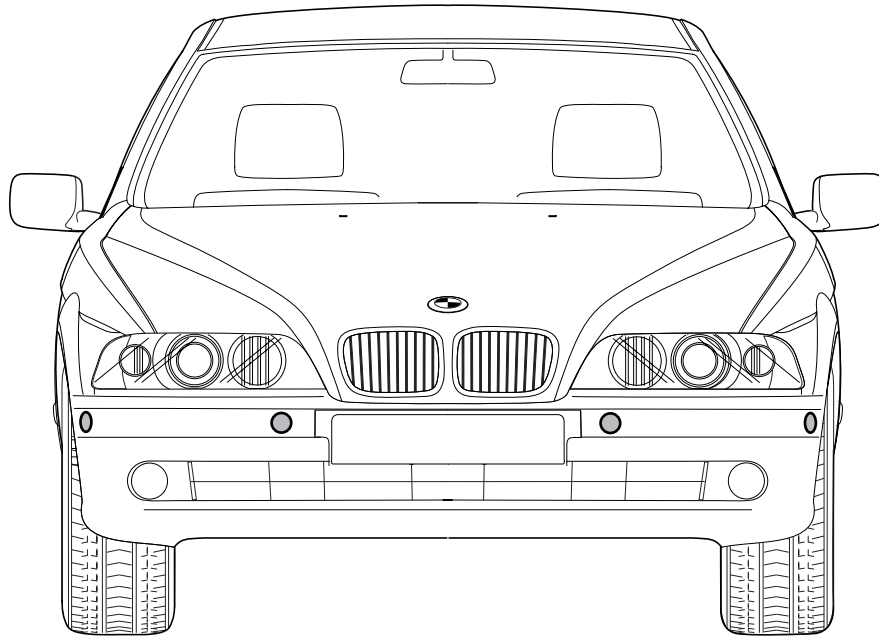




Teile und Zubehör - Einbauanleitung



F 39 0129 EVA

BMW Parts and Accessories – Installation Instruction
Park Distance Control (PDC) front and rear
BMW 5 Series (E39)

Park Distance Control (PDC) front and rear

BMW 5 Series (E39)

Only for use within the BMW dealer organisation.
The installation time is approx. 8 hours, but this may vary depending on the condition of the car and the equipment in it.
Electrical knowledge required.

Important

Ensure that the additional wiring harnesses and standard wiring harness cannot be damaged and that no chafing points can occur. Secure the additional wiring harnesses to the standard wiring harness using cable ties so that they do not adversely affect any other components.
Ensure that painted components are not damaged or scratched during the installation work. The installation work is shown for an LHD model. On RHD models some of the work must be completed on the other side of the car.
The edges of holes are to be deburred and treated with the anti-corrosion coating specified by BMW.

Tools and equipment required

Philips screwdriver
10 mm socket wrench
Straight slot screwdriver
Drill bits, 3 mm and 10 mm in diameter
Zinc dust paint
Open-ended spanners, 8 mm, 10 mm and 16 mm
Angle cutter
Torch
Drill
Step drill, 40 mm
Round file
Torx insert TX-55

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1. Preparations

Print out the error memory.
Disconnect the battery.
Remove the rear seat bench.
Remove the rear headrests.
Remove the rear seat backrest.
Remove the rear window shelf.
Remove the boot trim at the rear right.
Remove the wheelarch trim at the rear right.
Remove the bumper guards from the rear bumper.
Remove the rear bumper.
Remove the door sill strips on the right-hand side.
Remove the lower B pillar trim on the right-hand side.
Remove the side trim at the front right.
Remove the footwell trims on both sides.
Remove the glove compartment.
Remove the switch centre.
Remove the complete microfilter / activated charcoal filter.
Remove the bumper guards on the front at both sides.
Remove the rear bumper.

2. Overview of the power supply wiring harness

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Items	Design / Description	Cable colour	Connection site in the car	Abbreviation / Slot
A	Power supply wiring harness			
B	2-pin socket casing		Connect to the PDC speaker (H40) under the oddments box on the right-hand side	X362
C	Joint connector contact	BR/BK	Connect to the earth joint connector under the tail light on the right-hand side	X13075
D	12-pin socket casing		Connect to the PDC control module (A81)	X300
E	1-pin socket casing	BK/YE	Connect to the gong (H10), pin T4	X363
F	Socket contact	BR/BL	Connect the BR/BL cable to the switch centre plug (X1869), pin 9	X1869/9
G	Socket contact	BR/GR/YE	Connect the BR/GR/YE cable to the switch centre plug (X1869), pin 8	X1869/8
H	Plug contact	GN/WT	Fuse F21 in fuse strip I A46 above the glove compartment	X10015/42
I	Joint connector contact	WT/GR/YE	Connect to joint connector I/K bus behind the glove compartment	X10116

3. Overview of the rear ultrasonic converter wiring harness

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Items	Design / Description	Cable colour	Connection site in the car	Abbreviation / Slot
O	Rear ultrasonic converter wiring harness			
P	12-pin plug		Connect to the PDC control module (A81)	X18013
Q	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the rear left	X18020
R	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the rear centre left	X18021
S	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the rear centre right	X18022
T	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the rear right	X18023

4. Overview of the front ultrasonic converter wiring harness

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Items	Design / Description	Cable colour	Connection site in the car	Abbreviation / Slot
U	Front ultrasonic converter wiring harness			
V	12-pin plug		Connect to the PDC control module (A81)	X18362
W	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the front left	X18016
X	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the front centre left	X18017
Y	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the front centre right	X18018
Z	3-pin socket casing		Connect to the ultrasonic converter in the bumper at the front right	X18019

5. Overview of the installation of the power supply wiring harness and ultrasonic converter wiring harness

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The power supply wiring harness **A** runs from the control module holder (1) to the rear window shelf (2), to the earth post (3) below the right tail light, along the right door sill strips to the joint connector I/K bus (7), to the fuse holder (6), to the PDC switch (5) in the centre console at the front and to the gong (4).

RHD models only

Connections (4), (6) and (7) are on the other side of the car.

The rear ultrasonic wiring harness **O** runs from the control module holder (1) towards the rear bumper and then to the ultrasonic converters (8).

The front ultrasonic wiring harness **U** runs from the ultrasonic converters (9) on the front bumper to the left through the engine compartment into the footwell, below the instrument panel on the right-hand side of the car and along the right door sill strip to the rear into the boot to the control module holder (1).

6. To install the PDC control module

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Secure the PDC control module A81 (1) to the bracket (2) using the plastic nuts (3).

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Undo the plastic nuts (1).

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Insert the PDC control module A81 (1) and the bracket and secure them with the plastic nuts (2) and expanding rivet (3).

7. To install the PDC speaker

F 39 66 007 M

Remove the stamped section (2) in the insulation mat (1) on the right-hand side next to the third brake light (3).

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Note

When ensure that the guide pin on the PDC speaker is correctly positioned.

Insert the PDC speaker (1) and secure it from the boot using a hexagonal nut.

8. To install the power supply wiring harness

F 39 66 009 M

Lay branch **B** and branches **E** to **I** on the power supply wiring harness **A** from the boot through the grommet (1) into the interior of the car.

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Lay branch **B** under the cover (2) along the standard wiring harness to the PDC speaker **H40** (1) and connect it.

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Connect plug **D** to the mating plug of the same colour on the PDC control module A81 (1) and secure it with the locking bar.

Lay branch **C** along the standard wiring harness to the right tail light. Connect branch **C**, brown/black cable, to joint connector X13075 (2) below the right tail light.

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Lay branches **E** to **I** along the right side skirt wiring harness to the glove compartment. Secure the power supply wiring harness using the cable ties on the main wiring harness. Lay the black/yellow cable (1) to the gong (2) on the left footwell trim (LHD) / right footwell trim (RHD) (3). Connect the 1-pin socket casing **E** to pin T4 on the gong (2).

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Lay branches **F** and **G** along the standard wiring harness to the centre console and through the opening in the switch centre.

Connect the socket contact **F** to connection plug X1869 (1) to pin 9 on the switch centre, brown/blue cable.

Connect the socket contact **G** to connection plug X1869 (1) to pin 8 on the switch centre, brown/grey/yellow cable.

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Thread branch **I**, white/grey/yellow cable, through the glove compartment to the front. Thread the I/K bus (1) through the glove compartment to the front. Connect joint connector branch **I**, white/grey/yellow cable to the I/K bus.

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Lay branch **H**, green/white cable, to the fuse strip A46 (1) and connect it to fuse slot No. 21, X10015/42. Insert a 5 A fuse in fuse slot No. 21, X10015/42.

9. To install the rear ultrasonic converter wiring harness

F 39 66 004M

Drill the closing panel at the centrepunched point (1) below the right tail light with a step drill to a diameter of 40 mm, deburr it and treat with the normal BMW anti-corrosion coating.

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Remove the spacer (2) from the bumper (1).

Lay branches **Q** to **T** on the ultrasonic converter wiring harness **O** through the recesses (3) in the bumper (1).

Lay the ultrasonic converter wiring harness **O** as shown and press it into the retaining clips (4). Lay branch **P** through the passage in the closing panel into the boot, press in the rubber grommet (5) and fit the bumper (1).

Lay branch **P** to the installation site of the PDC control module. Connect plug **P** to the mating plug of the same colour on the PDC control module A81 and secure it with the locking bar.

10. To install the rear ultrasonic converters



Fit the painted ultrasonic converters (2) and the painted bumper guards (1) carefully to prevent damaging or scratching their surfaces. ◀

F 39 66 006M

Press the ultrasonic converters (2) into the new bumper guards (1).

Connect branches **Q** to **T** to the ultrasonic converters (2) and install the bumper guards (1).

11. To install the front ultrasonic converter wiring harness

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Insert the cable clips (1) into the holes in the front air guide (2) and secure the ultrasonic converter wiring harness **U** to it. Lay the ultrasonic converter wiring harness **U** to the left-hand side of the car behind the air guide (3).



Lay the ultrasonic converter wiring harness **U** so that it does not collide with moving parts (for example the fan wheel). If necessary secure the ultrasonic converter wiring harness **U** at suitable points using additional cable ties. ◀

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Thread the ultrasonic converter wiring harness **U** through the cable passage hole (1) under the air guide (2) and into the engine compartment.

F 39 0138 EVA

To make it easier to thread the ultrasonic converter wiring harness **U** through the cable grommets (1 and 2), carefully disconnect the plug insert (3) from the plug casing (4). Thread the ultrasonic converter wiring harness **U** through the cable grommet (1) and along the standard wiring harness (5). Open the cable grommet (2) with a blunt screwdriver and thread the ultrasonic converter wiring harness **U** through it into the footwell on the driver's side. Connect the plug insert (3) to the plug casing (4). Lay the ultrasonic converter wiring harness **U** under the instrument panel on the right-hand side of the car and along the right side skirt wiring harness to the boot to the installation site of the PDC control module. Connect the plug **V** on the ultrasonic converter wiring harness **U** to the PDC control module A81 and secure it with the locking bar.

12. To install the front ultrasonic converters

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Fit the painted ultrasonic converters (4) and the painted bumper guards carefully to prevent damaging or scratching their surfaces. ◀

The figure shows the installation on a right-hand PDC bumper guard, proceed accordingly on the other PDC bumper guard.

Installation position of the converter holder: The installation identifier (2) is clearly legible. Clip the converter holder (1) into the appropriate clip mountings (3) for the installation identifier (2). Press the angled ultrasonic converter (4) into the converter holder (1). Ensure that the locking pins engage properly.

Connect the connection plugs **W** to **Z** on the ultrasonic converter wiring harness with the converters and install the bumper guards.

13. Coding

To ensure that the PDC retrofit system is adjusted properly to the car, the PDC control module must be coded. The mobile diagnosis computer MoDiC (III) or the DIS with the latest version of the CD is required for coding the PDC control module. It cannot be coded with an older version. The procedures are described briefly below.

Connect the MoDiC (III) or DIS to the diagnostics plug in the car and switch on the ignition.

Select menu point **"Coding/Program."**

"Coding ZCS" <Enter>

"Coding using central coding key (ZCS), latest version" <Enter>

Select **"Series E39"** <Enter>

“Retrofit“	<Enter>
“PDC“	<Enter>
“Automatic coding“	<Yes>

Note

After completing the coding work switch off the ignition for approx. 10 seconds.
The conduct a function test.

14. Circuit diagram

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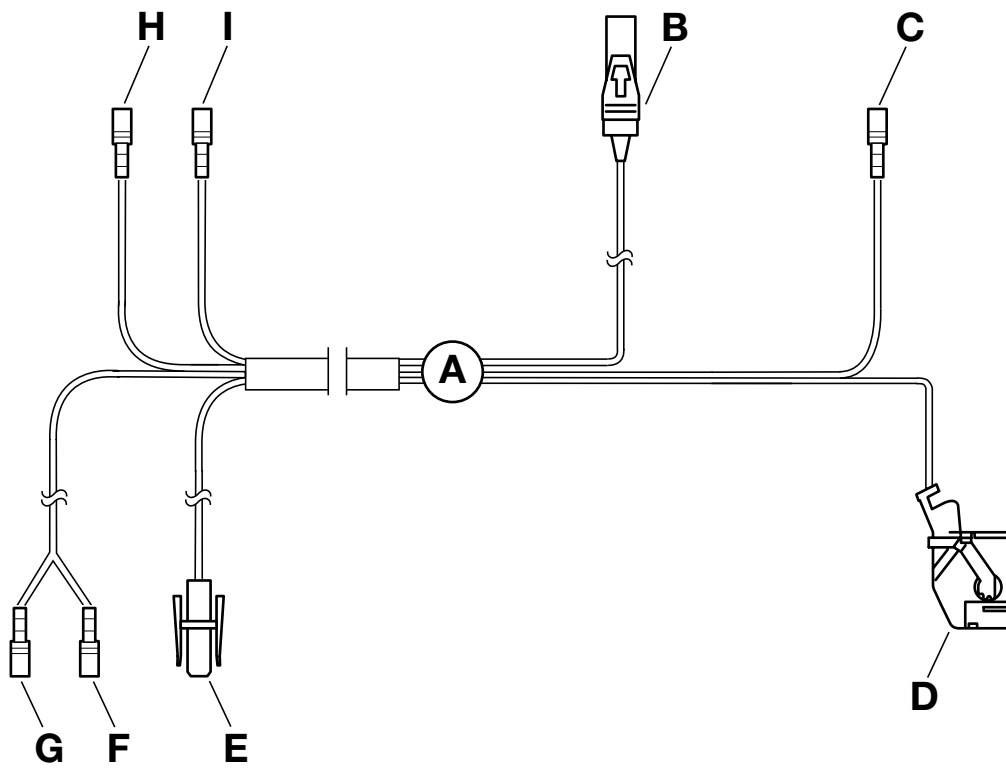
Circuit diagram legend

A46	Fuse holder I
A81	PDC control module
A169	Switch centre
B30	Ultrasonic converter front left
B31	Ultrasonic converter front centre left
B32	Ultrasonic converter front centre right
B33	Ultrasonic converter front right
B34	Ultrasonic converter rear left
B35	Ultrasonic converter rear centre left
B36	Ultrasonic converter rear centre right
B37	Ultrasonic converter rear right
F21	5 A fuse
H10	Gong
H40	PDC speaker
S111	PDC switch
X300	12-pin plug
X362	2-pin plug, PDC speaker
X363	1-pin socket, gong
X1869	23-pin plug, switch centre
X10015	Fuse holder, glove compartment
X13075	Connector 31E under the right tail light
X10116	Connector I/K bus in the glove compartment
X18013	12-pin plug
X18016	3-pin plug
X18017	3-pin plug
X18018	3-pin plug
X18019	3-pin plug
X18020	3-pin plug
X18021	3-pin plug
X18022	3-pin plug
X18023	3-pin plug
X18362	12-pin plug

Cable colours

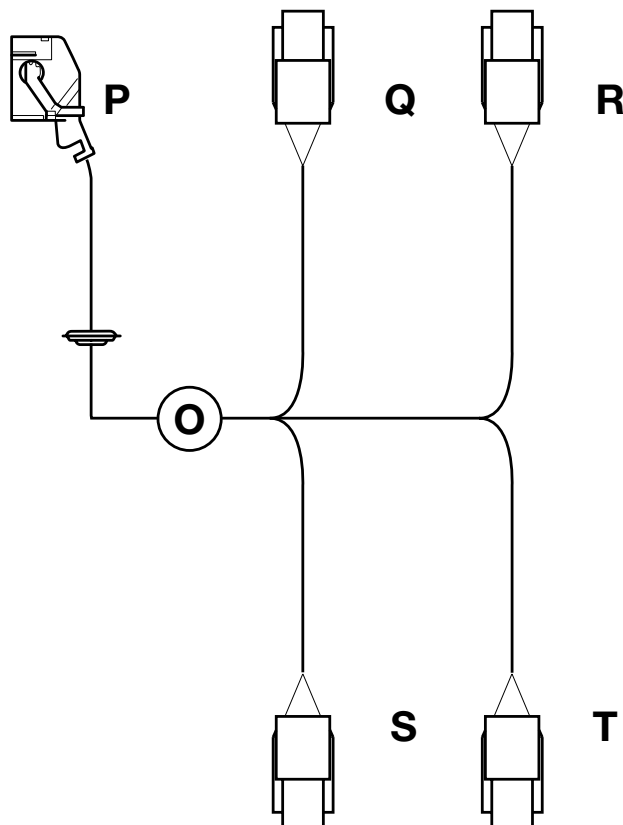
BL	= blue (BL)
BR	= brown (BR)
GE	= yellow (YE)
GN	= green (GN)
GR	= grey (GR)
RT	= red (RD)
SW	= black (BK)
WS	= white (WT)

1

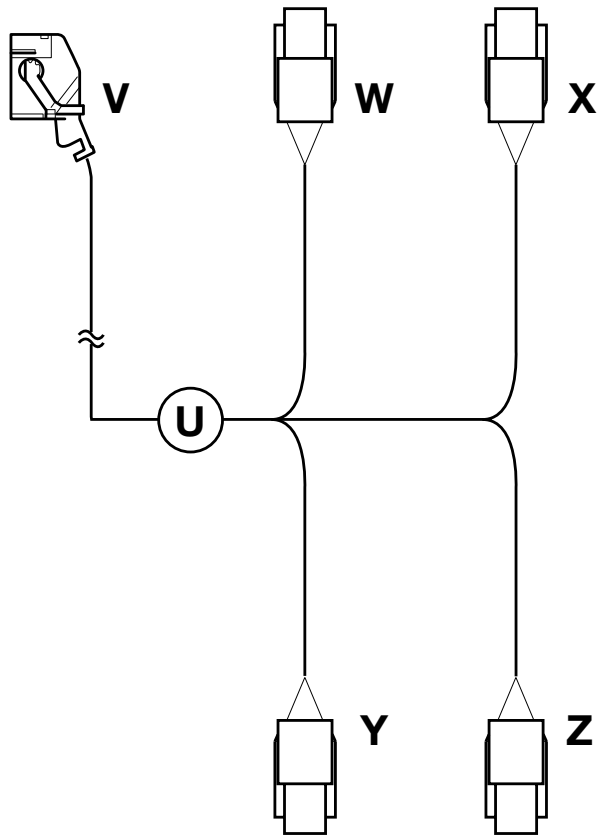


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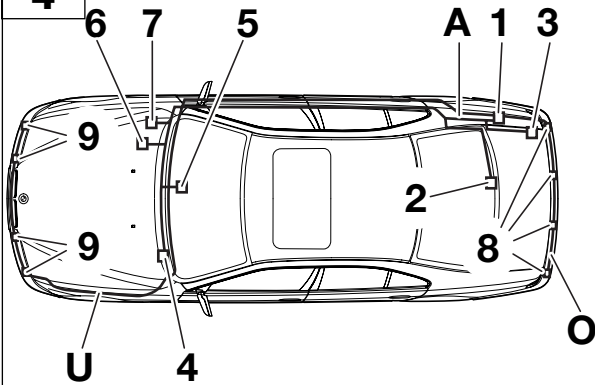
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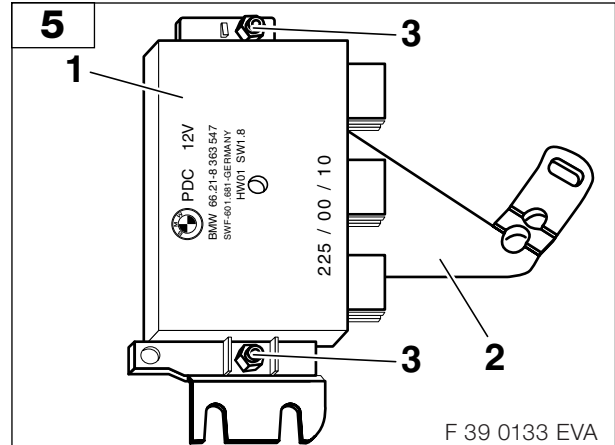
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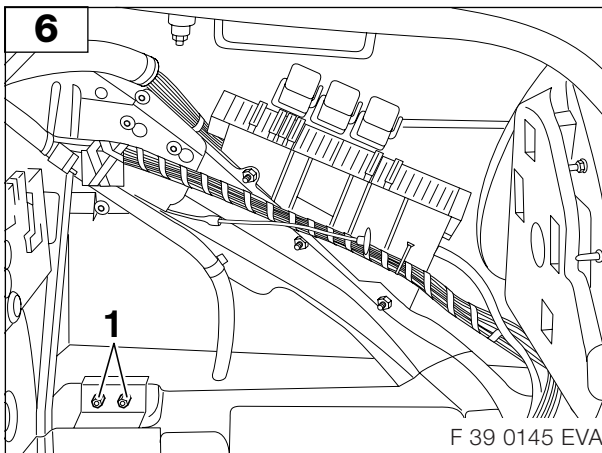
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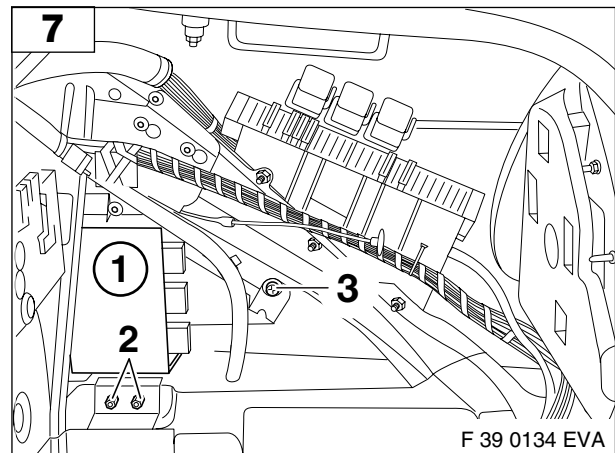
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