



Application manual

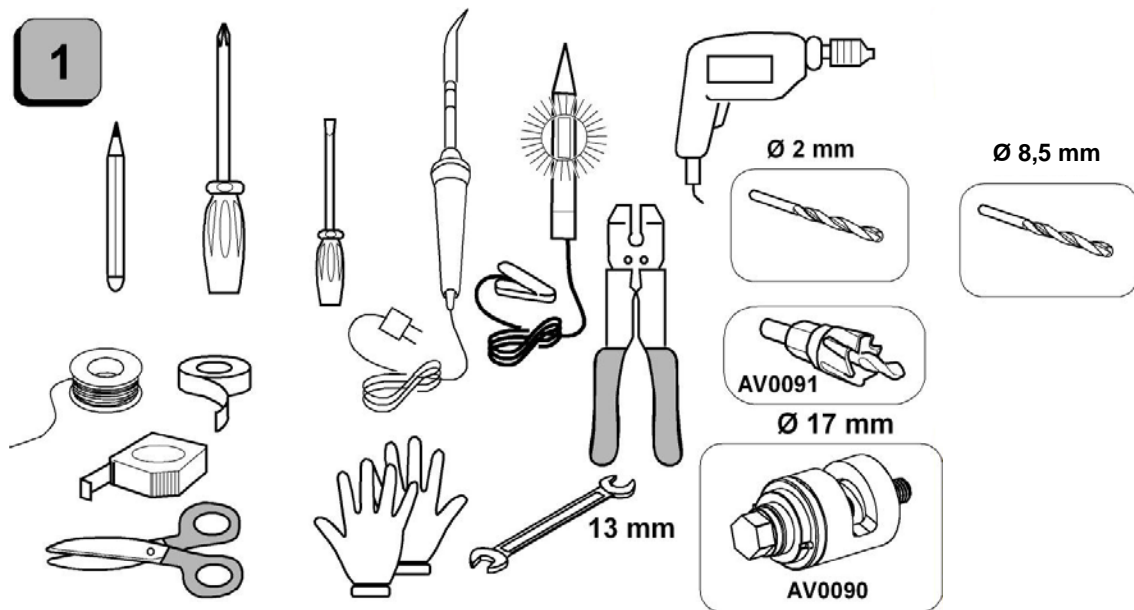
Parkmaster F394

Installation and configuration guide

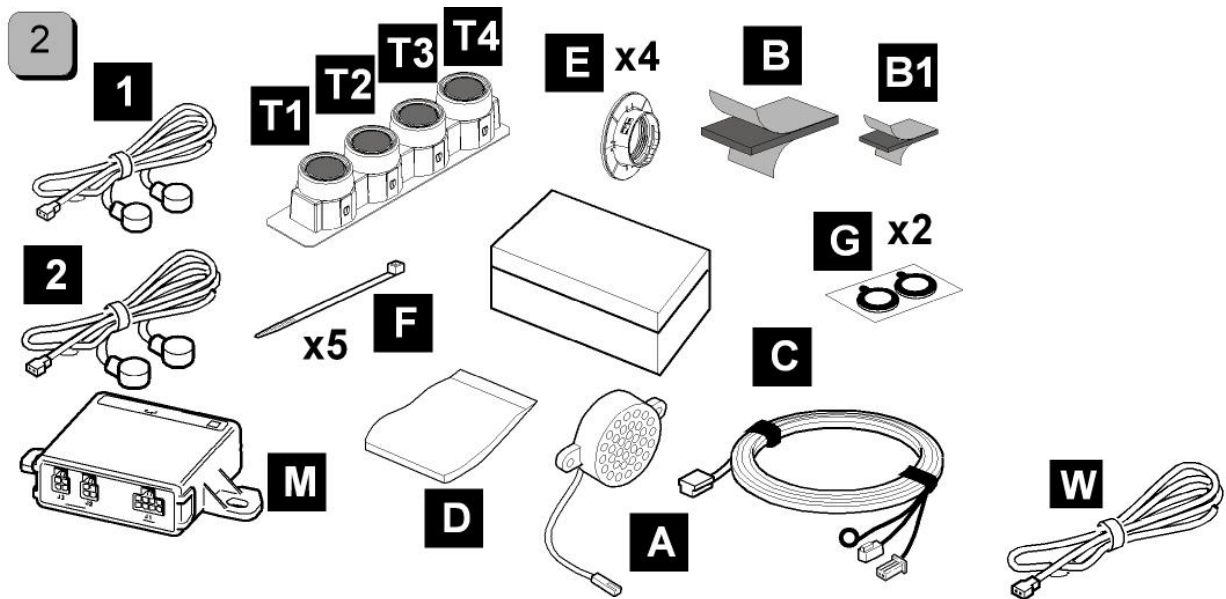
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Installation tools



Kit content



1= sensors wiring harness 1-2

2= sensors wiring harness 3-4

T1-T2-T3-T4= Sensors

F= Tie-raps

A= Loudspeaker

M= Central unit

B= Biadhesive for central unit

B1= Biadhesive for loudspeaker

G= Biadhesive for flange

C= Wiring harness for central unit

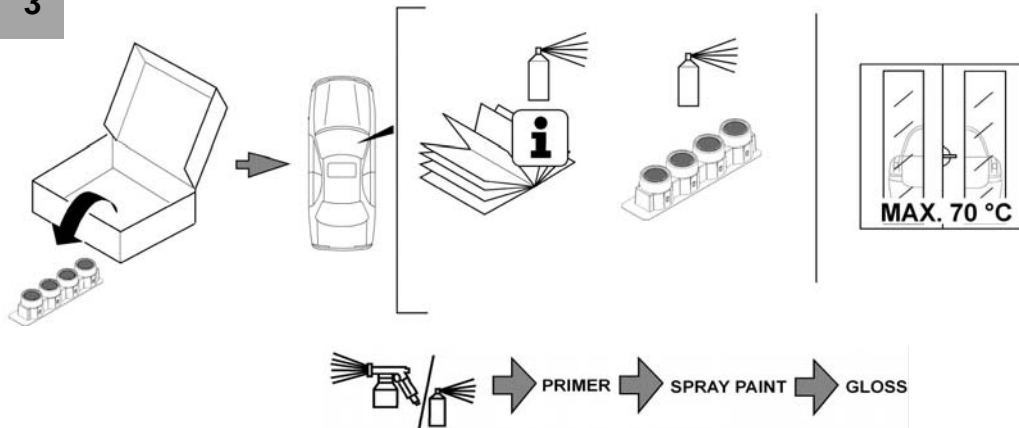
D= Accessory bag containing the cloth soaked in primer

E= Flanges

W= Power supply wire (Green-Red)

Sensors painting

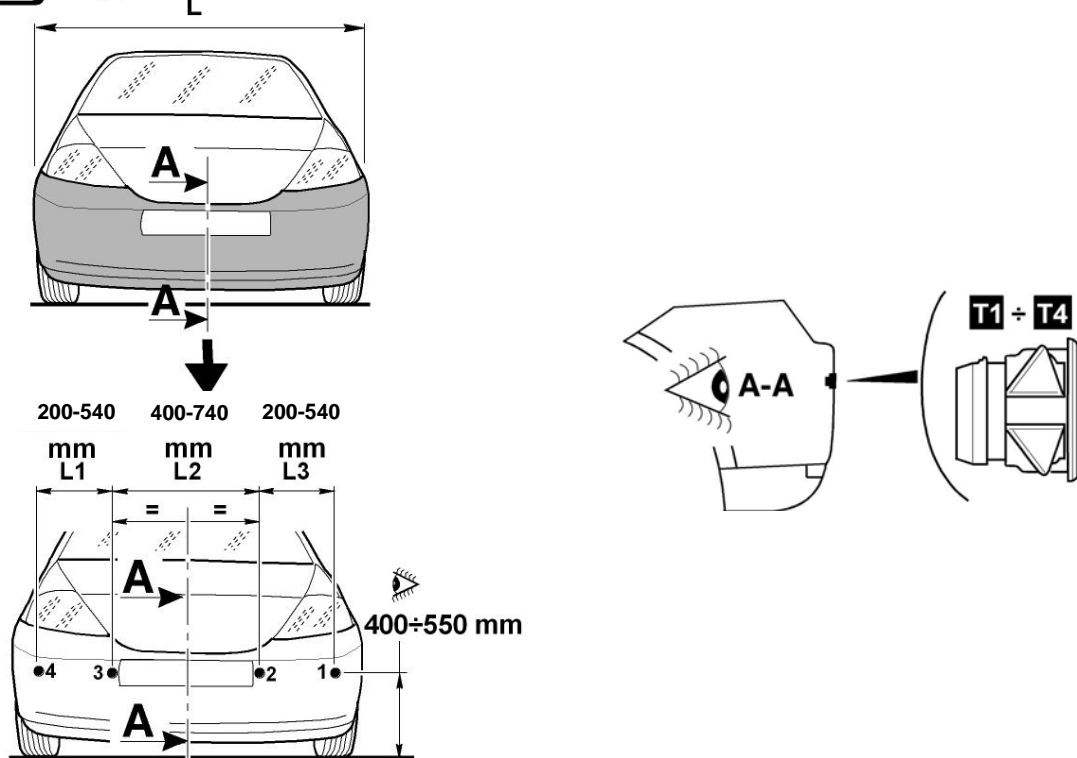
3



Before to spray the painting, check the original paint code. Spray the primer and when it will be dried, paint the sensors. Let it dry and spray the gloss to protect the painting. The maximum temperature of the oven should not exceed 70° C.

Recommended installation

4 Typical Installation



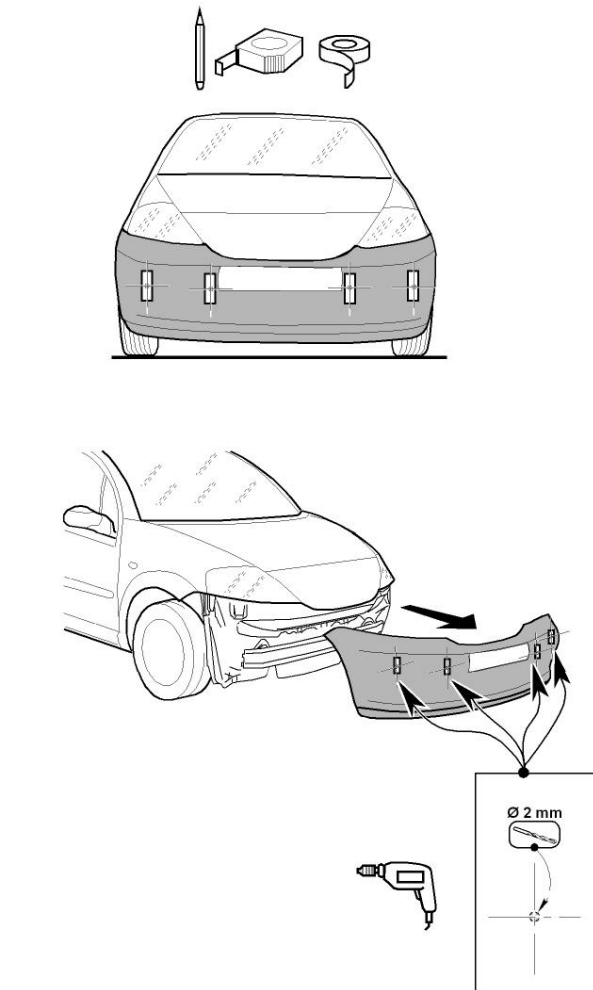
Installing the sensors within the following range: L1= min 200- max 540 mm – L2= min 400- max 740 mm – L3= min 200 - max 540 mm, usually it is not necessary to perform the central unit configuration procedure. After having installed the system, we suggest you, to perform a functional test, if the test result is negative, it is necessary to perform the central unit configuration procedure. (Chapter 18.3 and 18.4).

The sensors minimum installation height is 400 mm with a 0 degrees angle.

If fitted at higher height (more than 550 mm) a sensitivity increasing could be required to guarantee proper obstacle detection.

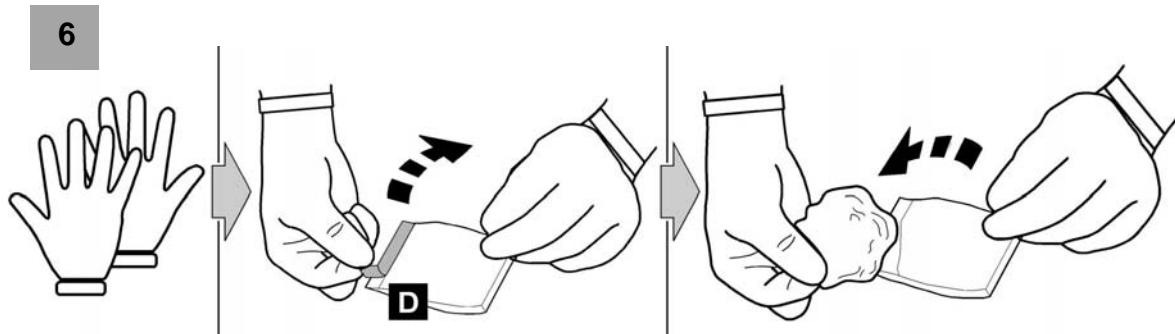
Sensors position, bumper removal and drilling

5



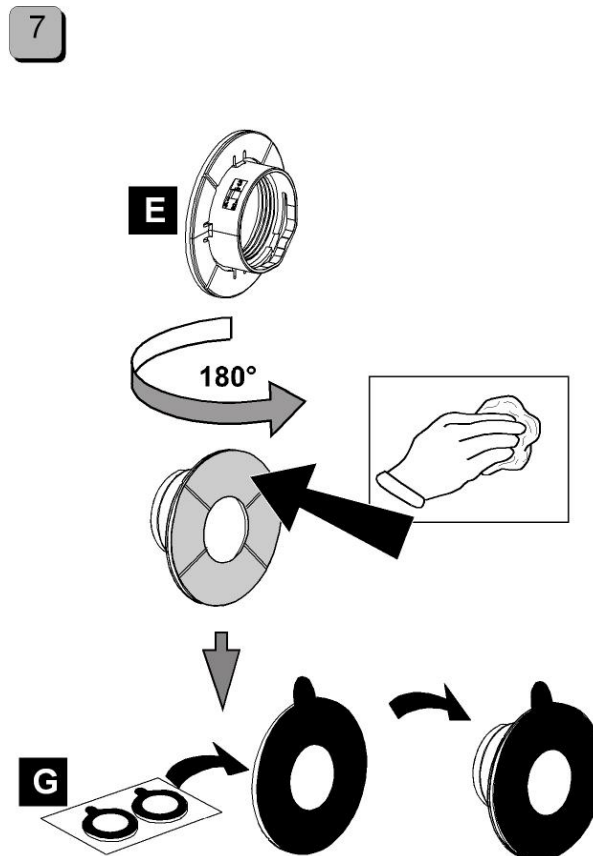
Use a paper tape to mark the positions of the holes of the sensors on the bumper.
After having marked the positions, remove the bumper and make a 2 mm hole for each sensor.
(PAY ATTENTION: drill keeping the tool in horizontal position)

Use instructions of the cloth soaked in primer



Wear latex gloves before opening the accessory bag to handle the cloth soaked with primer.
Clean the flanges (see chapter 7) then the bumper (see chapter 8).

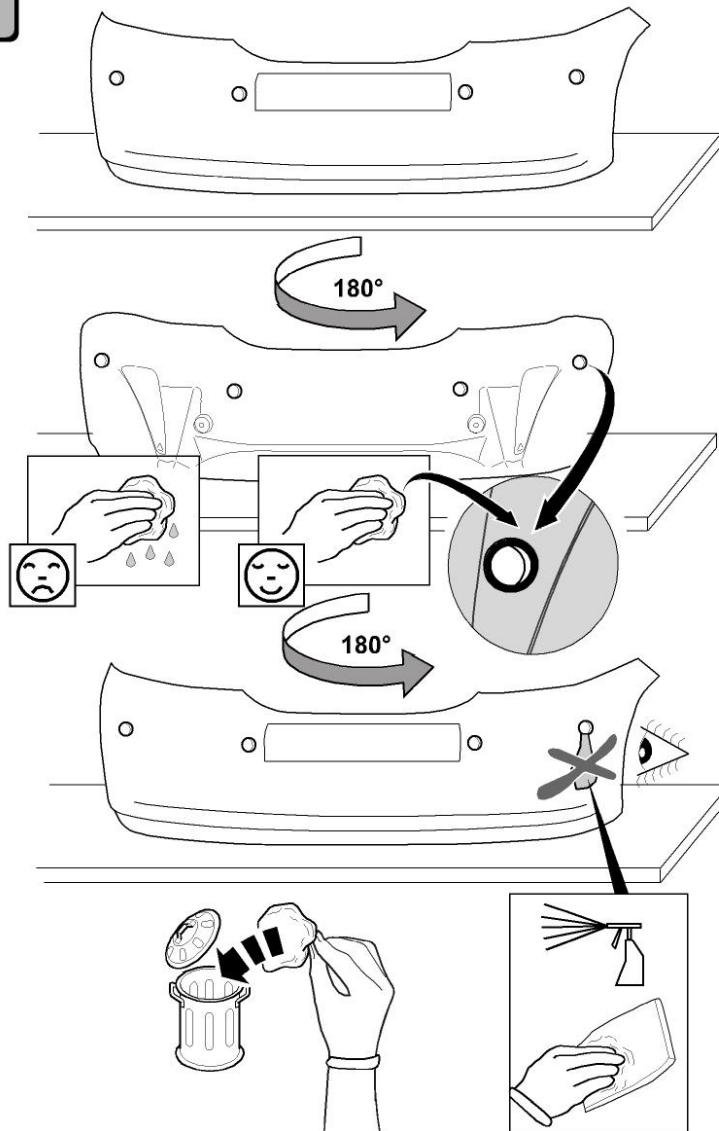
Positioning of the biadhesives ring on the flanges



Take a flange, clean its surface as shown in the picture, fix a biadhesive ring on the flange, the red backside film has not to be removed. Follow the same procedure for all flanges.

Bumper preparation

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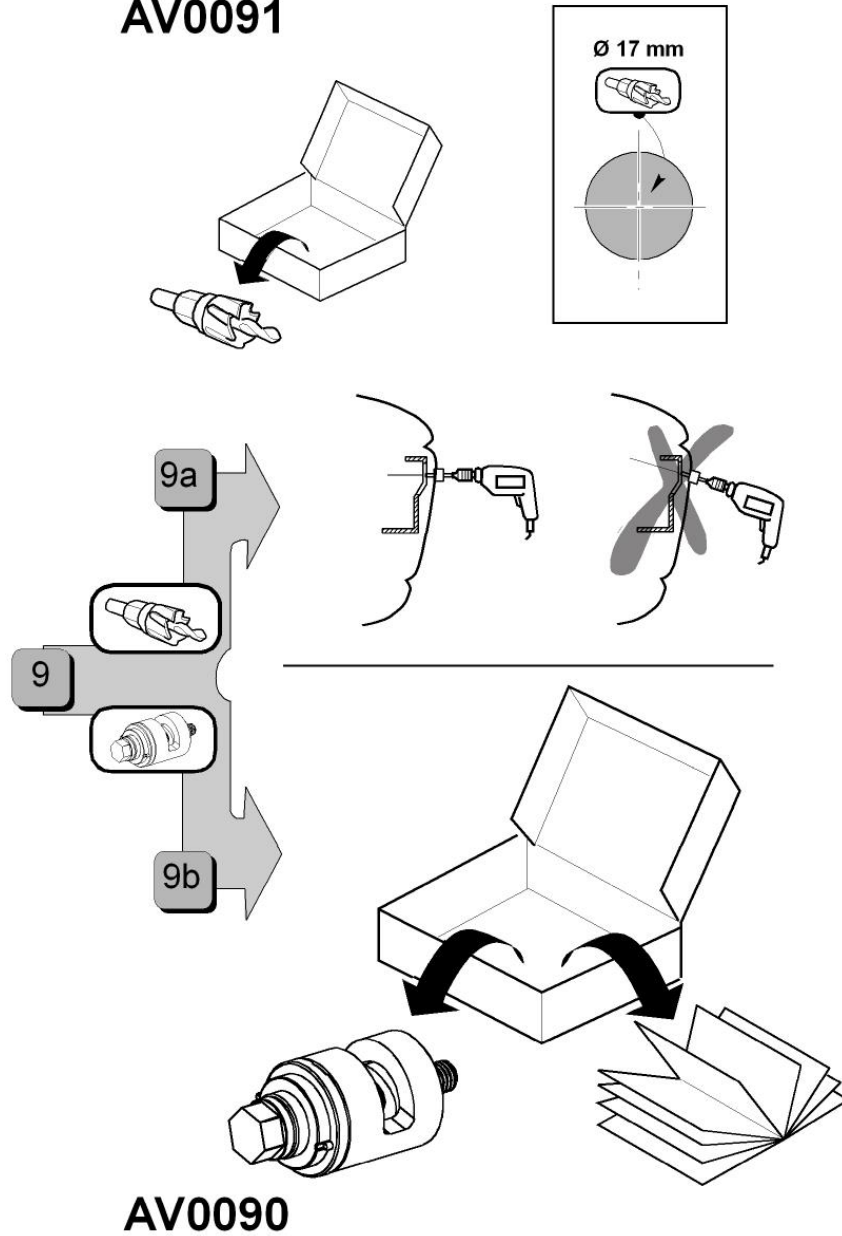


Clean the internal surface of the bumper applying the primer on a zone slightly larger than the flange size. **Do not put any primer on bumper painted area, the painting can be damaged.**

Bumper drilling with punch or cutting tool

9

AV0091

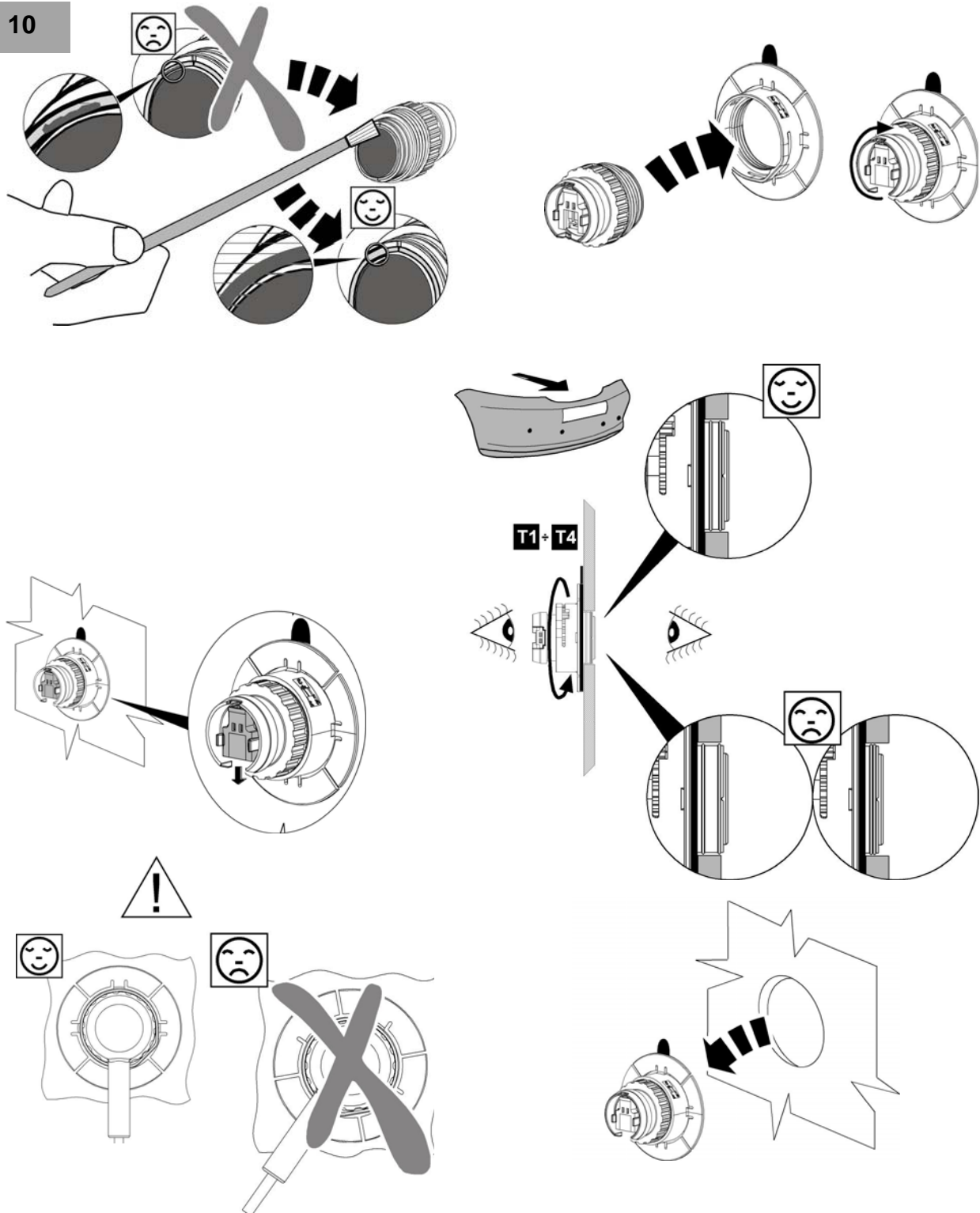


AV0090

We recommend the usage of the AV0090 punch tool to drill the bumper as the original painting will be stretched inwards, so that there will not be any need for the additional painting. AV0090 can be used as alternative tool, additional bumper painting could be required.

Sensors cleaning, preparation and adjustment

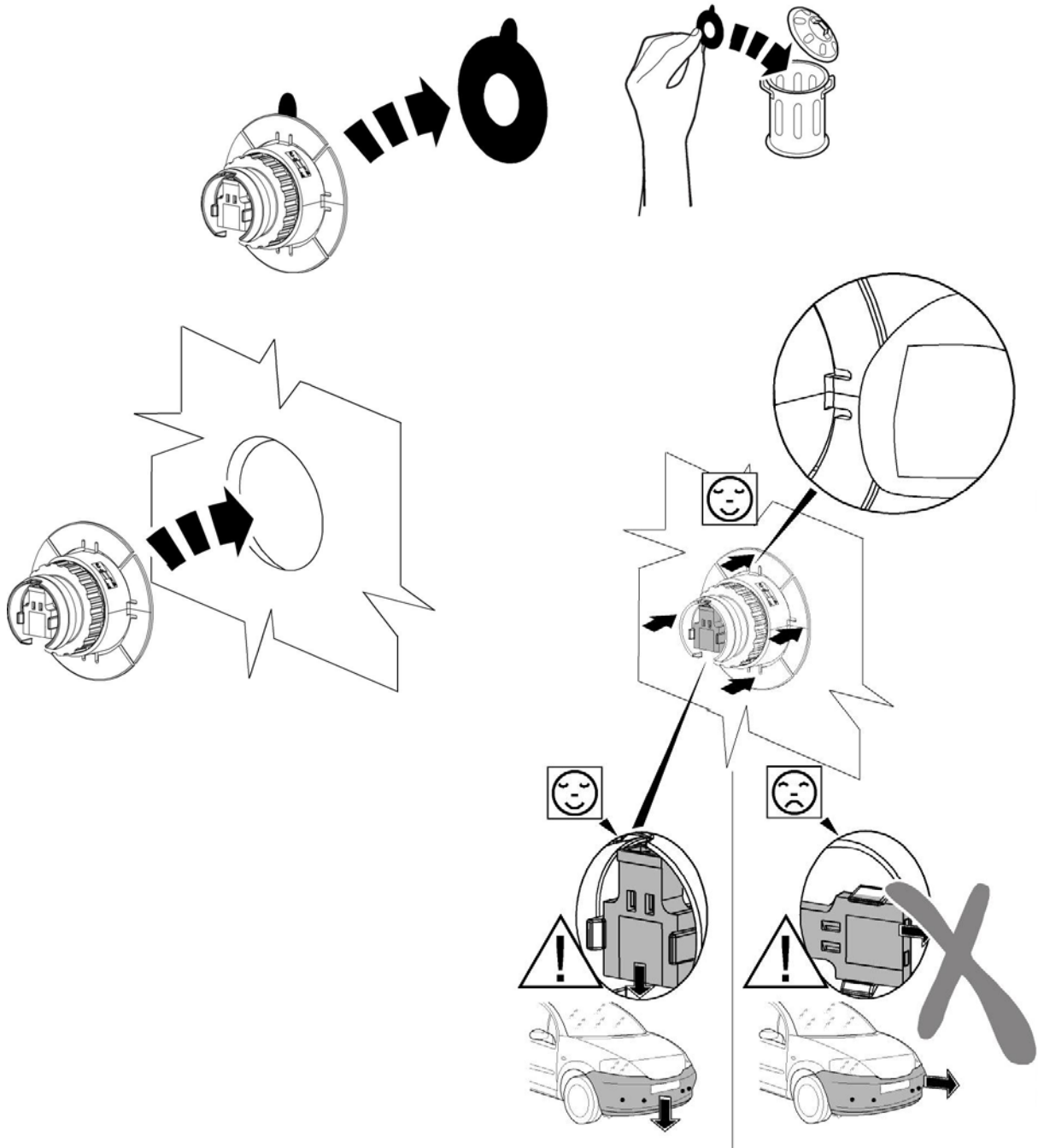
10



Remove any excess paint from the white rubber of the sensors. Screw the sensor into the flange. Without removing the red film place the sensor into the hole of the bumper with the connector downwards and make sure the sensor is flush with the bumper (Max 0.5 mm protruding). Perform this procedure for all sensor, remembering that each sensor should be installed in the hole where you made the adjustment.

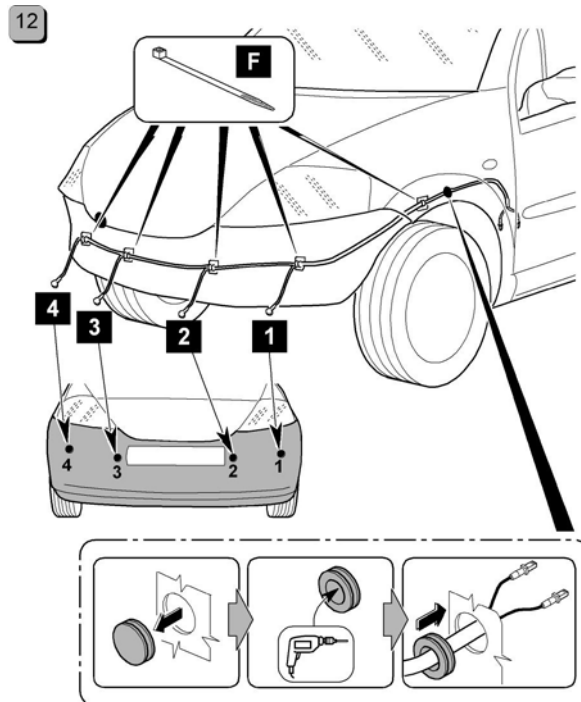
Insertion the sensors on the bumper

11



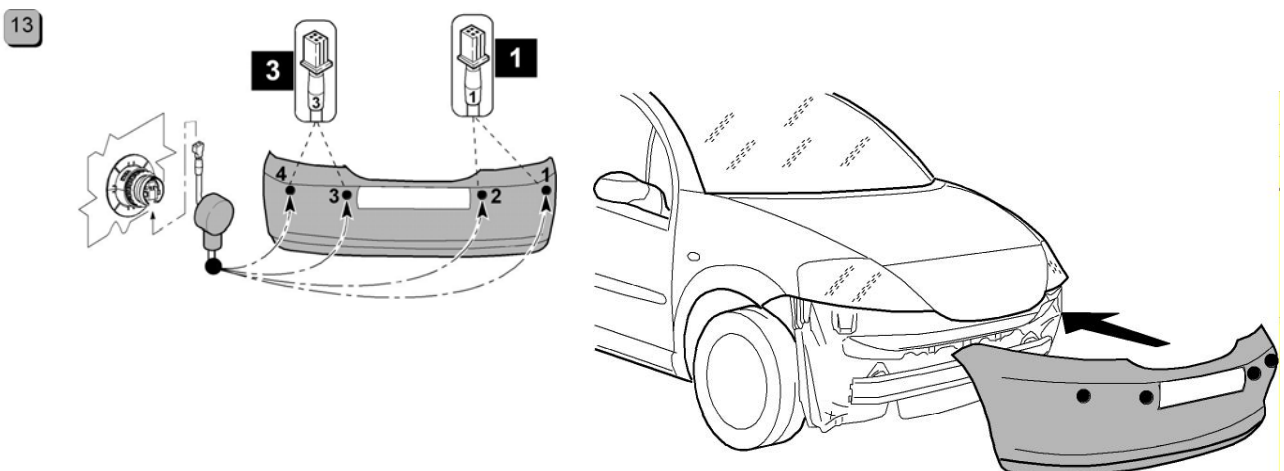
Remove the red film, fix the sensor in the bumper hole (remember to insert each sensor in the hole where has been performed the adjustment) with the connector downwards. They can be rotated 180° degrees without compromising the proper functioning.

Wiring positioning and sensors connection



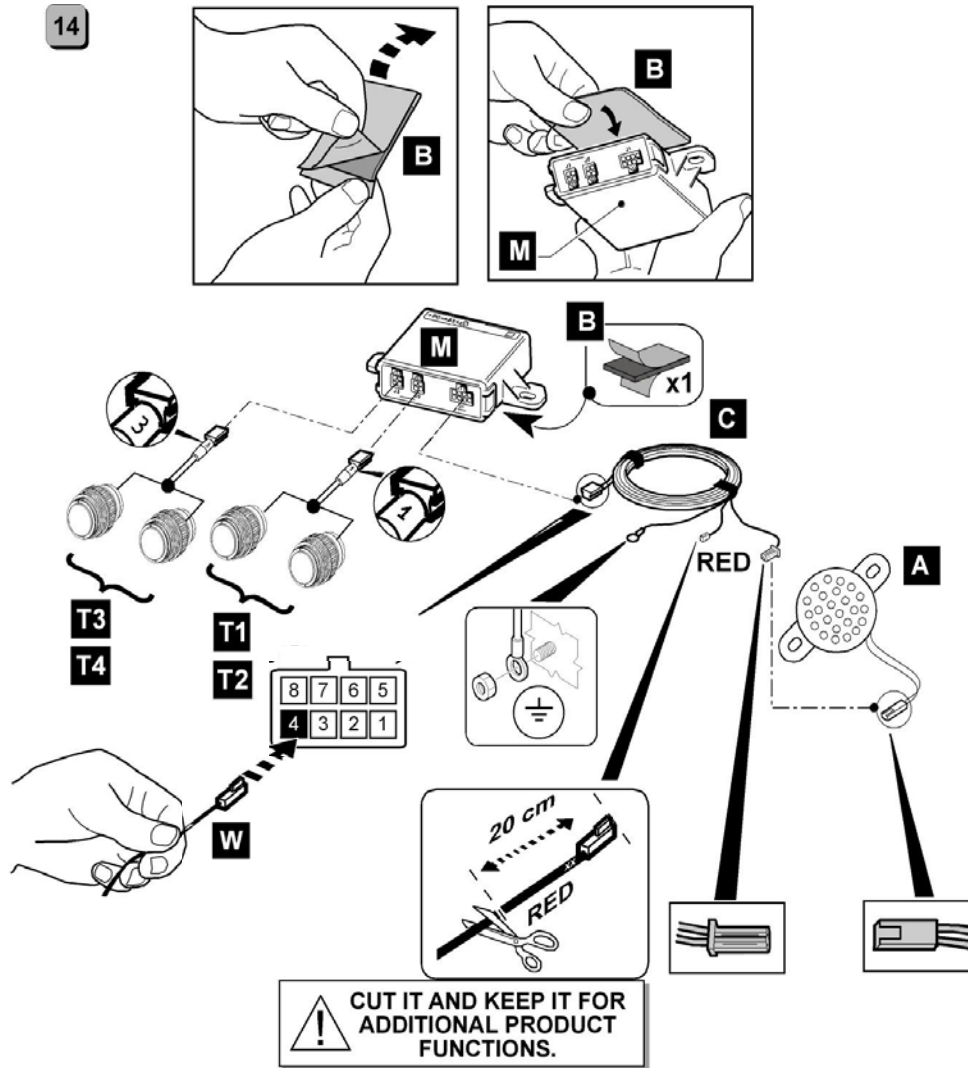
Use an original grommet to route the sensors wirings out of the vehicle. Fix the wirings using the supplied tie raps. This operation will facilitate you during the replacement of the bumper. The wirings of the sensors are numbered and they have to be connected from 1 to 4, as shown in the picture. After having connected the sensors to the wiring, fit the cover rubbers.

Bumper reassembling



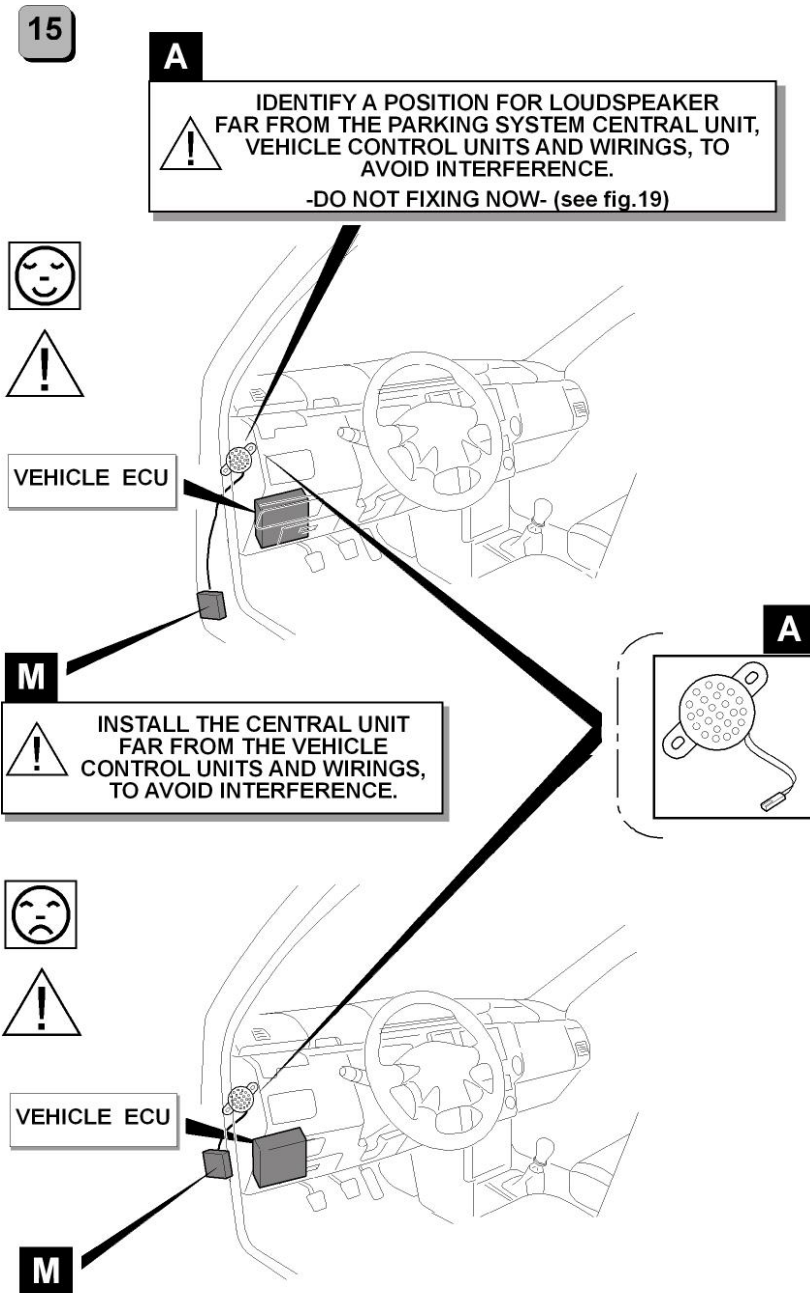
After having connected the sensors to the wiring, fit the cover rubbers. Reassemble the bumper on the vehicle, paying attention to the wires.

Power supply and sensors connection diagram



Use the B adhesive to fix the central unit. Connect the connector marked 1 in J2 position and the connector marked 3 in J3 position of the central unit. Connect the black wire with ring terminal to ground. Shorten the RED wire 20 cm. This piece of wire with terminal can be used to make available the special functionalities as for them there is no wire in the main connector. (See chapter of special functionality). Connect the RED wire of the main harness to the reverse light wire..

Central unit positioning

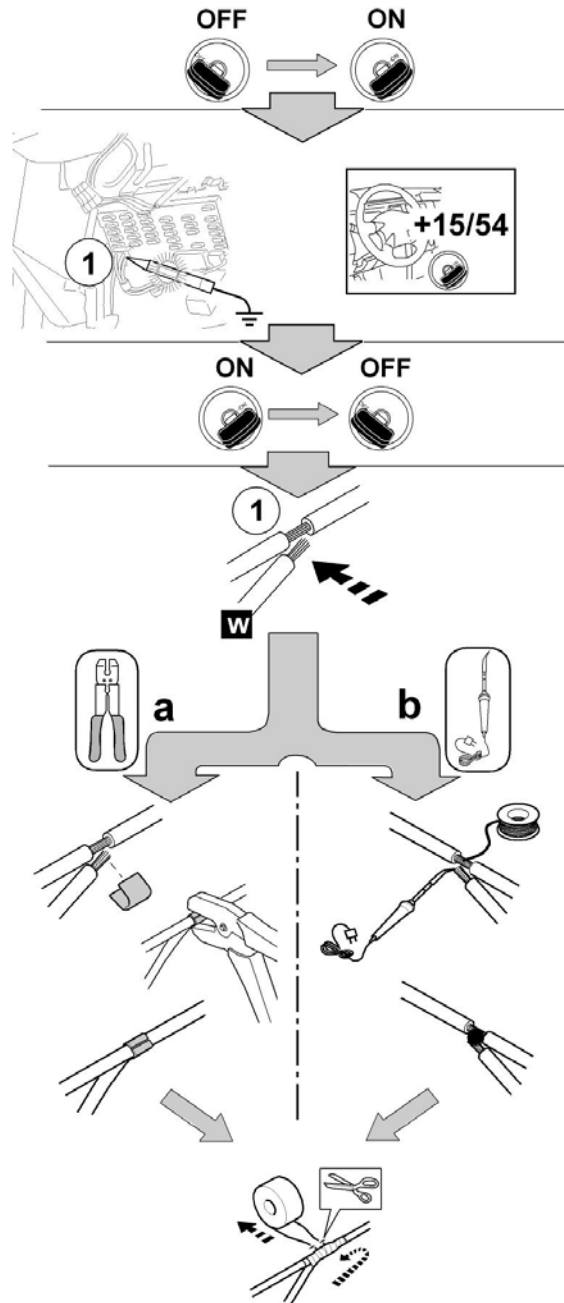


Place the control unit as shown in the upper picture to avoid interference

+15/54 wire identification and power supply connections

+15/54 wire identification

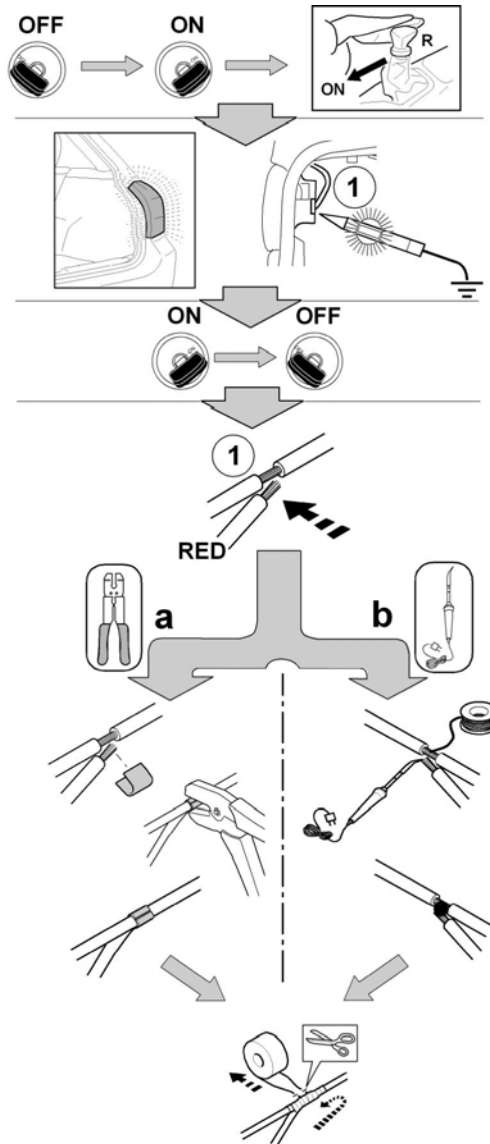
16



To identify the ignition key (+15/54) wire, it is necessary to turn the ignition on and check with the test lamp that it is a positive signal. Turn the ignition off, connect the Green-Red (W) wire of the central unit to the ignition wire by crimping or soldering it. Isolate the junction with tape..

Reverse gear wire identification

17

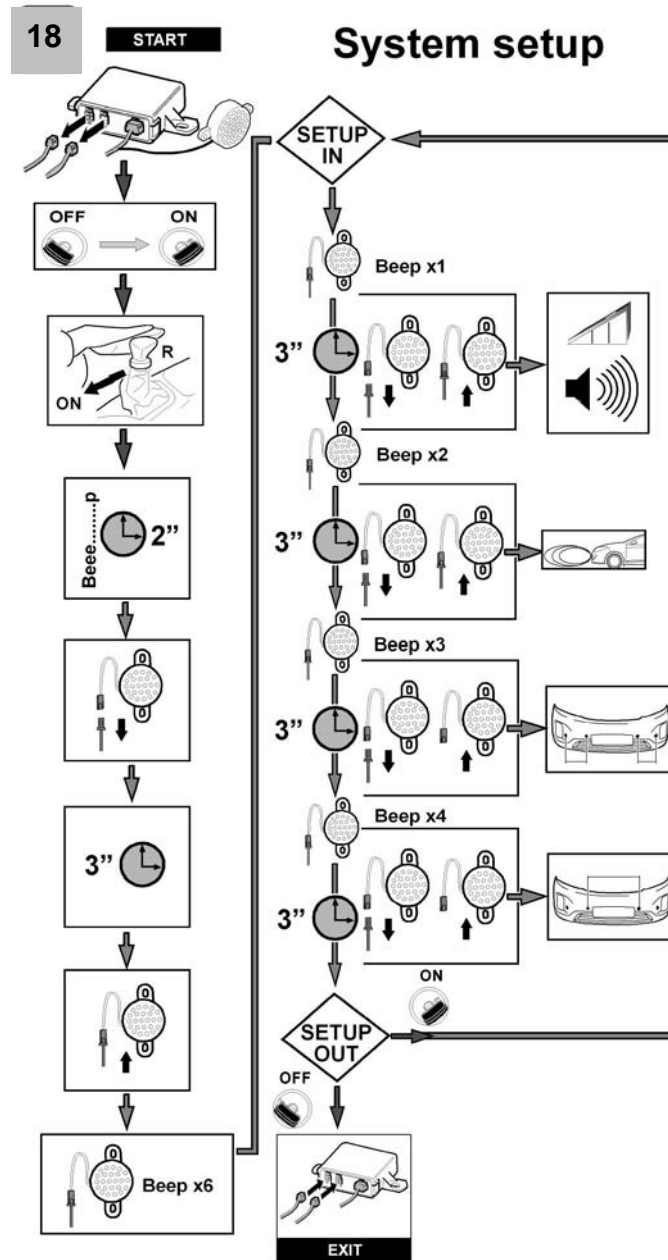


To identify the reverse gear wire,(central unit power supply), it is necessary to turn the ignition on , engage the reverse gear and check with the test lamp. Turn off the ignition, connect the red wire of the central unit by crimping or soldering it. Isolate the junction with tape.

The front sensors will be also activated when the reverse gear is engaged.

If the reverse gear is disengaged and the sensors don't detect any obstacles, within 10 s are automatically deactivated.

Configuration procedure



Disconnect J2 and J3 connectors, turn on the ignition and engage the reverse; the system beeps sounds for 2 s, disconnect and reconnect the connector of the loudspeaker to enter in the programming procedure, the system beeps 6 times.

If during the 2 s sounding the loudspeaker is not disconnected and reconnected again, the system will perform the self-diagnostic.

To exit from the self-diagnostic turn off and on the ignition.

After the 6 beeps the system beeps from 1 to 4 times indicating the four functions you can adjust.

1 beep – Loudspeaker volume (3 levels - standard level 3 - high)

2 beep – Sensors sensitivity (3 levels - standard level 2 - medium)

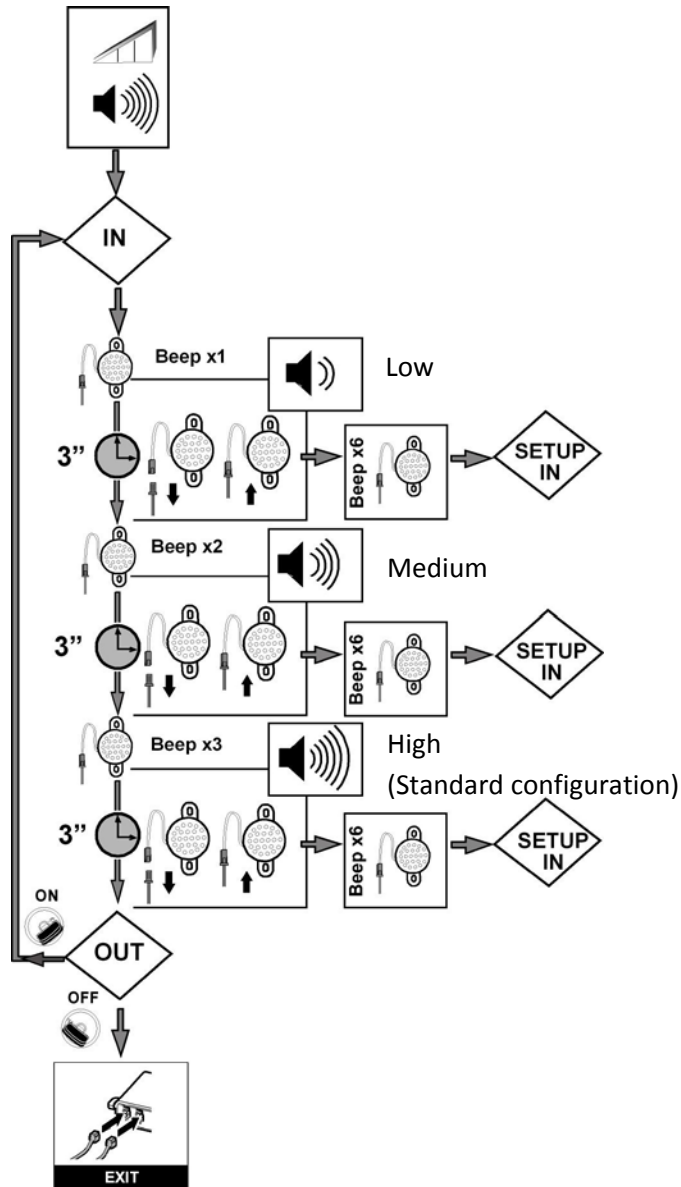
3 beep – Side sensors distance (3 levels - standard level 3 - 450-540 mm)

4 beep - Central sensors distance (4 levels – standard level 4 - 650-740 mm)

Disconnect the connector after hearing the number of the beep selected. When the loudspeaker connector is reconnected the system goes to the sub-menu of the selected function.

Loudspeaker volume adjustment

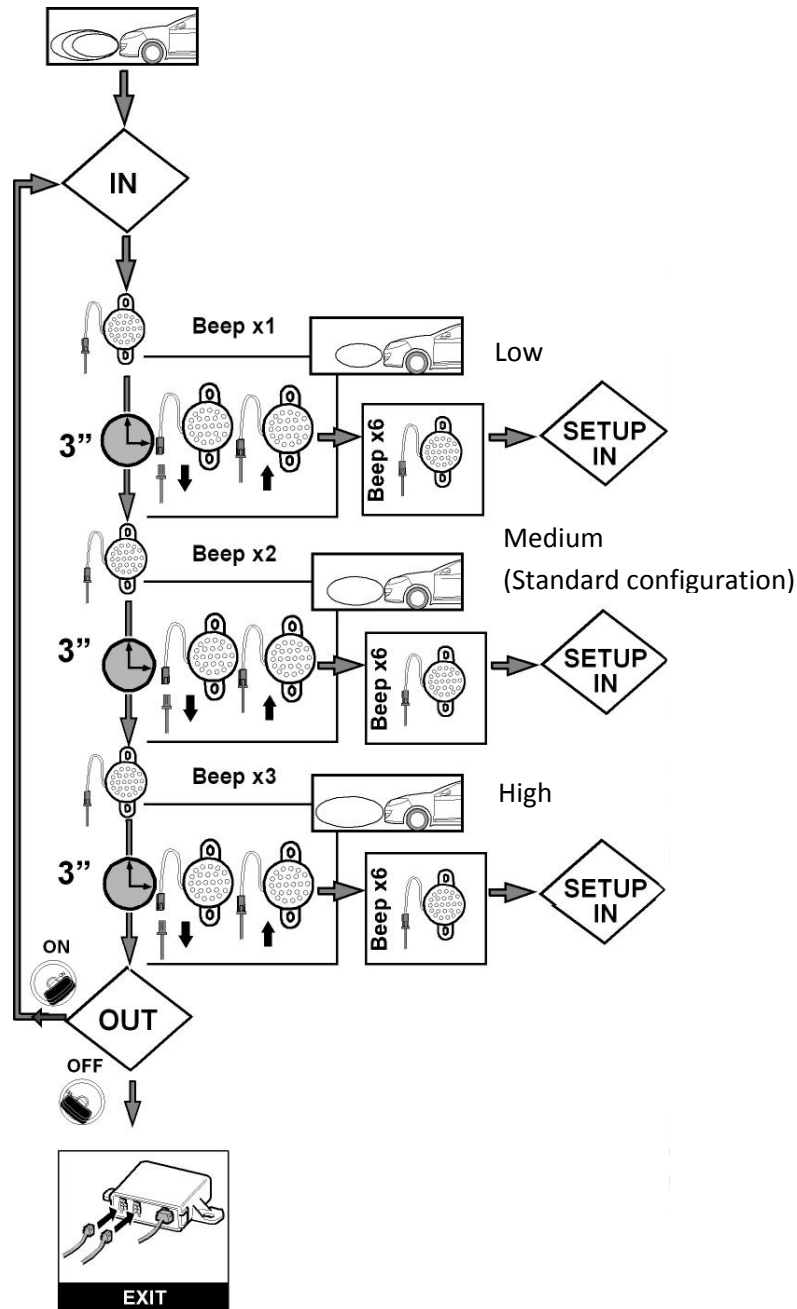
18.1



The system beeps once indicating the low volume, after 2 s beeps 2 times indicating the medium volume and after other 2 s beeps 3 times indicating the high volume. To choose the desired volume value disconnect and reconnect the connector after hearing the number of the beep you want to select. When the loudspeaker connector is reconnected the system memorizes the desired volume and goes back to the main menu beeping 6 times.

Sensors sensitivity adjustment

18.2



The system beep once indicating the low sensitivity, after 2 s beeps 2 times indicating the medium sensitivity, after other 2 s beeps 3 times indicating the high sensitivity. To choose the desired sensitivity, disconnect and reconnect the connector after hearing the number of beep selected. When the loudspeaker connector is reconnected the system store the desired sensors sensitivity and goes back to the main menu beeping 6 times.

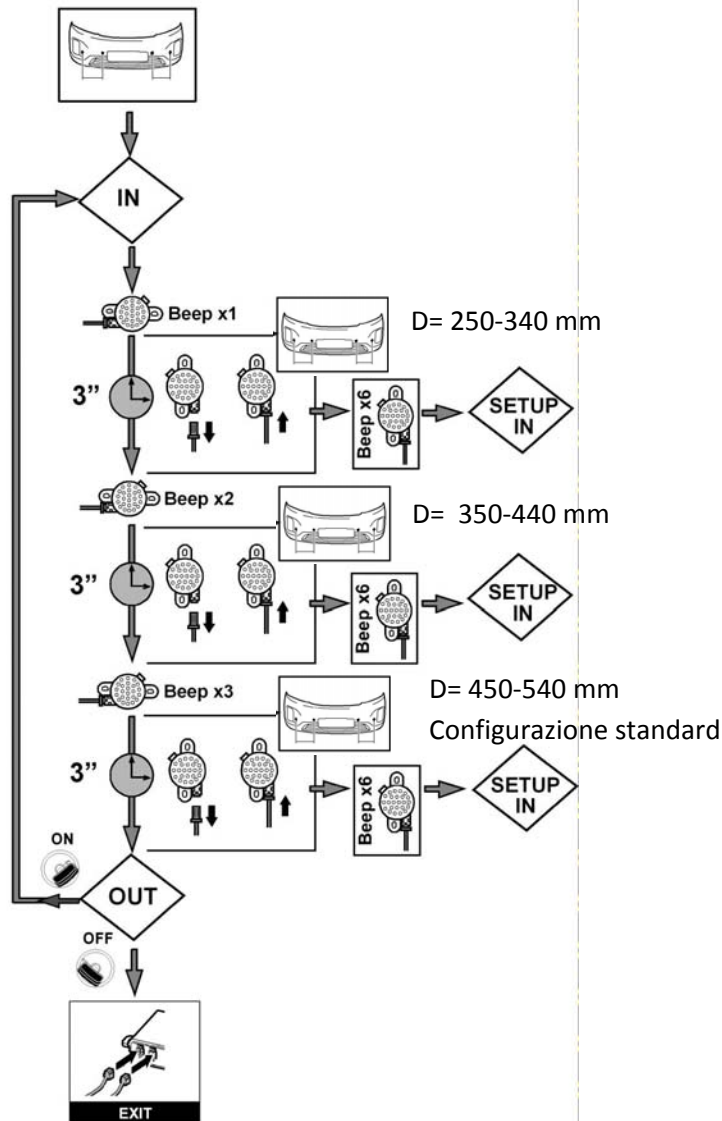
Low sensitivity: suitable for sensors height between 400-450 mm. If the height is lower you must use the 10° angle adapters.

Medium sensitivity: suitable for sensors height between 450-550 mm

High sensitivity: suitable for sensors height higher than 550 mm

Side sensors distance adjustment

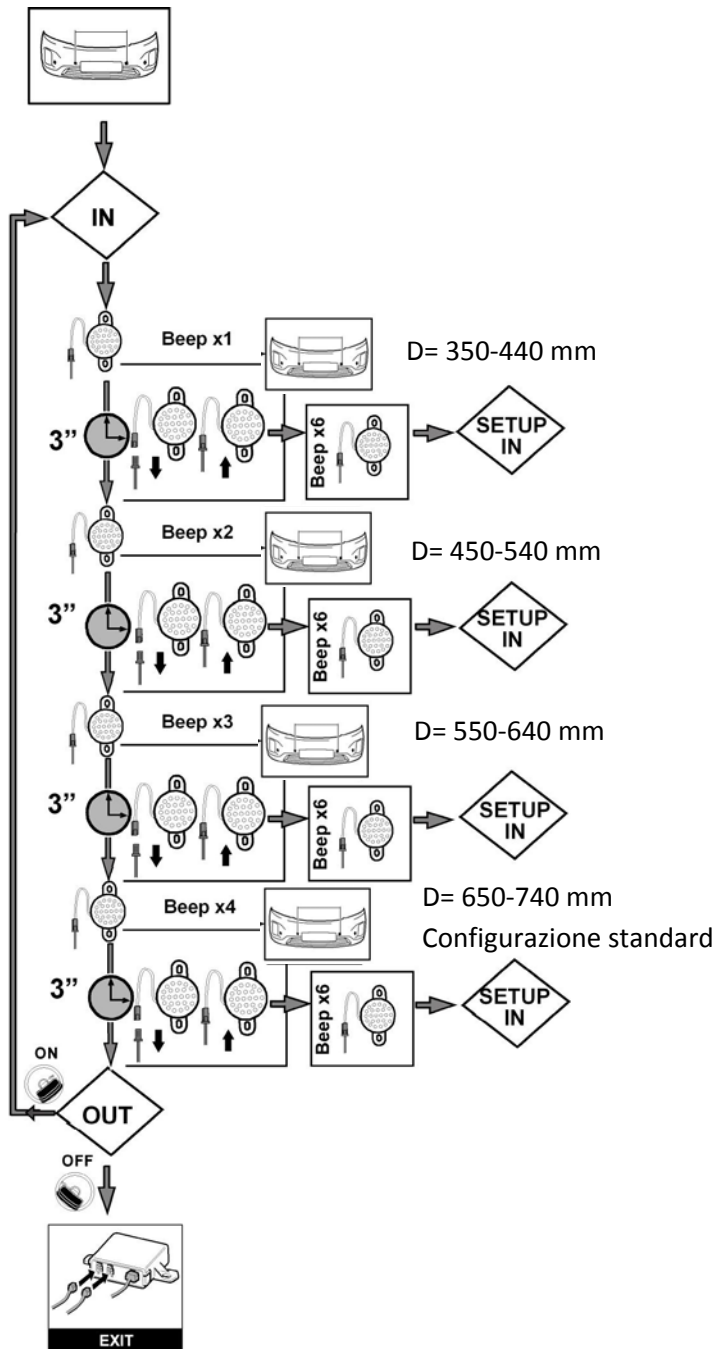
18.3



The system beeps once indicating the sensors distance of 250-340 mm, after 2 s beeps 2 times indicating the sensors distance of 350-440 mm and after other 2 s beeps 3 times indicating the sensors distance of 450-540 mm. To choose the desired distance, disconnect and reconnect the connector after hearing the number of beeps selected. When the loudspeaker connector is reconnected the system stores the selected distance choice and goes back to the main menu beeping 6 times.

Central sensors distance adjustment

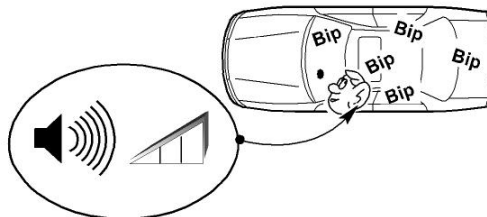
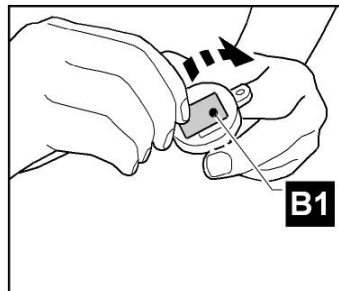
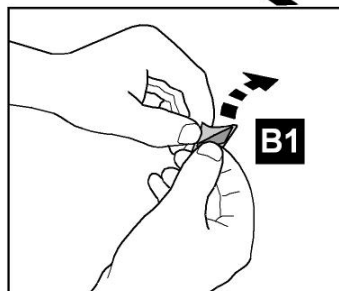
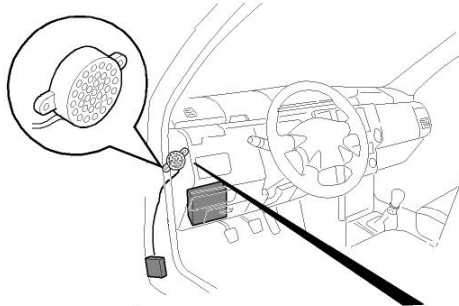
18.4



The system beep once indicating the sensors distance of 350-440 mm, after 2 s beeps 2 times indicating the sensors distance of 450-540 mm, after 2 s beeps 3 times indicating the sensors distance of 550-640 mm and after other 2 s beeps 4 times indicating the distance of 650-740 mm. To choose the selected distance, disconnect and reconnect the connector after hearing the number of beep selected. When the loudspeaker connector is reconnected the system store the selected distance choice and goes back to the main menu beeping 6 times.

Loudspeaker connection and positioning

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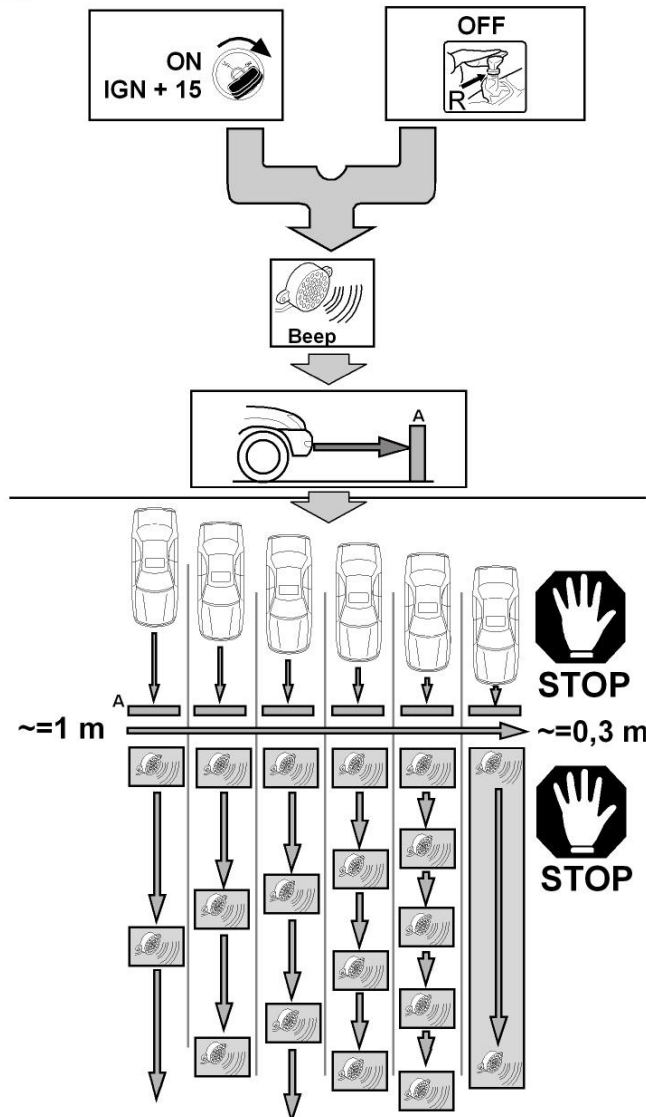


Test the loudspeaker volume before fixing it. Put an obstacle in front of the bumper and turn the ignition on or engage the reverse gear. The loudspeaker beeps: check if the sound is well audible for the driver (with the engine running). If the sound level needs to be adjusted, perform the procedure of chapter 12.1. After checking, remove the protective film of the B1 biadhesive and fix it.

System functionality check

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System functionality



Position the vehicle with the sensors facing a wall at a distance of approximately 1 mt, turn the ignition on and engage the reverse gear. The system confirms its activation with 1 beep. Get closer to the wall at a low speed. The beeps frequency increases getting closer to the wall.

When the vehicle is at 30 cm from the wall, the sound becomes continuous.

Fault reporting

The system reports any failures of sensors or the control unit with a long sound followed by beep of the fault detected. The system signals the failure, to the power on and also during operation.

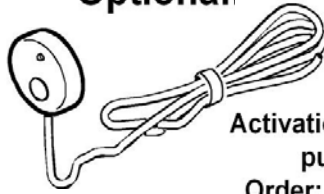
Sensor 1 fault	1 long beep followed by 1 beep	Contact your installer
Sensor 2 fault	1 long beep followed by 2 beeps	Contact your installer
Sensor 3 failure	1 long beep followed by 3 beeps	Contact your installer
Sensor 4 fault	1 long beep followed by 4 beeps	Contact your installer
Central unit fault	1 long beep followed by 5 beeps	Contact your installer

Pushbuttons installation to activate/deactivate the system

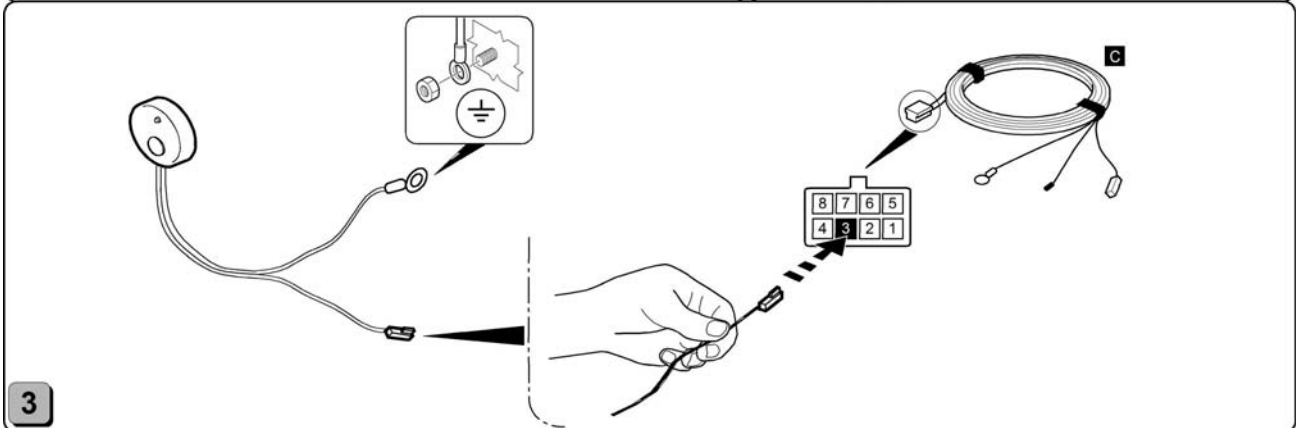
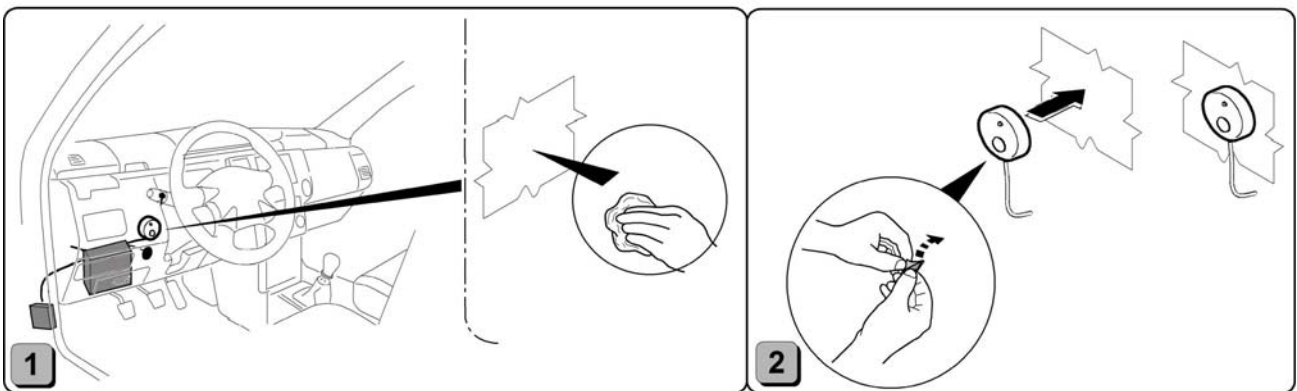
RV3608EUSAA

21

Optional

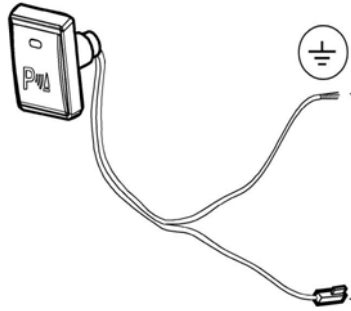


Activation / Deactivation
push button.
Order: RV3608EUSAA



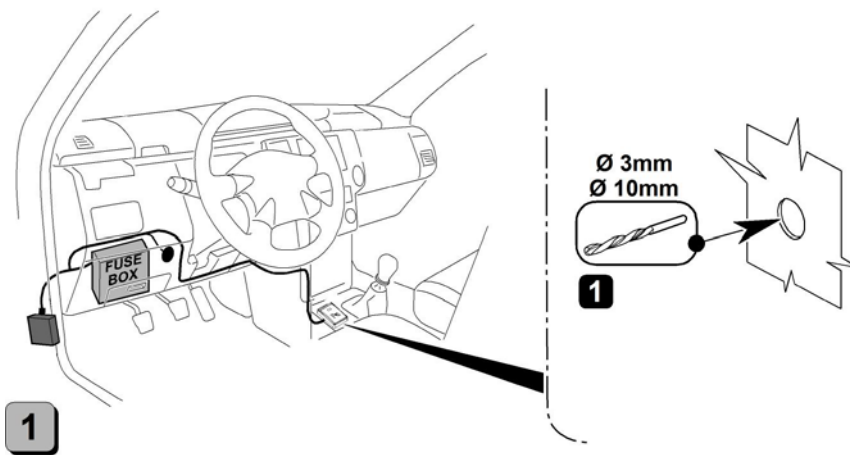
Clean the chosen location to install the pushbutton, remove the protective film of the biadhesive and fix it.
Connect the black wire with ring terminal to ground.
Insert in position 3 of the J1 power supply connector the fastened wire.

RV3637EUSAA

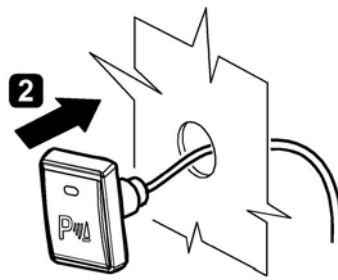


OPTIONAL

Activation / Deactivation
push button.

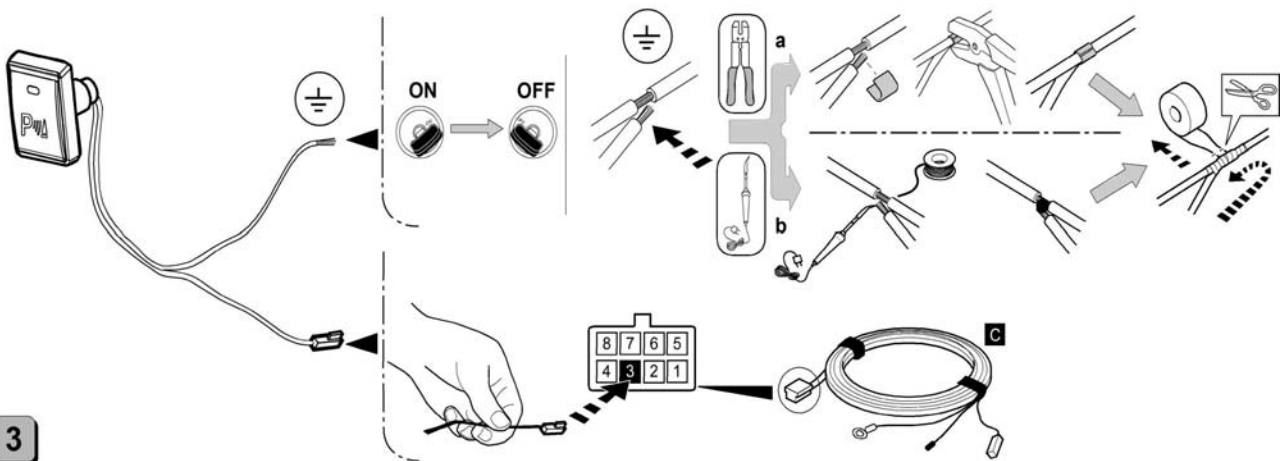


To make a hole of 3 mm and then 10 mm in the chosen location for the installation of the pushbutton.



2

Insert the wiring and install the pushbutton.



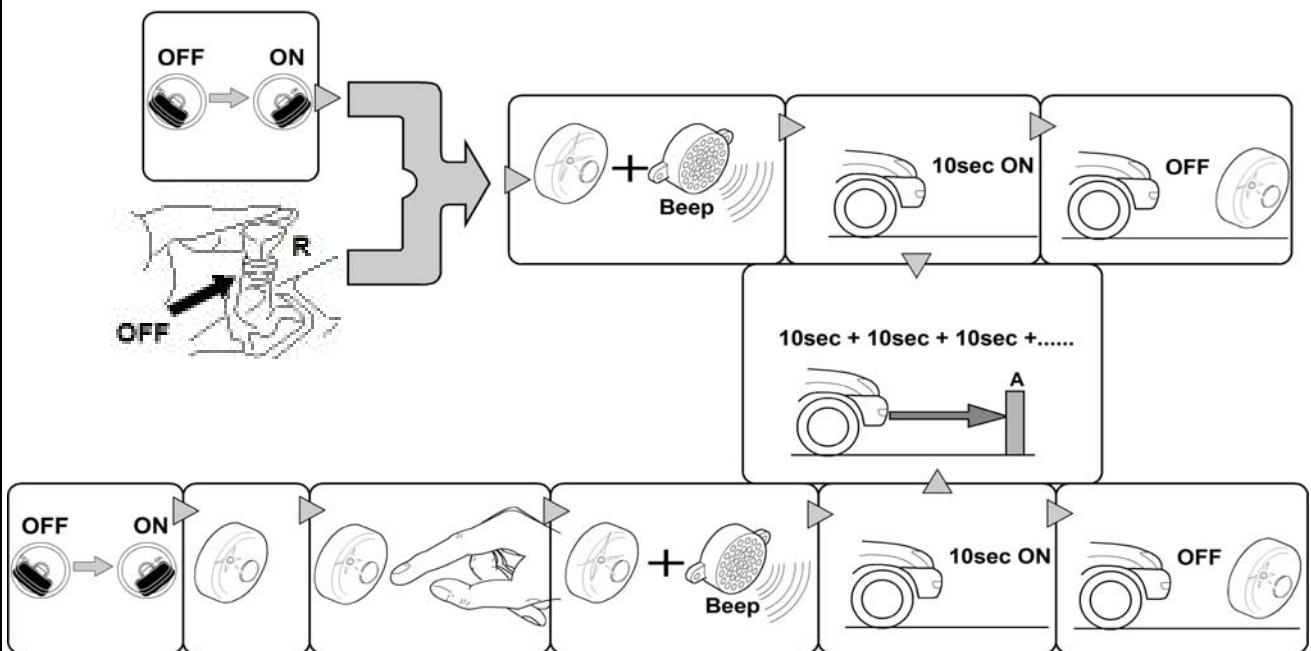
3

Connect the wire without terminal to ground and insert in position 3 of the J1 power supply connector the fastened wire.

System activation and deactivation

RV3608EUSAA

System activation/deactivation with push button



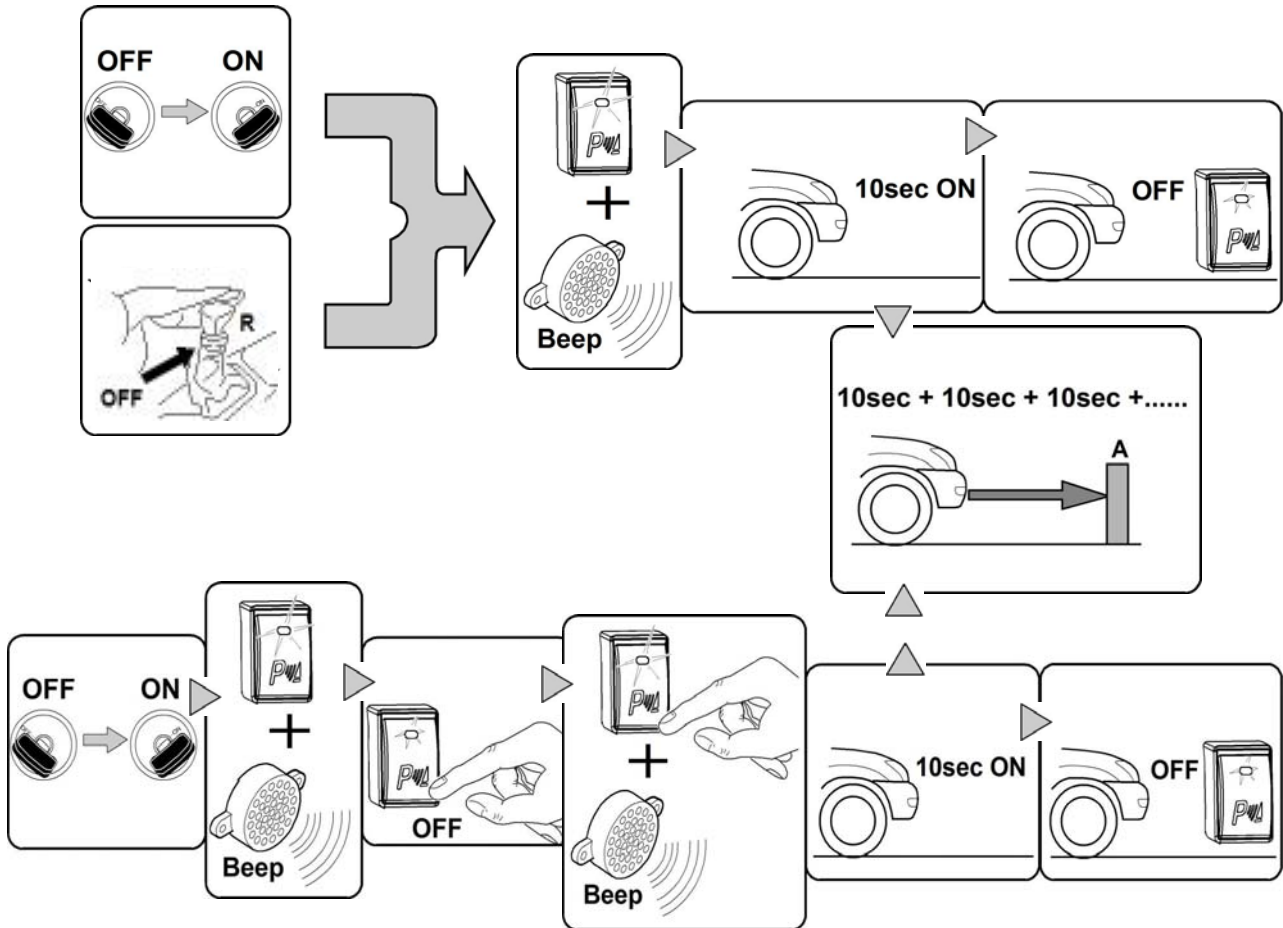
The system is activated at the ignition on , if not detects obstacles within 10 s is deactivated.

The system is also activated when reverse is engaged and remains active until the reverse is disengaged.

When the reverse gear is disengaged, if not detects obstacles within 10 s is deactivated.

The system can be activated and deactivated by the pushbutton.

RV3637EUSAA



The system is activated at the ignition on , if not detects obstacles within 10 s is deactivated.

The system is also activated when reverse is engaged and remains active until the reverse is disengaged.

When the reverse gear is disengaged, if not detects obstacles within 10 s is deactivated.

The system can be activated and deactivated by the pushbutton.

23.1 Procedure learning speed thresholds

The pushbutton RV3608EUSAA or RV3637EUSAA is necessary to perform the speed signal procedure

Press and keep pressed the pushbutton of the led panel and start the engine

Continue to keep pressed the pushbutton of the led panel, you will hear 6 beeps from the loudspeaker,

Release the pushbutton to enter into learning speed signal procedure.

Drive the vehicle at the speed you want to use for the activation of the system, (Recommended speed 10 Km/h), press the button for 1 second to store the speed, the system will confirm the storage with 2 beeps.

Drive the vehicle at the speed you want to use for the deactivation of the system, (Recommended speed 20 Km/h), press the button for 1 second to store the speed, the system will confirm the storage with 4 beeps.

Turn the ignition off to confirm the chosen speed thresholds.

After having performed the procedure, the system automatically activates the system deactivation by the speed signal.

To activate the system activation by speed signal, follow the activation/deactivation of the features (23.2).

23.2 Activation / deactivation of the features

The pushbutton RV3608EUSAA or RV3637EUSAA is necessary to perform the procedure

- 1) Press and keep pressed the pushbutton of the led panel and start the engine.
- 2) Keep pressed the pushbutton till the system confirms with 3 beeps.
- 3) Release the pushbutton to enter into the programming procedure.
- 4) The system repeats cyclically the beeps from 1 to 6 (see table of programming functions) .
- 5) To activate/deactivate a feature, press the pushbutton during the beeps or within 3 seconds by the end of them, which indicate one of the functions you want to program.
The activation/deactivation of the features is confirmed by 6 beeps. The system returns to repeat cyclically the beeps from 1 to 6 to allow yourself to activate/deactivate other features.

23.3 Table of programming features

1 Beep	Activation of the system by speed signal	Active
2 Beeps	Activation of the system by speed signal	Deactive (Standard configuration)
3 Beeps	Time system deactivation after the activation if no obstacles is detected	10 s (Configurazione standard)
4 Beeps	Time system deactivation after the activation if no obstacles is detected	20 s
5 Beeps	System activation when the ignition is on	Active (Standard configuration)
6 Beeps	System activation when the ignition is on	Deactive

23.4 Deactivation of the system by the speed signal

The system is automatically deactivated when the vehicle exceeds the speed threshold stored. (See learning speed thresholds procedure). The LED panel will turn off to indicate that the system is deactivated.

23.5 Activation of the system by the speed signal

The system is automatically activated when the vehicle slows down and reaches the speed threshold stored(see learning speed thresholds procedure). The LED panel lights up to indicate that the system is activated.

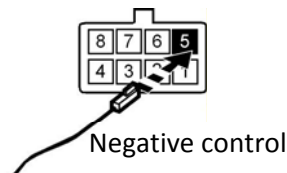
23.6 Deactivation of the system after activation if not detected obstacles

After activation, the system does not detect any obstacle within 10 or 20 ss, depending on the selected time it is deactivated. It will be reactivated, by the reverse gear, turning on the ignition again or by pushbutton if available.

23.7 Phone mute

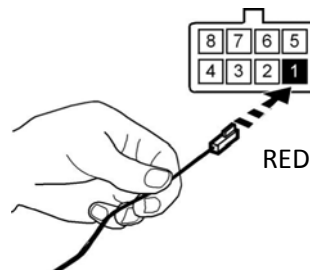
Insert in position 5 of the J1 connector the faston of the RED wire cut during the installation. Connect the other end of the wire to the Phone mute input wire of the radio.
(The output signal from the system is negative).

Each time the system is activated the radio volume is lowered, thus allowing you to hear the buzzer of the system.



24 Odometer signal connection

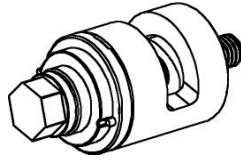
Insert in position 1 of the J1 connector the RED wire cut from the main harness and connect it to the odometer signal wire of the vehicle.



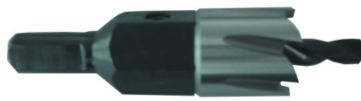
25

Drilling tools

Punch AV0090EUSAC \varnothing 17 mm (Recommended)

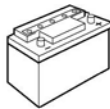


Cutting tool AV0091EUSAA \varnothing 17 mm

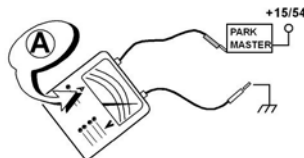


Product technical features

26



12 VDC.



A < 30 mA typ.



-40° C ÷ +85° C

ELECTRICAL/ELECTRONIC SUB-ASSEMBLY WAS APPROVED WITH REGARD TO:
E/CE/324-E/CE/TRANS/505 Add 9/Rev.3 Regulation No. 10 UNIFORM PROVISIONS CONCERNING THE APPROVAL OF VEHICLES WITH REGARD TO ELECTROMAGNETIC COMPATIBILITY