insert (2), if necessary.

Separate and remove section (1).

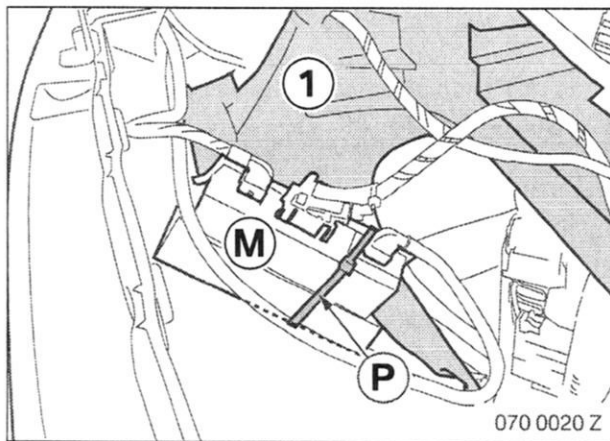


 Use the coding (1) on the plugs to connect them correctly. ◀

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

- Socket casing (2) on the existing signal cable (VI 10-pin)
- Branch **K3** (BL 18-pin socket casing)
- Branch **L2** (WS 10-pin socket casing)

Wrap underside of LVDS converter **M** with protective strips **N**.



Secure LVDS converter **M** to instrument panel (1) using cable ties **P**.

11. 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. In order to correct the picture offset the LVDS converter M must be initialized.

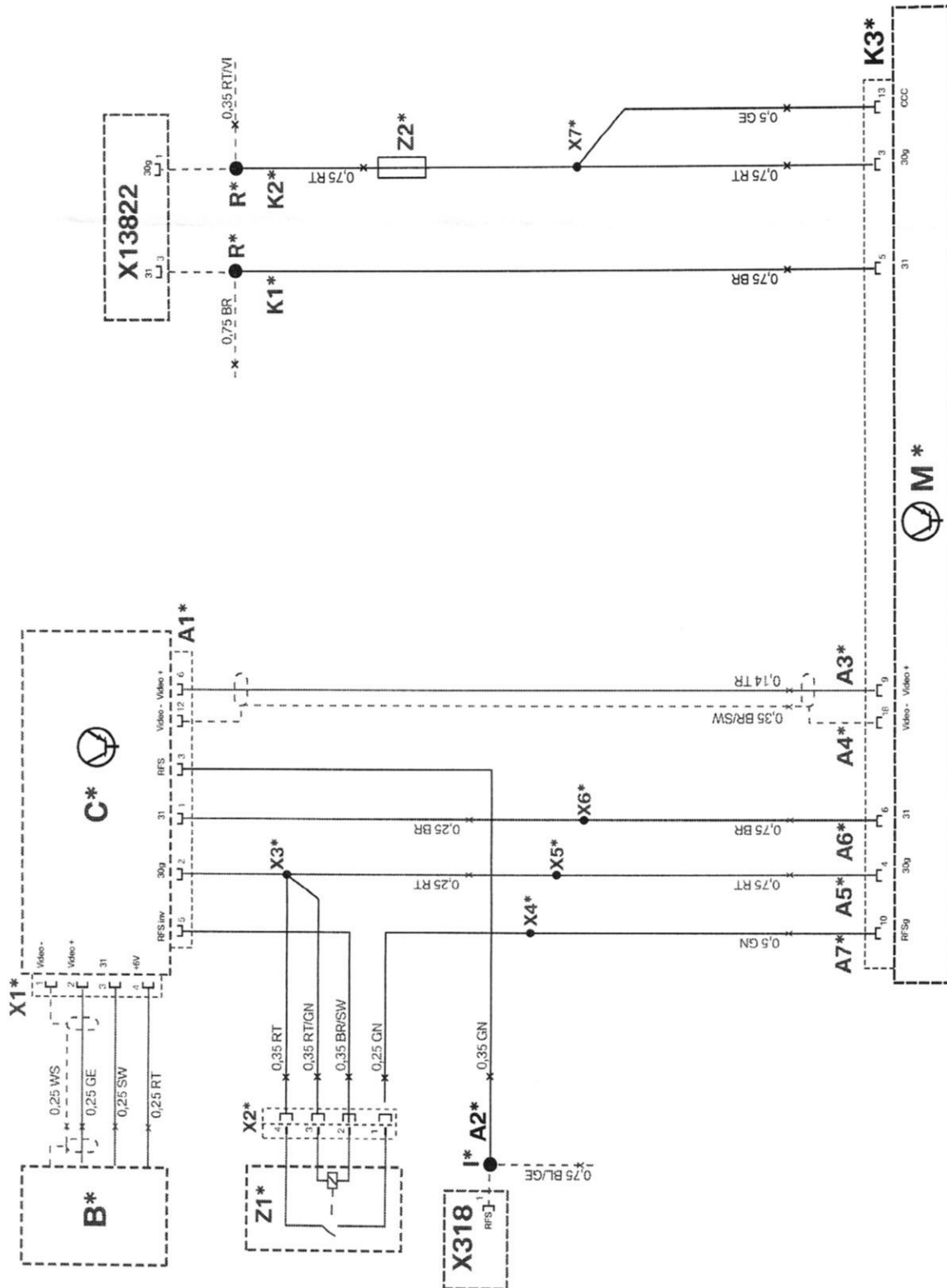
The initialisation is to be carried out as detailed in the separate initialisation instructions 01 29 0 432 055.

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-assemble the car

12. Circuit diagram



12. Circuit diagram

Legend

A1*	SW 12-pin socket casing
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 unit
I*	Miniature connector
K1*	Ring eyelet M6, terminal 31 pick-up
K2*	Double flat spring, terminal 30g pick-up
K3*	BL 18-pin socket casing
M*	LVDS converter
R*	Miniature connector
X1*	SW 4-pin socket casing
X2*	WS 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	SW 6-pin socket casing, terminal RFS pick-up
X13822	SW 12-pin plug, terminal 30g and terminal 31 pick-up
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	RT	Red
BR	Brown	SW	Black
GE	Yellow	TR	Transparent
GN	Green	VI	Violet
OR	Orange	WS	White