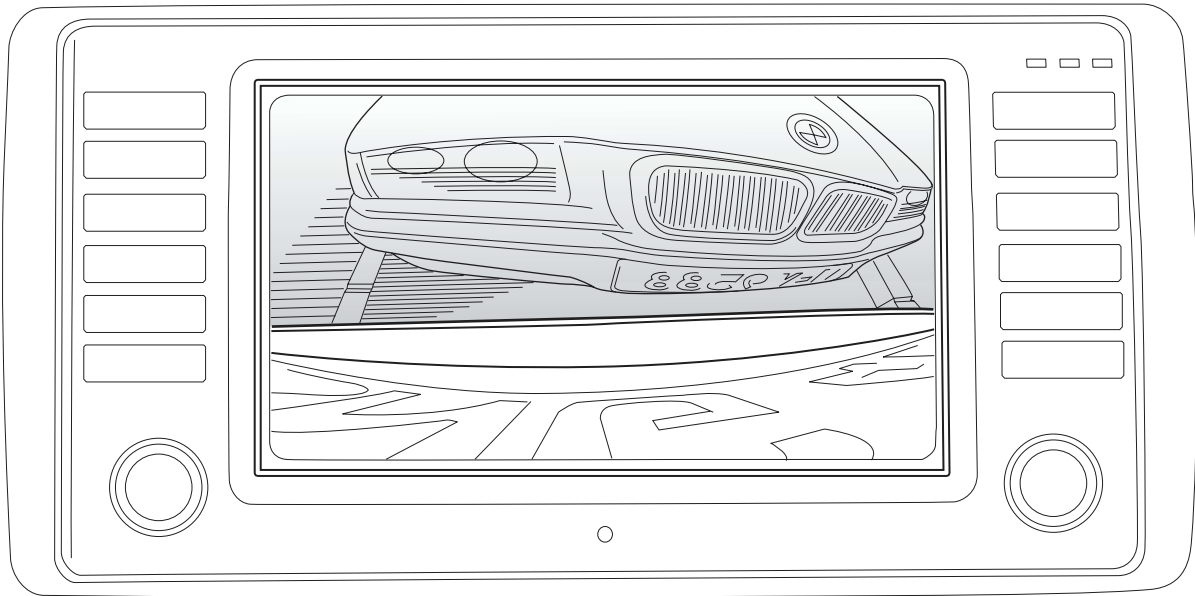




# Parts and Accessories Installation Instructions



039 0411 Z

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## Rear-View Camera Retrofit BMW 5 Series Saloon (E39)

**These installation instructions are only valid for cars with SA 609 (navigation system).**

The installation time for cars with TV function is approx. 1.5 – 2 hours, for cars without TV function approx. 2.5 – 3 hours. The installation time may vary depending on condition of the car and the equipment in it.

Retrofit kit No.           84 21 0 150 717  
                                  84 21 0 300 908  
                                  84 21 0 301 007

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## Important information

These installation instructions are primarily intended for use in the BMW dealer organisation and by authorised BMW dealerships; irrespective of where these installation instructions are used, their target group is specialist personnel trained on BMW cars with the appropriate specialist knowledge.

Subject to technical modifications.

Do not archive the printout of these installation instructions, since daily updates are available via ASAP (Aftersales Assistance Portal)!

All work must be completed using the latest 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.

## Installation information

Ensure that the cables/lines are not kinked or damaged as you install them in the car.

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 accordingly on RHD cars.

The switch-off delay (5 seconds) of the rear-view camera can be deactivated following consultation with the customer.

## Pictograms



denotes instructions that draw your attention to special features.



denotes the end of the instruction or caution text.

## Information on operation

The rear-view camera is only active when reverse gear is engaged and terminal 15 is active.

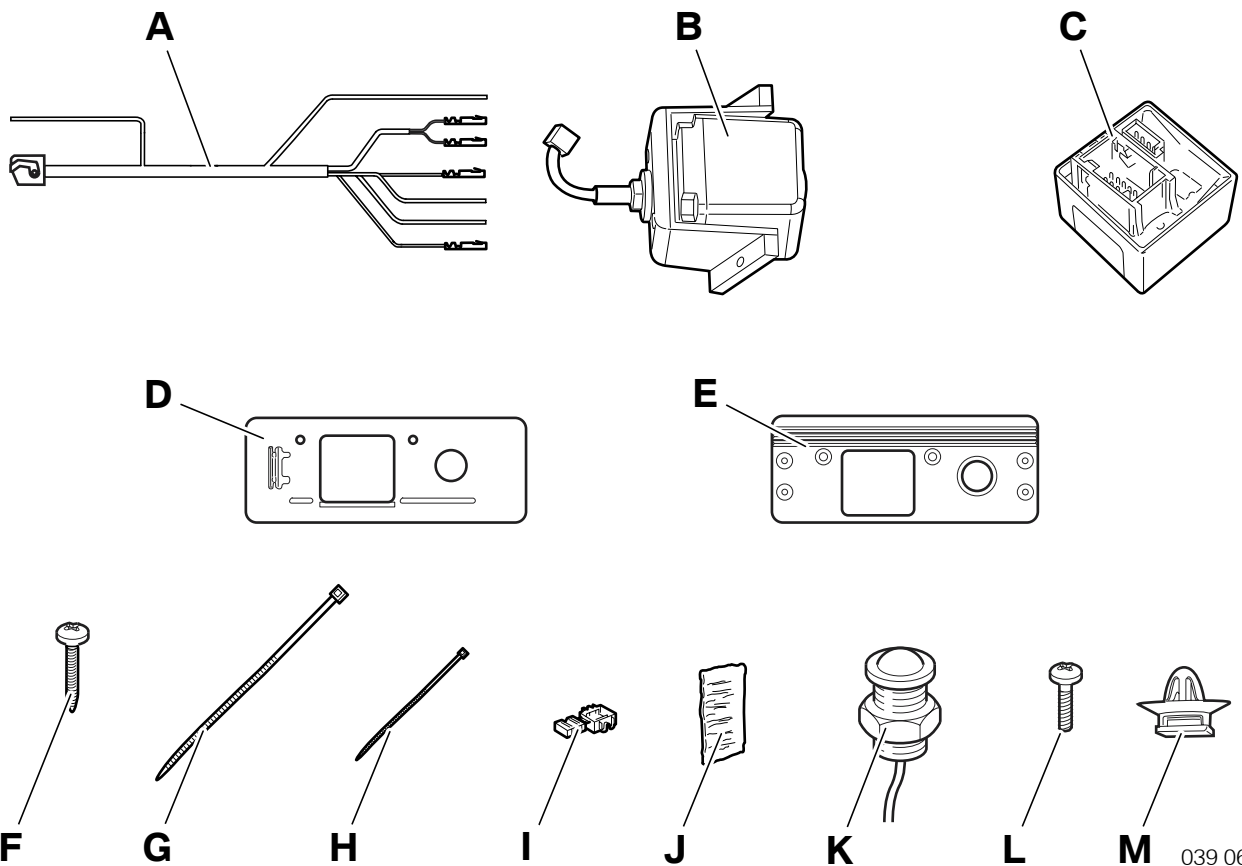
## Required special tools

Unlocking hook (65 5 400)

## 1. Preparations

	<b>TIS instruction No.</b>
Conduct a brief test	---
Disconnect the negative pole of the battery	12 00 ...
<b>The following components must be removed first of all:</b>	---
Top boot lid trim	51 49 000
Bottom boot lid trim	51 49 005
Button for opening the boot lid (part is no longer required)	51 24 145
Boot floor trim	51 47 101
Trim for rear closing panel, top	51 46 050
Flap in the boot on the left	---
Boot wheel arch trim on the left (cars without TV function only)	51 47 151
Navigation computer (cars without TV function only)	65 90 510
Rear base holder (cars without TV function only)	---
Flap in the boot on the right	---
Undo the video module (cars with TV function only)	65 50 510

## 2. Parts list for rear-view camera (cars with TV function only)

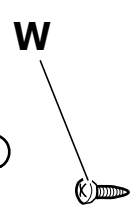
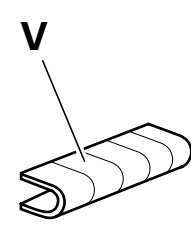
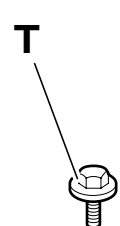
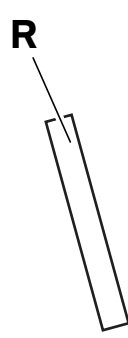
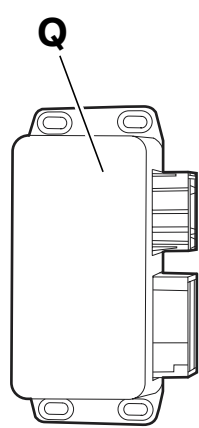
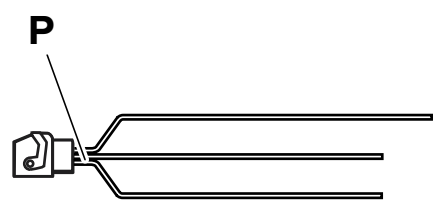
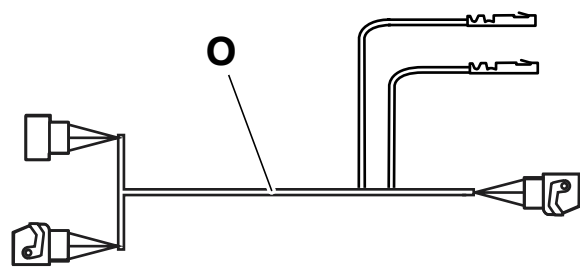
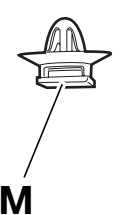
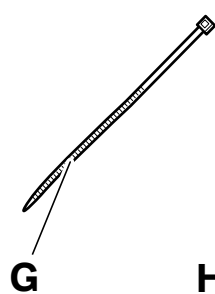
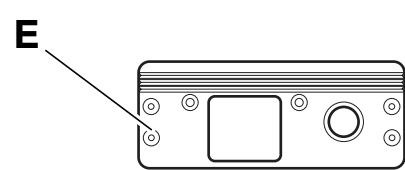
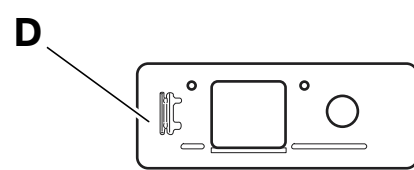
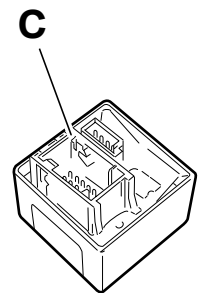
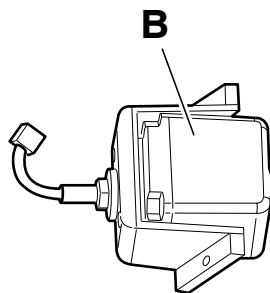
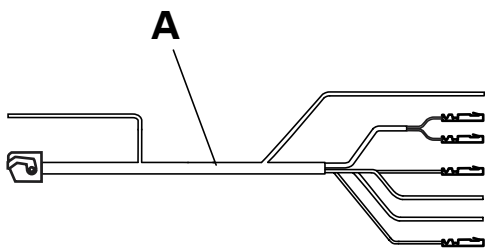


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### Legend

- A** Wiring harness
- B** Rear-view camera
- C** Control unit
- D** Mounting plate
- E** Mounting plate (not required)
- F** Philips screw 3.5 x 16 (6x)
- G** Cable tie 292 x 4.8 mm
- H** Cable tie 200 x 3.6 mm (20x)
- I** Miniature connector (5x)
- J** Protective strip
- K** Button
- L** Philips screw 3.5 x 8 (4x)
- M** Cable tie holder (5x, not required)

### 3. Parts list for rear-view camera and switchbox (cars without TV function only)



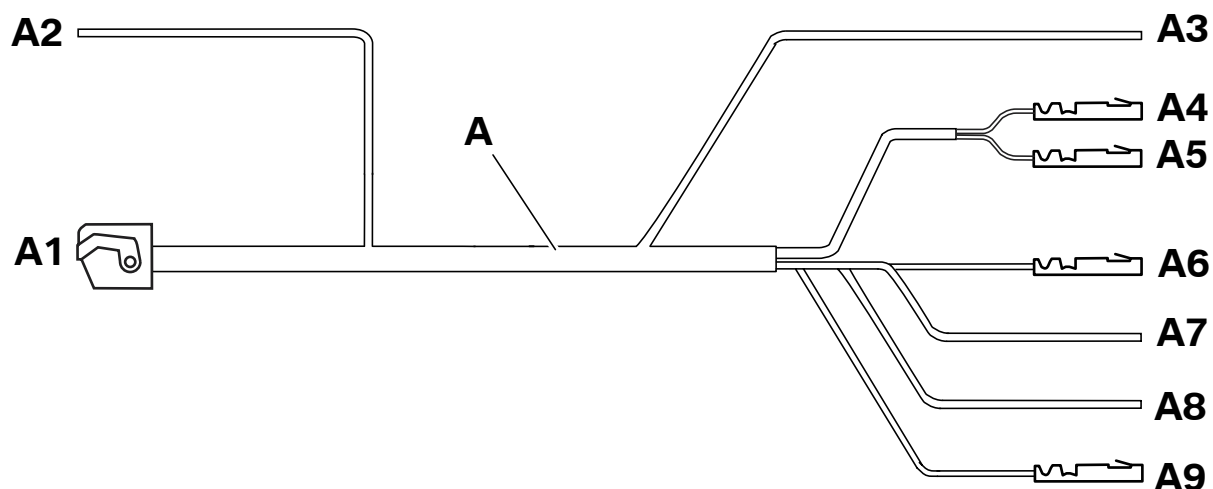
039 0606 Z

### 3. Parts list for rear-view camera and switchbox (cars without TV function only)

#### Legend

- A** Wiring harness
- B** Rear-view camera
- C** Control unit
- D** Mounting plate
- E** Mounting plate (not required)
- F** Philips screw 3.5 x 16 (6x)
- G** Cable tie 292 x 4.8 mm
- H** Cable tie 200 x 3.6 mm (30x)
- I** Miniature connector (5x)
- J** Protective strip
- K** Button
- L** Philips screw 3.5 x 8 (4x)
- M** Cable tie holder (5x, not required)
- N** Part deleted
- O** Adapter cable
- P** Power supply cable
- Q** Switchbox
- R** Sealing strip (2x)
- S** Speed nut M5 (4x)
- T** Hexagonal screw with washer M5 x 14 (4x)
- U** Hexagonal nut with washer M5 (4x, not required)
- V** Edge protector
- W** Fillister head screw 4.2 x 13 mm (4x, not required)

#### 4. Connection diagram (cars with TV function only)

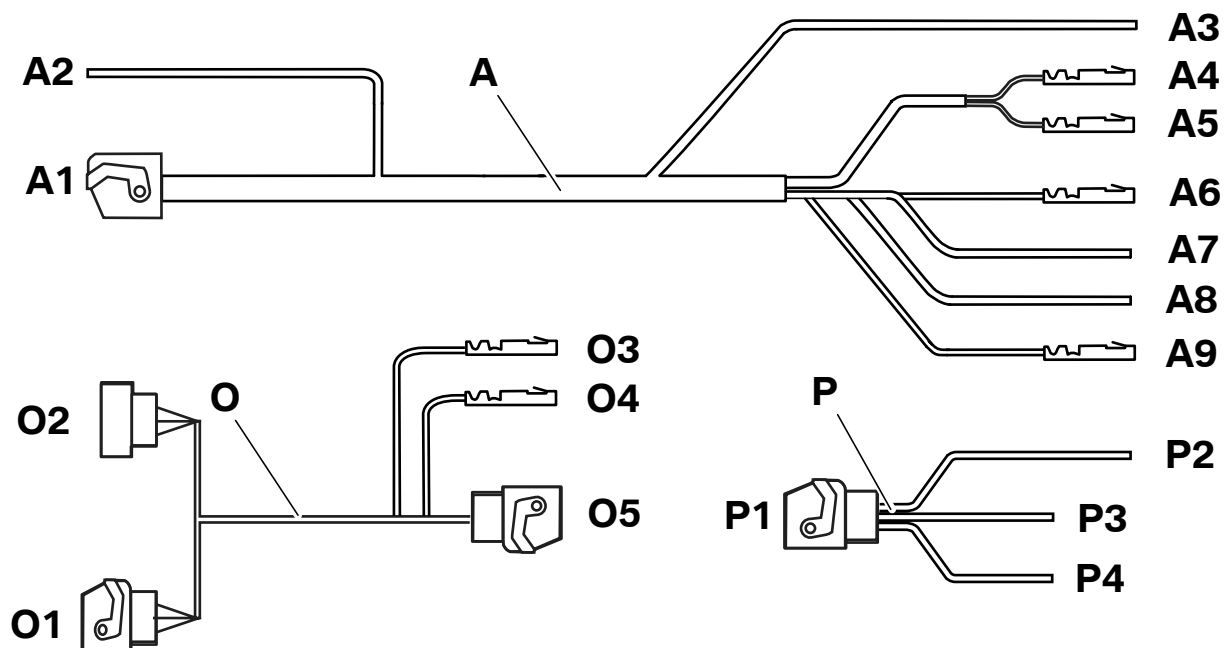


046 1224 Z

Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Wiring harness	---	---	---	---
A1	Black 12-pin socket casing	---	---	To control unit <b>C</b>	---
A2	Cable open	RFS	GN 0.75 mm <sup>2</sup>	Insulate and tie back	---
A3	Cable open	RFS	GN 0.75 mm <sup>2</sup>	To the left tail light, black 6-pin plug with miniature connector to white/yellow cable	X319 PIN 3
A4	Socket contact	Video +	Transparent 0.14 mm <sup>2</sup>	To video module <b>A197</b> , Natural colour 18-pin plug	X18806 PIN 13
A5	Socket contact	Video -	SW/BR 0.35 mm <sup>2</sup>	To video module <b>A197</b> , natural colour 18-pin plug	X18806 PIN 14
A6	Socket contact	RFS inv	SW 0.25 mm <sup>2</sup>	To video module <b>A197</b> , Blue 18-pin plug	X18804 PIN 17
A7	Cable open	Terminal 30	RT 0.75 mm <sup>2</sup>	To video module <b>A197</b> , blue 18-pin plug with miniature connector to red/green cable	X18804 PIN 1
A8	Cable open	Terminal 31	BR 0.75 mm <sup>2</sup>	To video module <b>A197</b> , blue 18-pin plug with miniature connector to brown cable	X18804 PIN 10
A9	Socket contact	TA	WS 0.25 mm <sup>2</sup>	Insulate and tie back	---



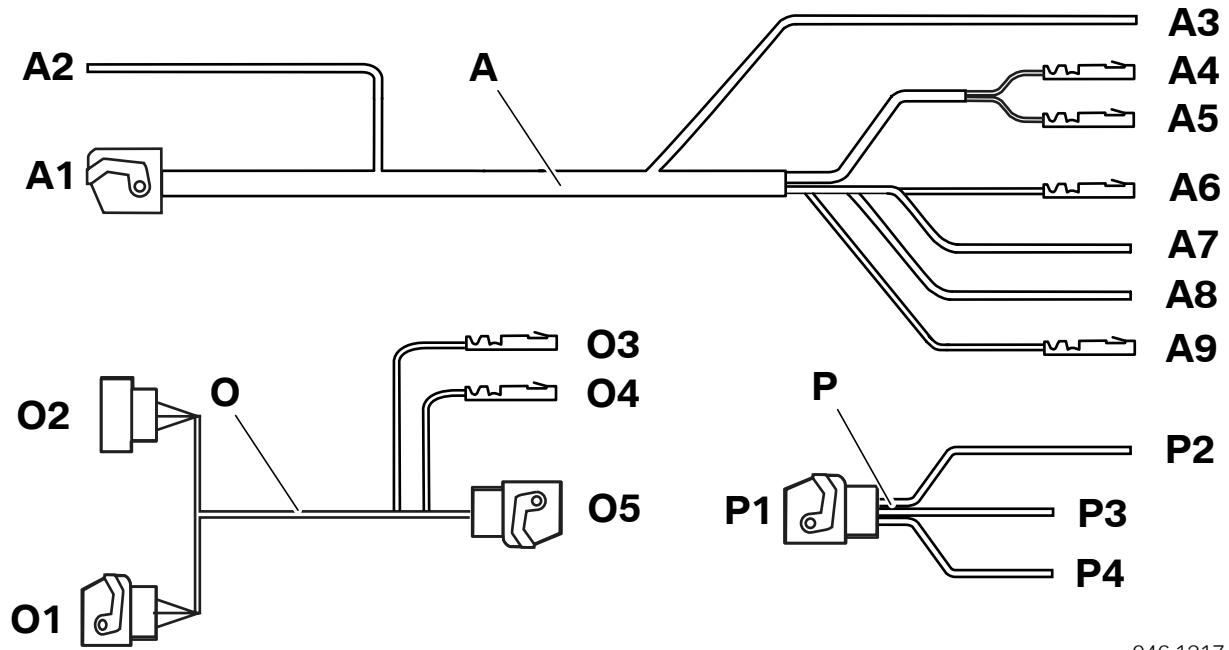
## 5. Connection diagram (cars without TV function only)



046 1217 Z

Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
A	Wiring harness	---	---	---	---
A1	Black 12-pin socket casing	---	---	To control unit <b>C</b>	---
A2	Cable open	RFS	GN 0.75 mm <sup>2</sup>	Insulate and tie back	---
A3	Cable open	RFS	GN 0.75 mm <sup>2</sup>	To the left tail light, black 6-pin plug with miniature connector to white/yellow cable	X319 PIN 3
A4	Socket contact	Video +	Transparent 0.14 mm <sup>2</sup>	To branch <b>P1</b>	PIN 24
A5	Socket contact	Video -	SW/BR 0.35 mm <sup>2</sup>	To branch <b>P1</b>	PIN 11
A6	Socket contact	RFS inv	SW 0.25 mm <sup>2</sup>	To branch <b>P1</b>	PIN 23
A7	Cable open	Terminal 30	RT 0.75 mm <sup>2</sup>	To branch <b>P3</b> , with miniature connector on red cable	PIN 25
A8	Cable open	Terminal 31	BR 0.75 mm <sup>2</sup>	To branch <b>P4</b> , with miniature connector on brown cable	PIN 12
A9	Socket contact	TA	WS 0.25 mm <sup>2</sup>	Insulate and tie back	---

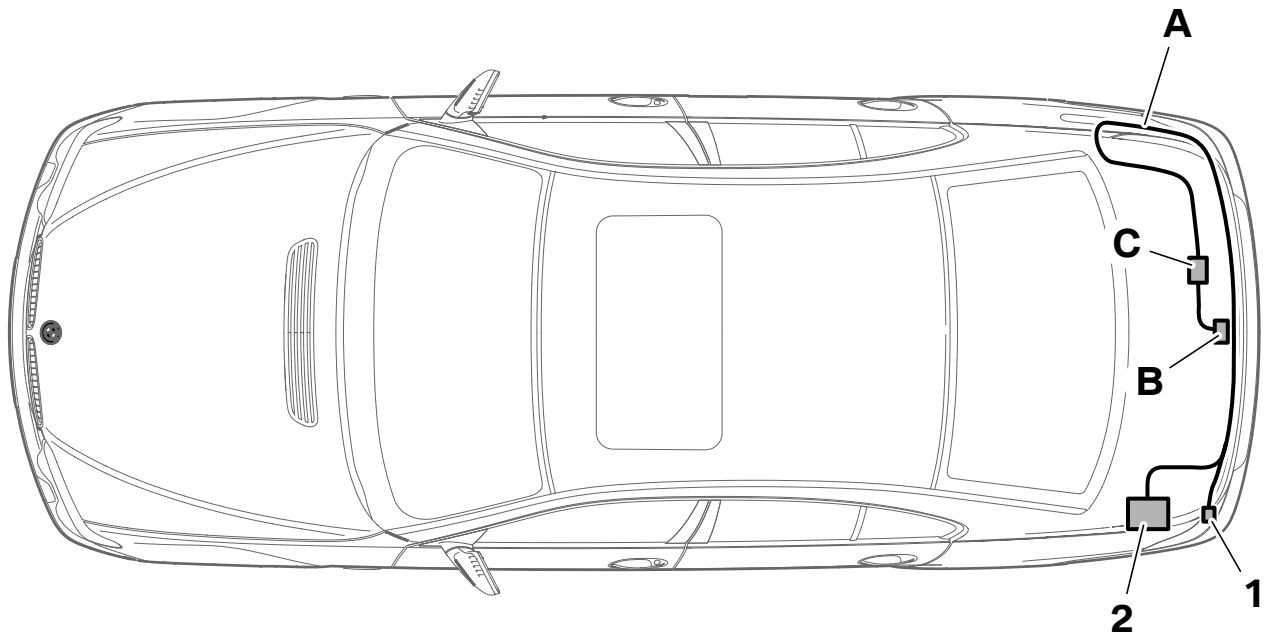
5. Connection diagram (cars without TV function only)



046 1217 Z

Item	Description	Signal	Cable colour / Cross-section	Connection location in the car	Abbreviation / Slot
O	Adapter cable	---	---	---	---
O1	Blue 18-pin socket casing	---	---	To navigation computer <b>A112</b>	X1313
O2	Blue 18-pin plug casing	---	---	To standard wiring harness	X1313
O3	Socket contact	Terminal 30	RT/GE 0.75 mm <sup>2</sup>	To branch <b>P1</b>	PIN 26
O4	Socket contact	Terminal 31	BR 0.75 mm <sup>2</sup>	To branch <b>P1</b>	PIN 13
O5	Natural colour 18-pin socket casing	---	---	To switchbox <b>Q</b>	---
P	Power supply cable	---	---	---	---
P1	Black 26-pin socket casing	---	---	To switchbox <b>Q</b>	---
P2	Cable open	Terminal R	VI/WS 0.50 mm <sup>2</sup>	To radio receiver <b>N9</b> , with miniature connector on violet/white cable	X18126 PIN 16
P3	Cable open	Terminal 30	RT 0.75 mm <sup>2</sup>	To branch <b>A7</b> , with miniature connector on red cable	---
P4	Cable open	Terminal 31	BR 0.75 mm <sup>2</sup>	To branch <b>A8</b> , with miniature connector on brown cable	---

## 6. Installation and cabling diagram (cars with TV function only)

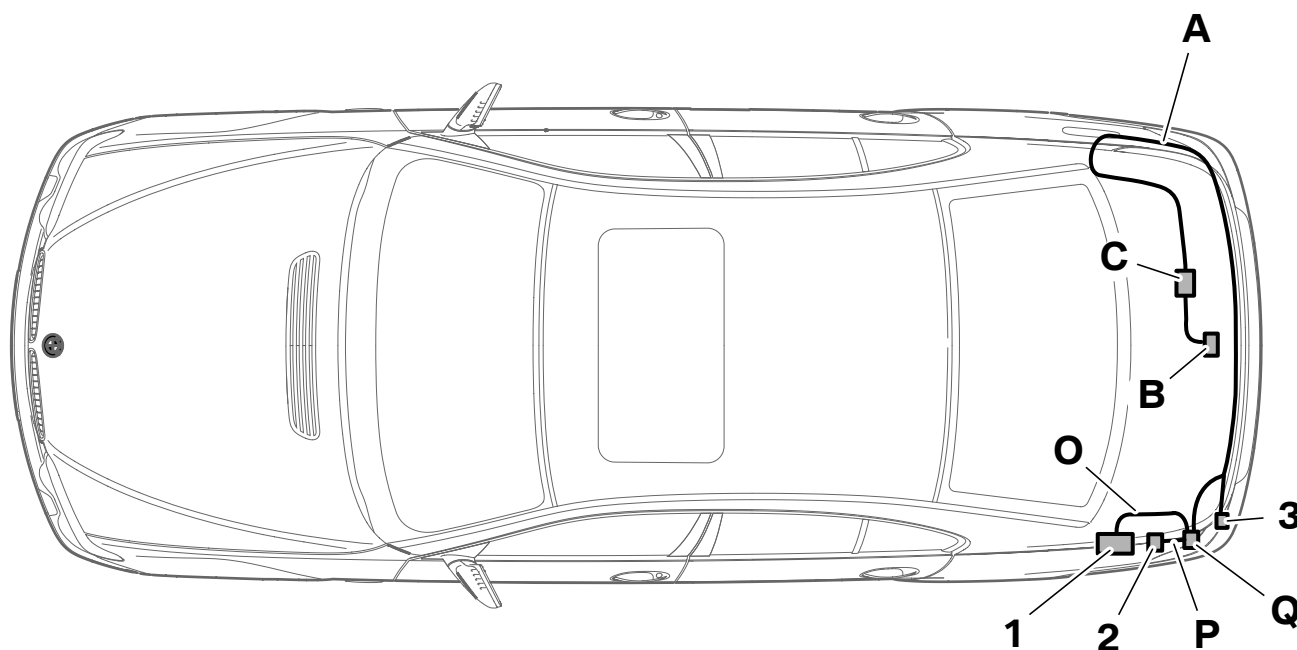


039 0338 Z

### Legend

- 1** RFS signal pick-up on the tail light
- 2** Video module
  
- A** Wiring harness
- B** Rear-view camera
- C** Control unit

## 7. Installation and cabling diagram (cars without TV function only)



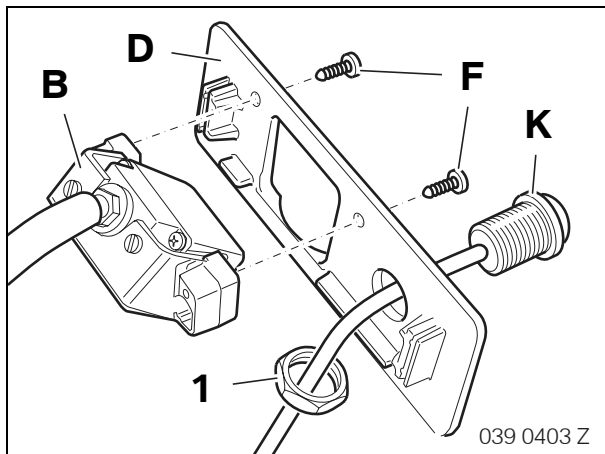
039 0607 Z

### Legend

- 1** Navigation computer
- 2** Radio receiver
- 3** RFS signal pick-up on the tail light

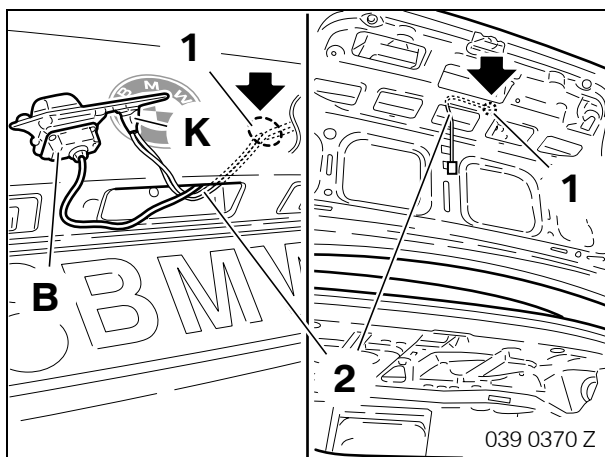
- A** Wiring harness
- B** Rear-view camera
- C** Control unit
- O** Adapter cable
- P** Power supply cable
- Q** Switchbox

## 8. To install the rear-view camera and button

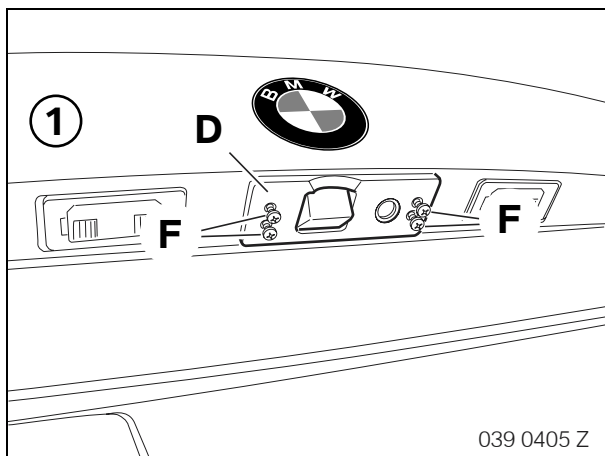


▶ Max. torque 5 Nm. ◀

Use screws **F** to screw rear-view camera **B** onto cover **D**.  
Insert button **K** into cover **D** and screw it on using a union nut (1).

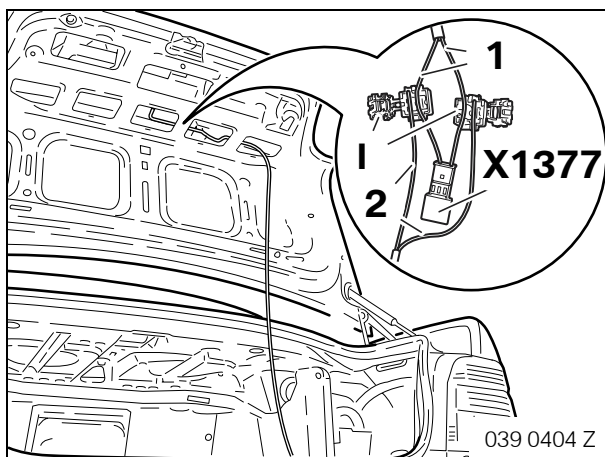


Route the cable (2) of rear-view camera **B** and button **K** through the opening (1) in the boot lid.



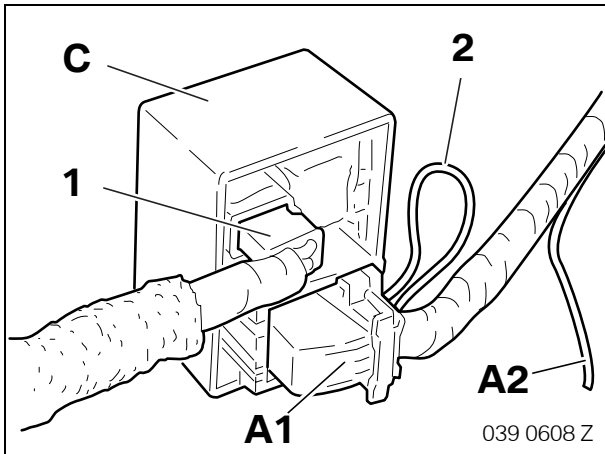
▶ The registration plate holder must be removed so that there will be an unobstructed rearward view. ◀

Insert cover **D** into the opening in the boot lid (1) and use screws **F** to screw it on.



Use miniature connector **I** to connect the cable (2) of the button to the connection cables (1) of Bordeaux or yellow plug **X1377**.

## 9. To install and connect the control unit



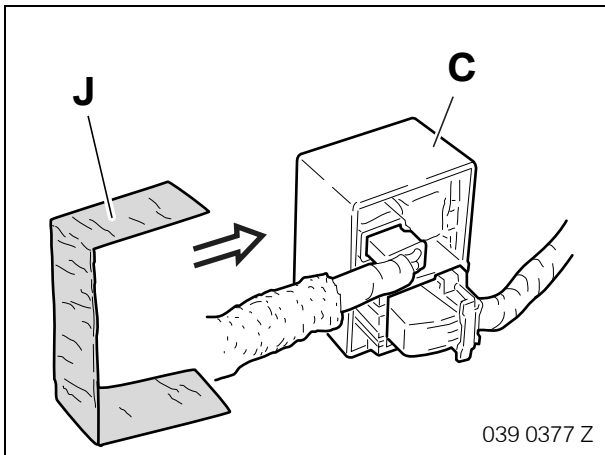
Connect the connection plug (1) of the rear-view camera and branch **A1** onto control unit **C**.

Insulate branch **A2** and tie it back.



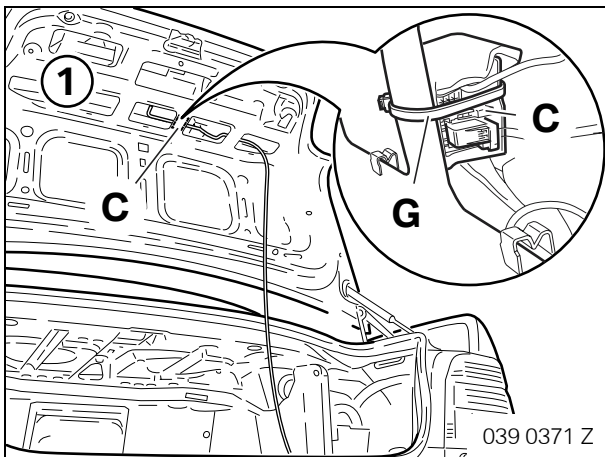
The switch-off delay (5 seconds) of the rear-view camera can be deactivated as follows:

Cut through the cable loop (2), violet/black cable, and insulate both ends. ◀



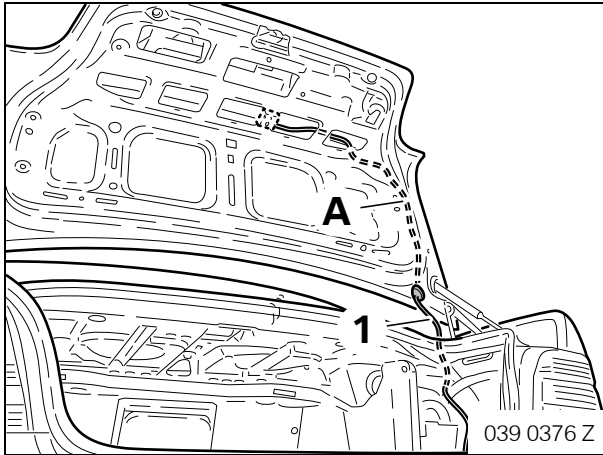
Affix protective strip **J** to control unit **C**.

Cut off any excess lengths.

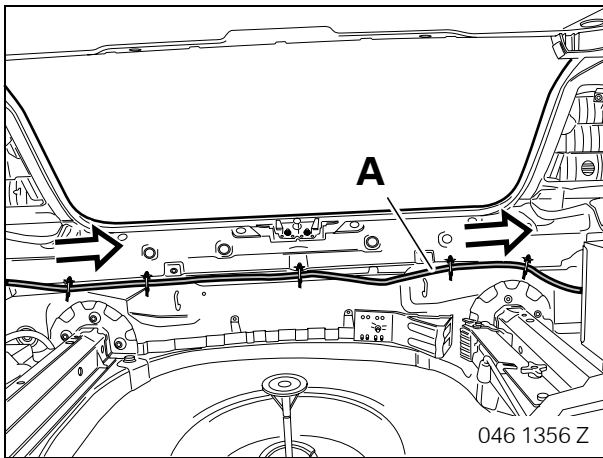


Use cable tie **G** to attach control unit **C** to the web of the boot lid (1).

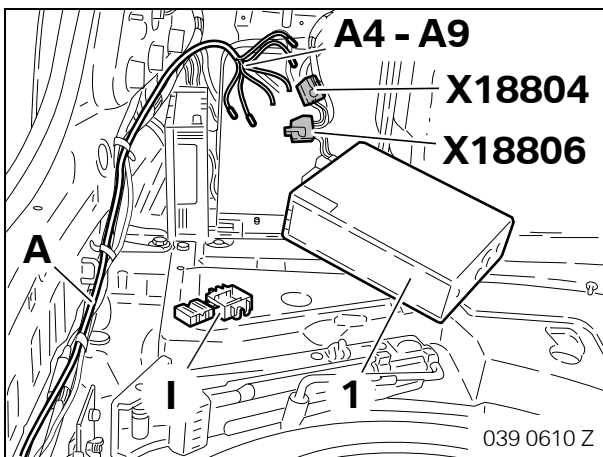
## 10. To install and connect the wiring harness (cars with TV function only)



Thread wiring harness **A** through the cable grommet (1) into the boot.



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



Route wiring harness **A** to the video module (1).  
Remove the insertion tool.

Insulate branch **A9**, white cable, and tie it back.

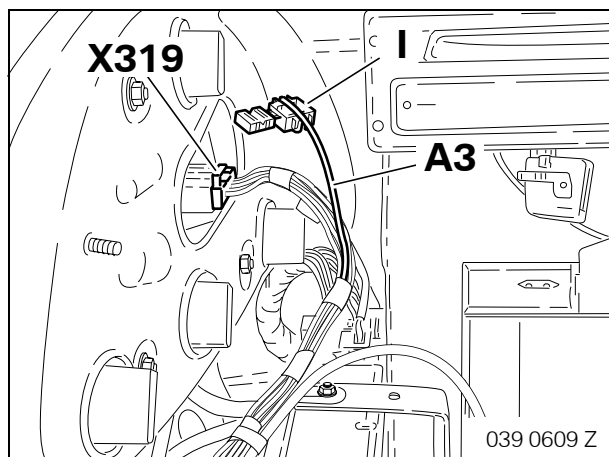
Connect branches **A4** and **A5** to natural coloured plug **X18806** as follows:

- Branch **A4**, transparent cable, in PIN 13
- Branch **A5**, black/brown cable, in PIN 14

Connect branches **A6 – A8** into blue plug **X18804** as follows:

- Branch **A6**, black cable, in PIN 17
- Branch **A7**, red cable, with miniature connector **I** to the red/green cable (PIN 1)
- Branch **A8**, brown cable, with miniature connector **I** to brown cable (PIN 10)

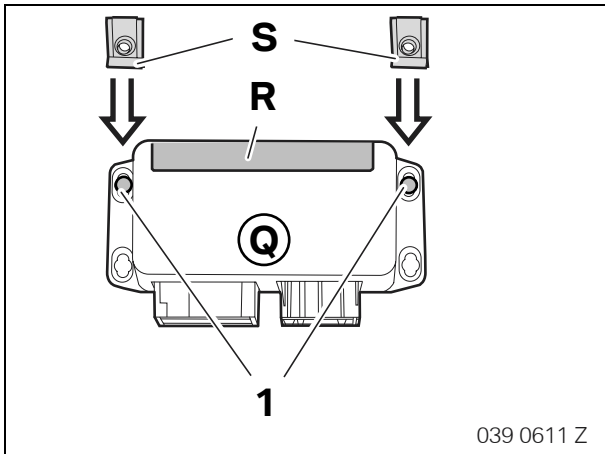
10. To install and connect the wiring harness (cars with TV function only)



Use miniature connector **I** to connect branch **A3** to the outgoing white/yellow cable of plug **X319** (PIN 3).



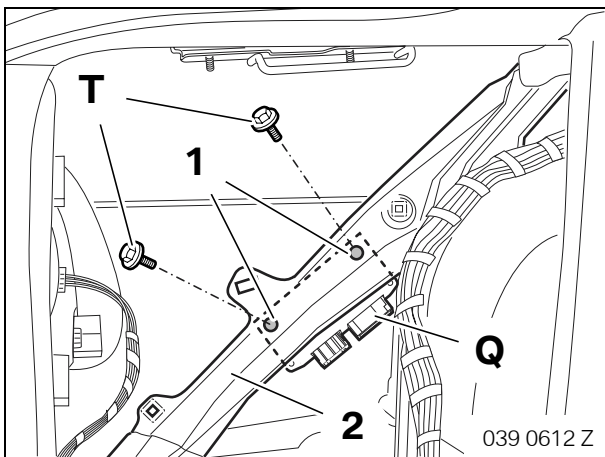
## 11. To install the switchbox (cars without TV function only)



Use an 8 mm twist drill bit to drill open the holes (1) in switchbox **Q**.

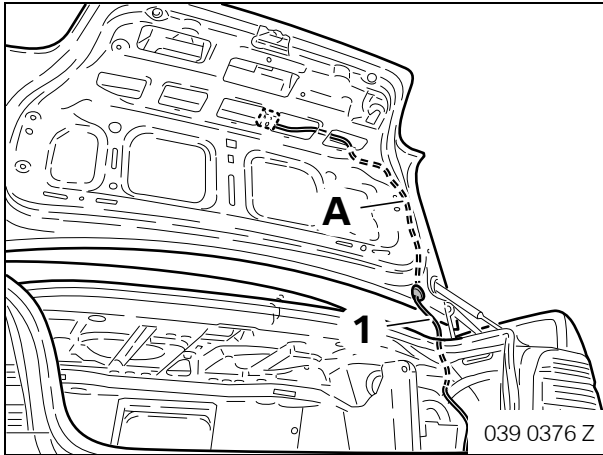
Put on speed nuts **S**.

Affix sealing strip **R**.

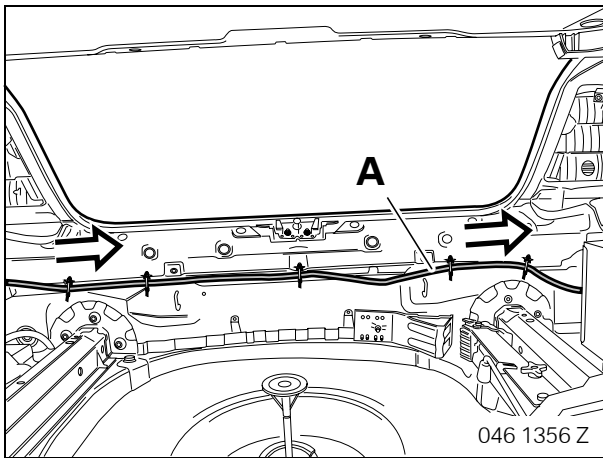


Use hexagonal screws **T** to screw switchbox **Q** onto the holes (1) in the boot strut (2).

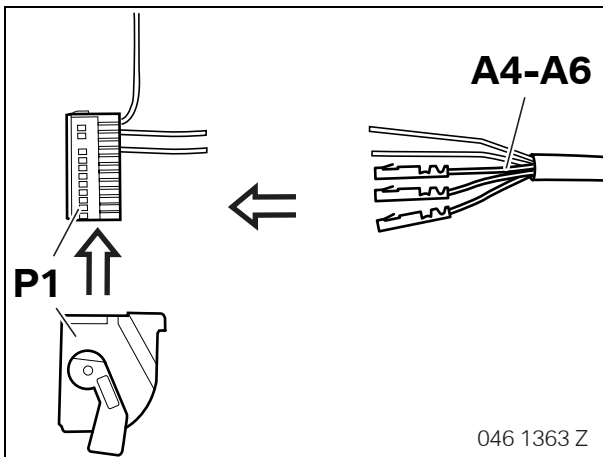
## 12. To install and connect the wiring harnesses (cars without TV function only)



Thread wiring harness **A** through the cable grommet (1) into the boot.



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

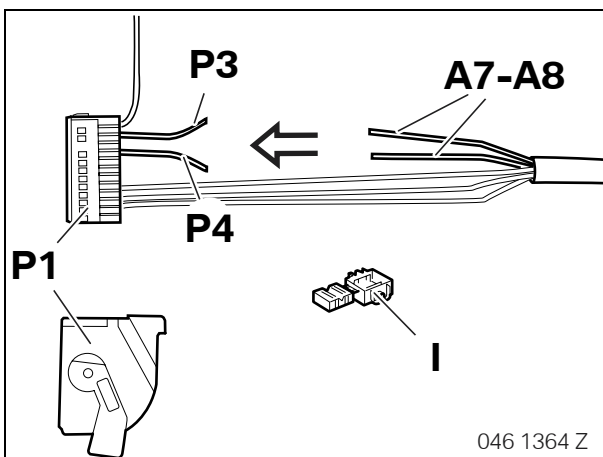


Remove the insertion tool.

Insulate branch **A9**, white cable, and tie it back.

Connect branches **A4 – A6** to branch **P1** as follows:

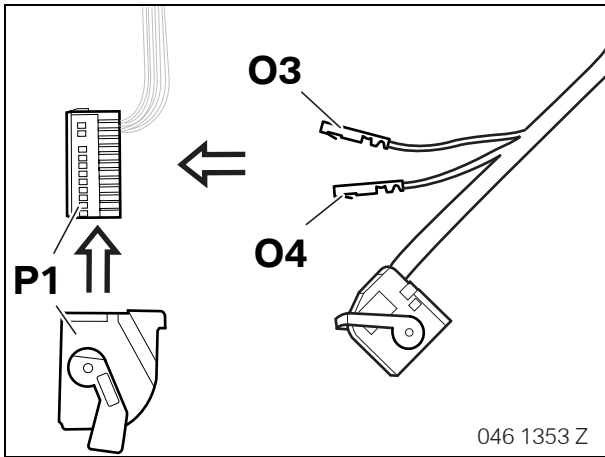
- Branch **A4**, transparent cable, in PIN 24
- Branch **A5**, black/brown cable, in PIN 11
- Branch **A6**, black cable, in PIN 23



Connect branches **A7** and **A8** to branch **P1** as follows:

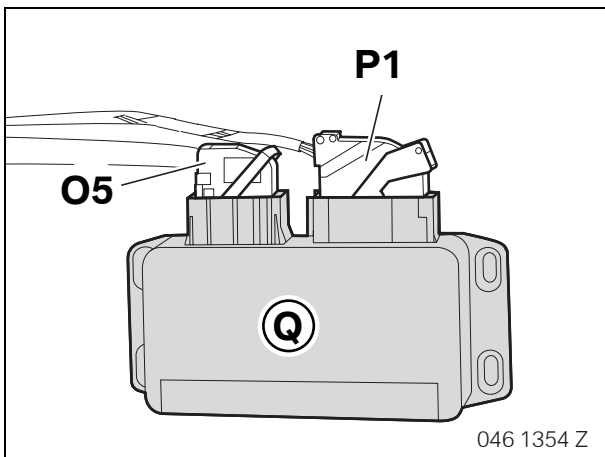
- Branch **A7**, red cable, with miniature connector **I** to branch **P3**, red cable
- Branch **A8**, brown cable, with miniature connector **I** to branch **P4**, brown cable

12. To install and connect the wiring harnesses (cars without TV function only)



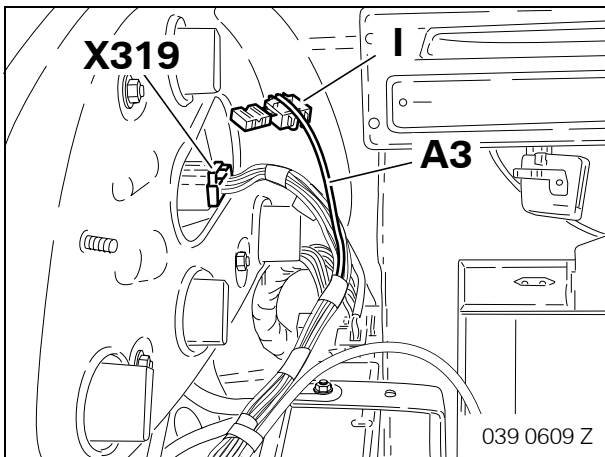
Connect branches **O3** and **O4** to branch **P1** as follows:

- Branch **O3**, red/yellow cable, in PIN 26
- Branch **O4**, brown cable, in PIN 13

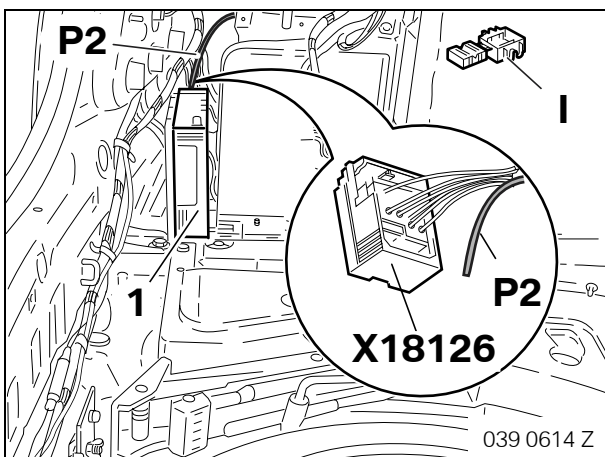


Connect branches **O5** and **P1** to switchbox **Q**.

Install the base holder.



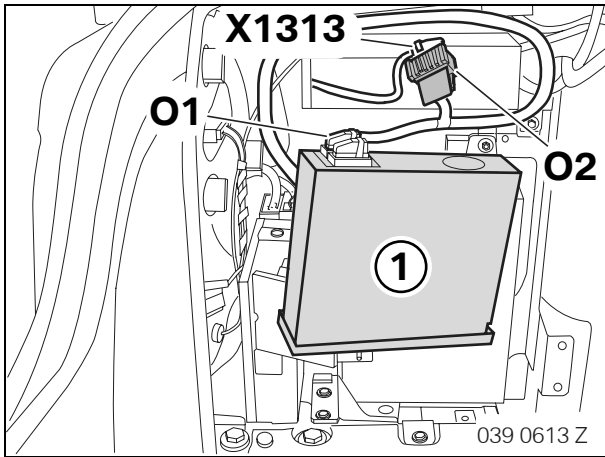
Use miniature connector **I** to connect branch **A3** to the outgoing white/yellow cable of plug **X319** (PIN 3).



Route branch **P2** to the radio receiver (1).

Use miniature connector **I** to connect branch **P2** to the outgoing violet/white cable of plug **X18126** (PIN 16).

12. To install and connect the wiring harnesses (cars without TV function only)



Disconnect blue plug **X1313** on the navigation computer (1).

- Connect branch **O2** to plug **X1313**
- Connect branch **O1** to the navigation computer (1)

Install the navigation computer (1).

### 13. Concluding work

The rear-view camera retrofit does not require coding.

- Connect the battery
- Conduct a brief test

Check the function of the rear-view camera as follows:

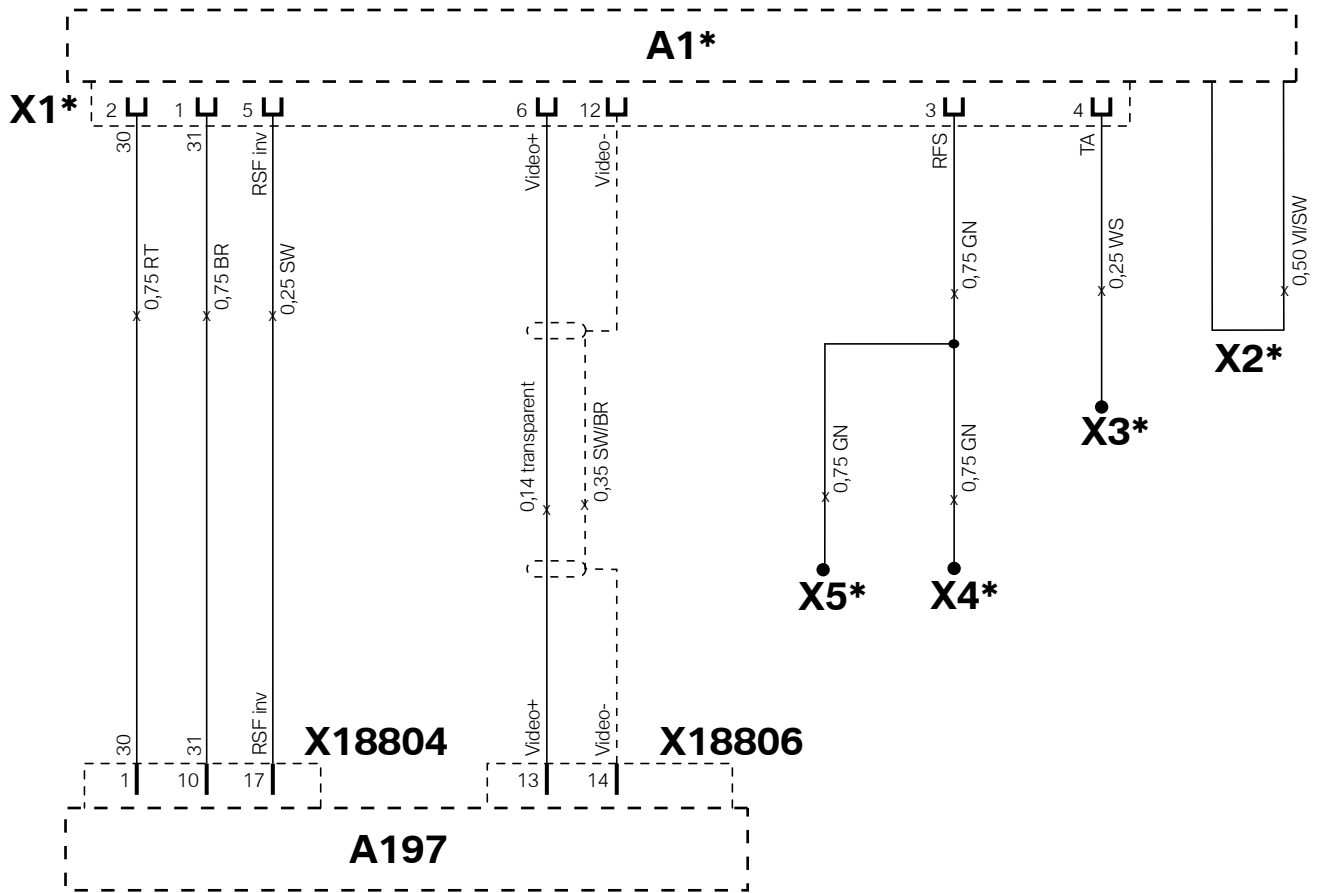
- Switch on the ignition
- Engage reverse, an image must appear on the on-board monitor
- Disengage reverse gear

If you have cut through the violet/black cable loop on the control unit, the on-board monitor must change over immediately.

If you **did not** cut through the violet/black cable loop on the control unit, the on-board monitor must change over after about 5 seconds

- Re-assemble the car

## 14. Circuit diagram (cars with TV function only)



046 1345 Z

### Legend

<b>A1*</b>	Control unit	<b>X3*</b>	Socket contact
<b>A197</b>	Video module	<b>X4*</b>	Cable open
<b>X1*</b>	Black 12-pin plug	<b>X5*</b>	Cable open
<b>X2*</b>	Cable loop	<b>X18804</b>	Blue 18-pin plug
		<b>X18806</b>	Natural colour 18-pin plug

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	VI	Violet
GN	Green	WS	White



## 15. Circuit diagram (cars without TV function only)

### Legend

<b>A1*</b>	Control unit
<b>A2*</b>	Switchbox
<b>A112</b>	Navigation computer
<b>N9</b>	Radio receiver
<b>X1*</b>	Black 12-pin plug
<b>X2*</b>	Cable loop
<b>X3*</b>	Socket contact
<b>X4*</b>	Cable open
<b>X5*</b>	Cable open
<b>X6*</b>	Black 26-pin plug
<b>X7*</b>	Natural colour 18-pin plug
<b>X1313</b>	Blue 18-pin plug
<b>X18126</b>	Black 16-pin plug

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
VI	Violet
WS	White