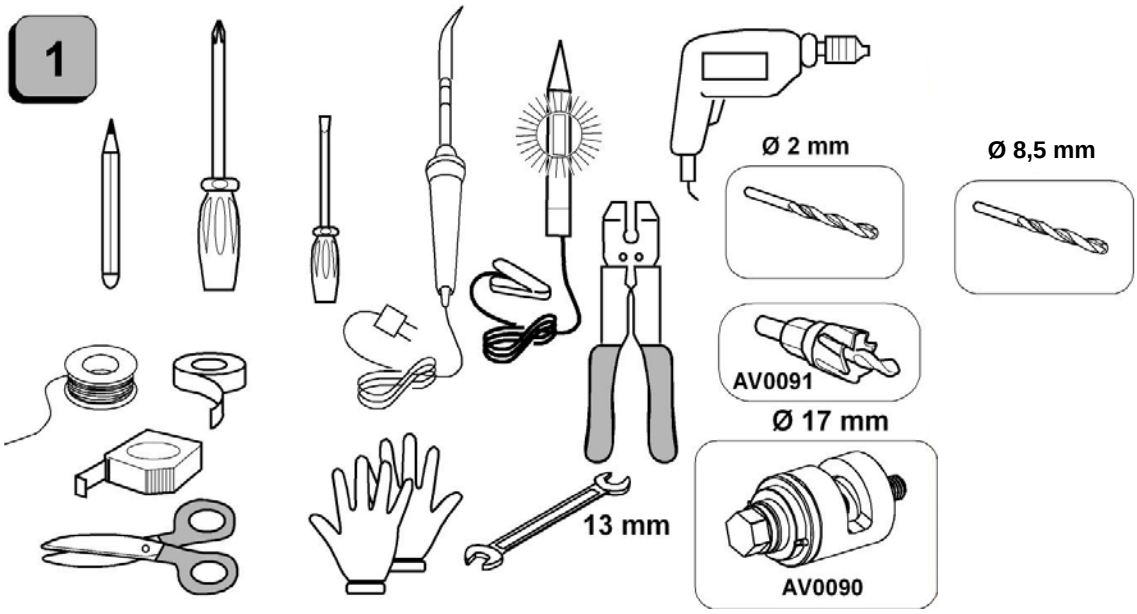
Application manual
Parkmaster R394

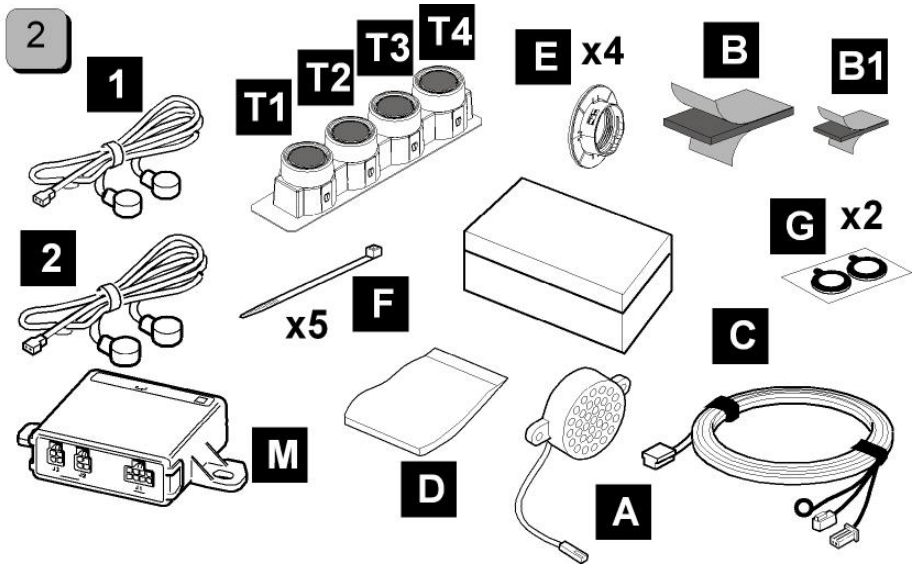
Installation and configuration guide

Summary

Installation tools



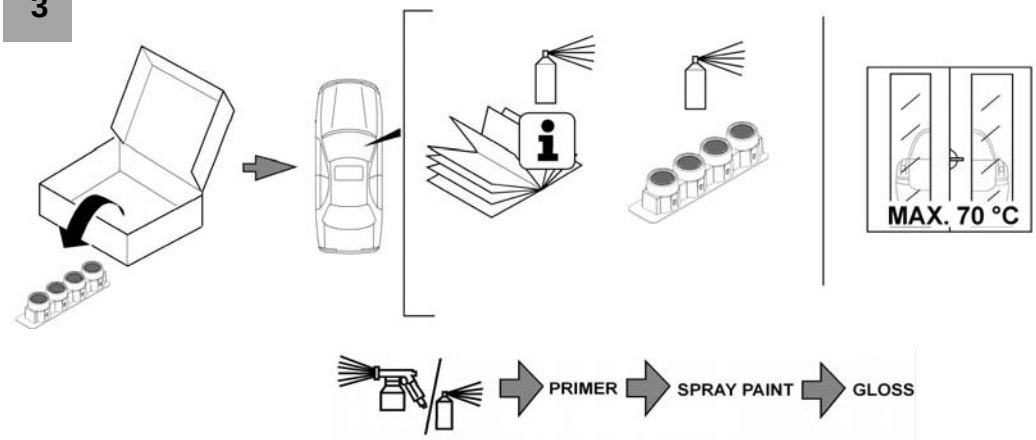
Kit content



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

Sensors painting

3

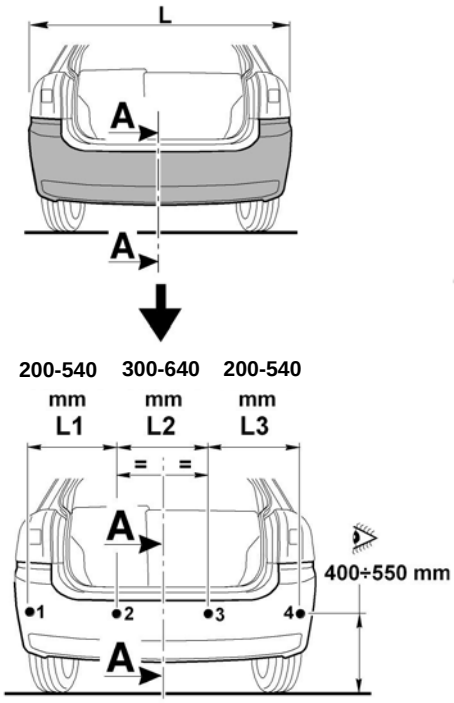


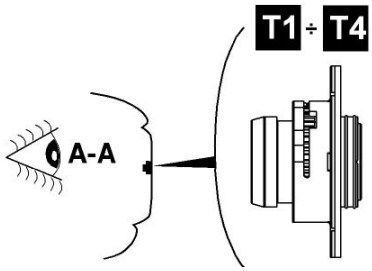
Before to spray the painting , check the original paint code. Spray the primer and when it will be dried, paint the sensors. Let it dry and spray the gloss to protect the painting. The maximum temperature of the oven should not exceed 70° C.

Recommended installation

4

Typical Installation





Installing the sensors within the following range: L1= min 200- max 540 mm – L2= min 300- max 640 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 17).
The sensors minimum installation height is 400 mm with a 0 degrees angle.
If fitted at higher height (more than 55 cm) a sensitivity increasing could be required to guarantee proper obstacle detection.

Sensors position, bumper removal and drilling

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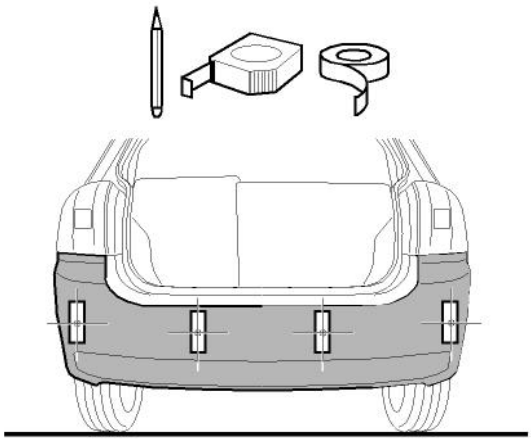
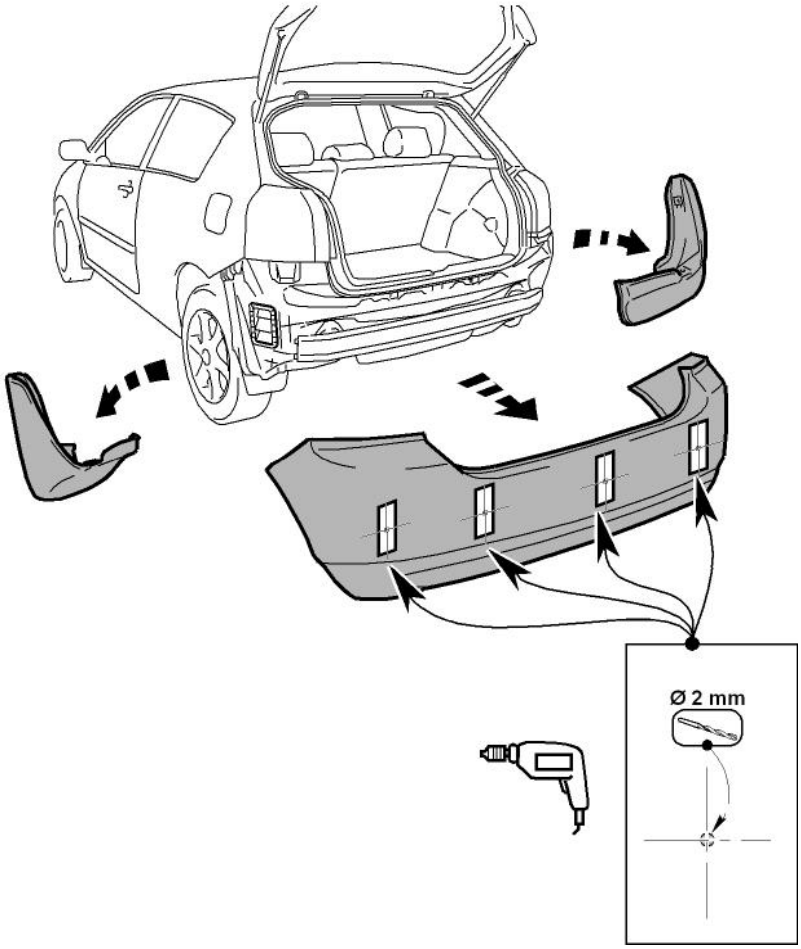
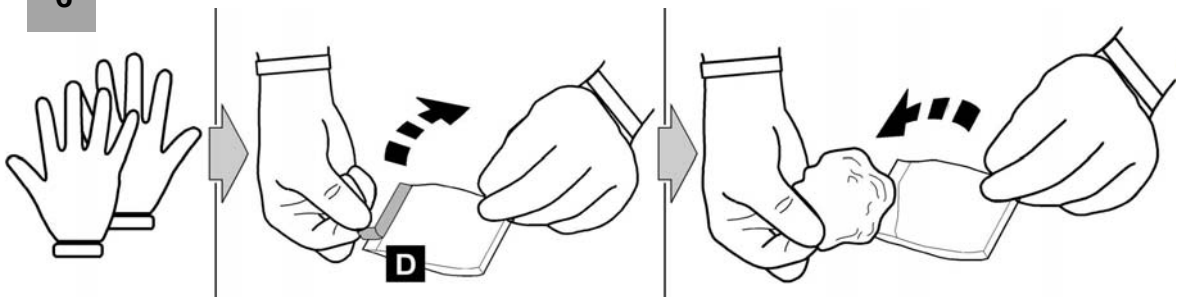




Use a paper tape to mark the positions of the holes of the sensors on the bumper.
After having marked the positions, remove the bumper and make a 2 mm hole for each sensor.
(PAY ATTENTION: drill keeping the tool in horizontal position)

Use instructions of the cloth soaked in primer

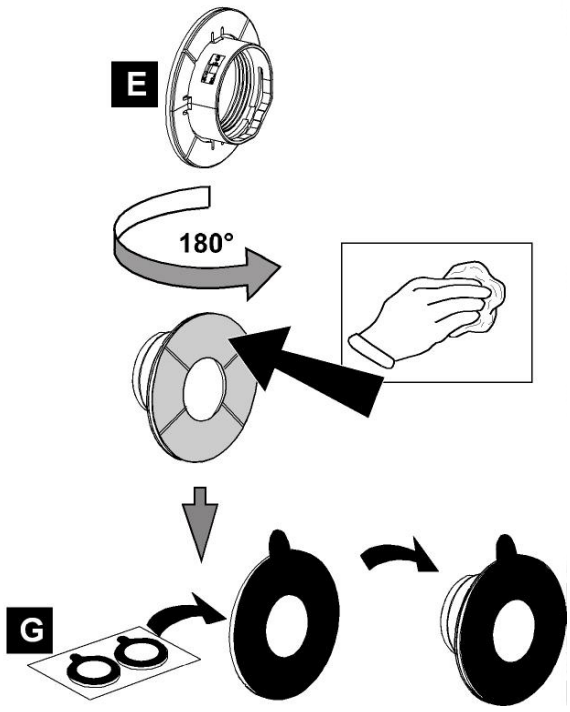
6



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).

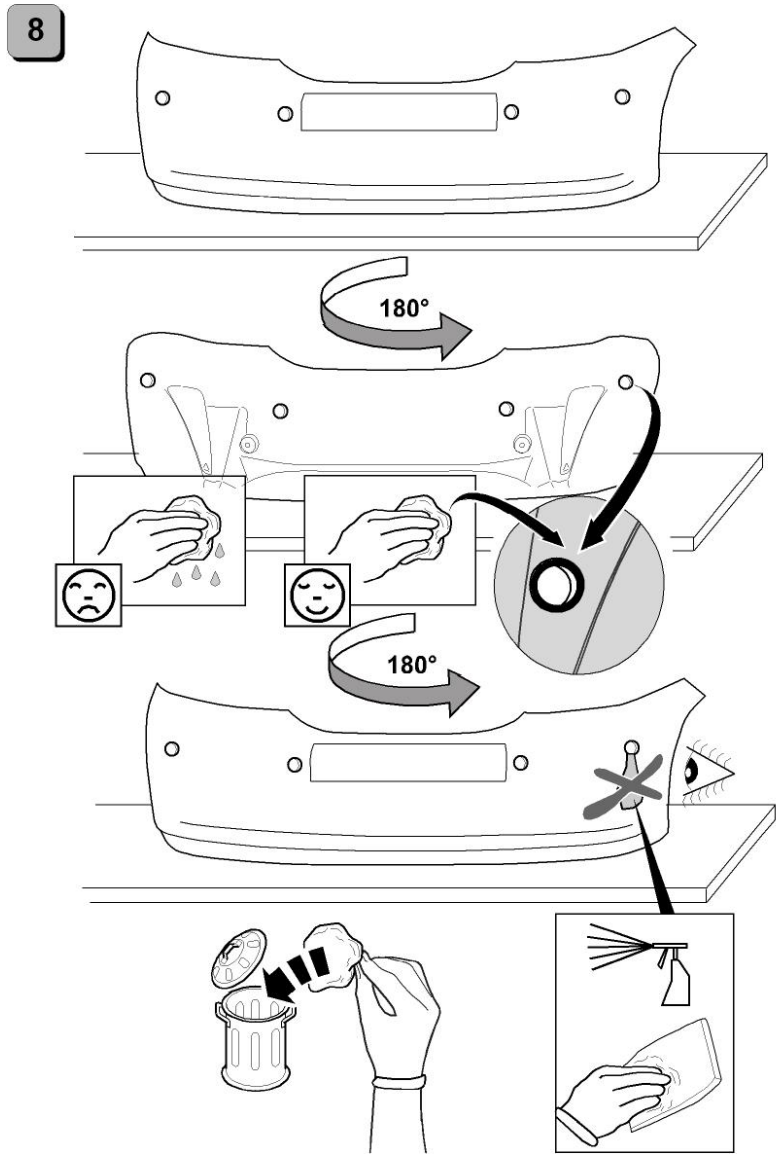
Positioning of the biadhesives ring on the flanges

7



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.

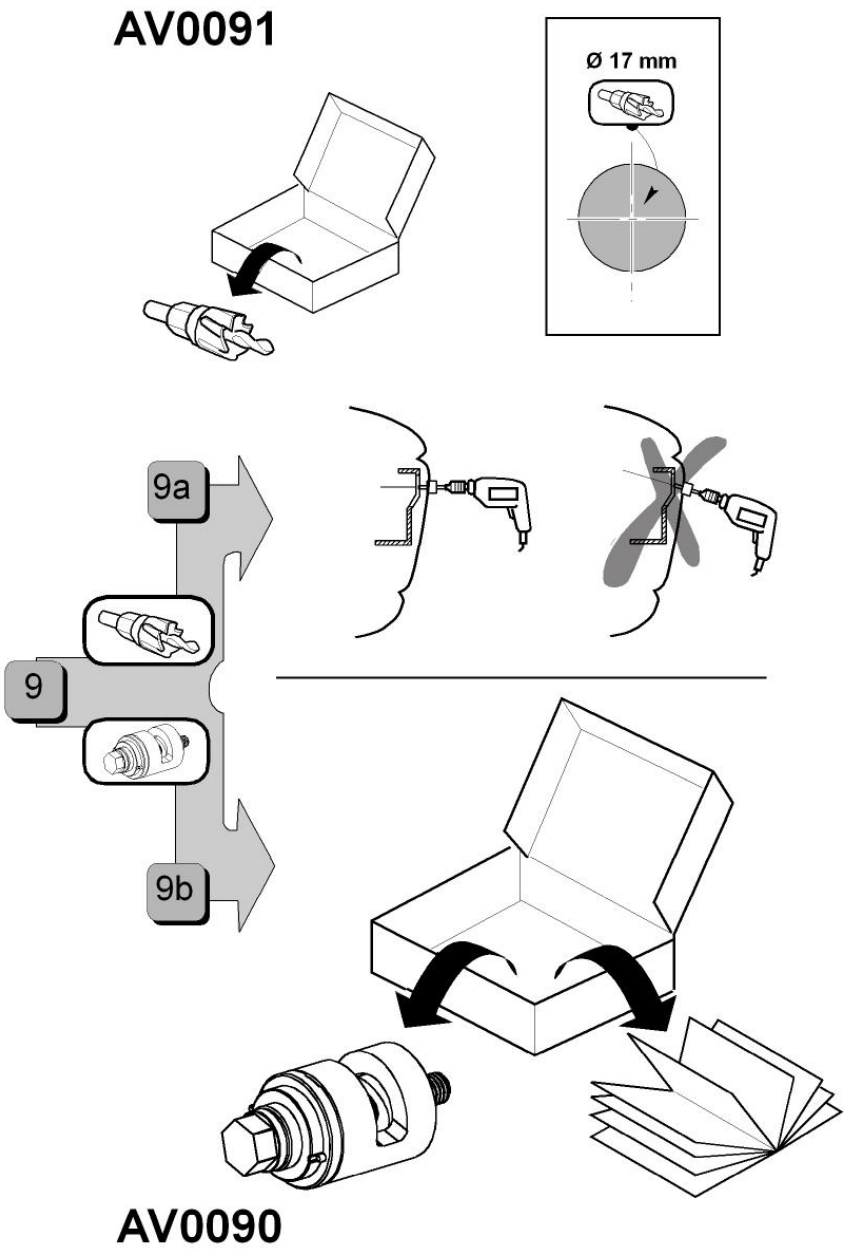
Bumper preparation



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.

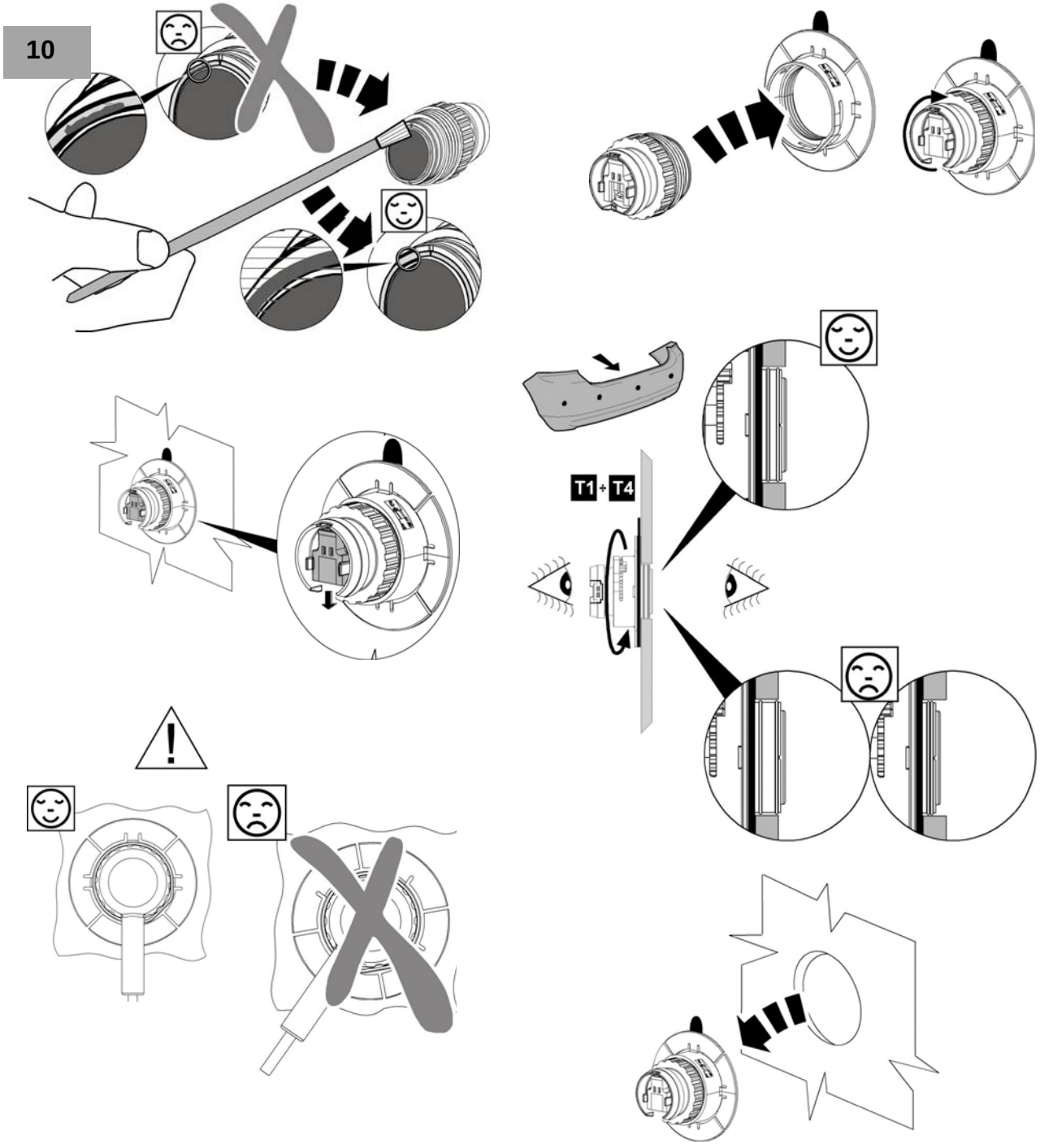
Bumper drilling with punch or cutting tool

9



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 addititional painting.
AV0090 can be used as alternative tool, additional bumper painting could be required.

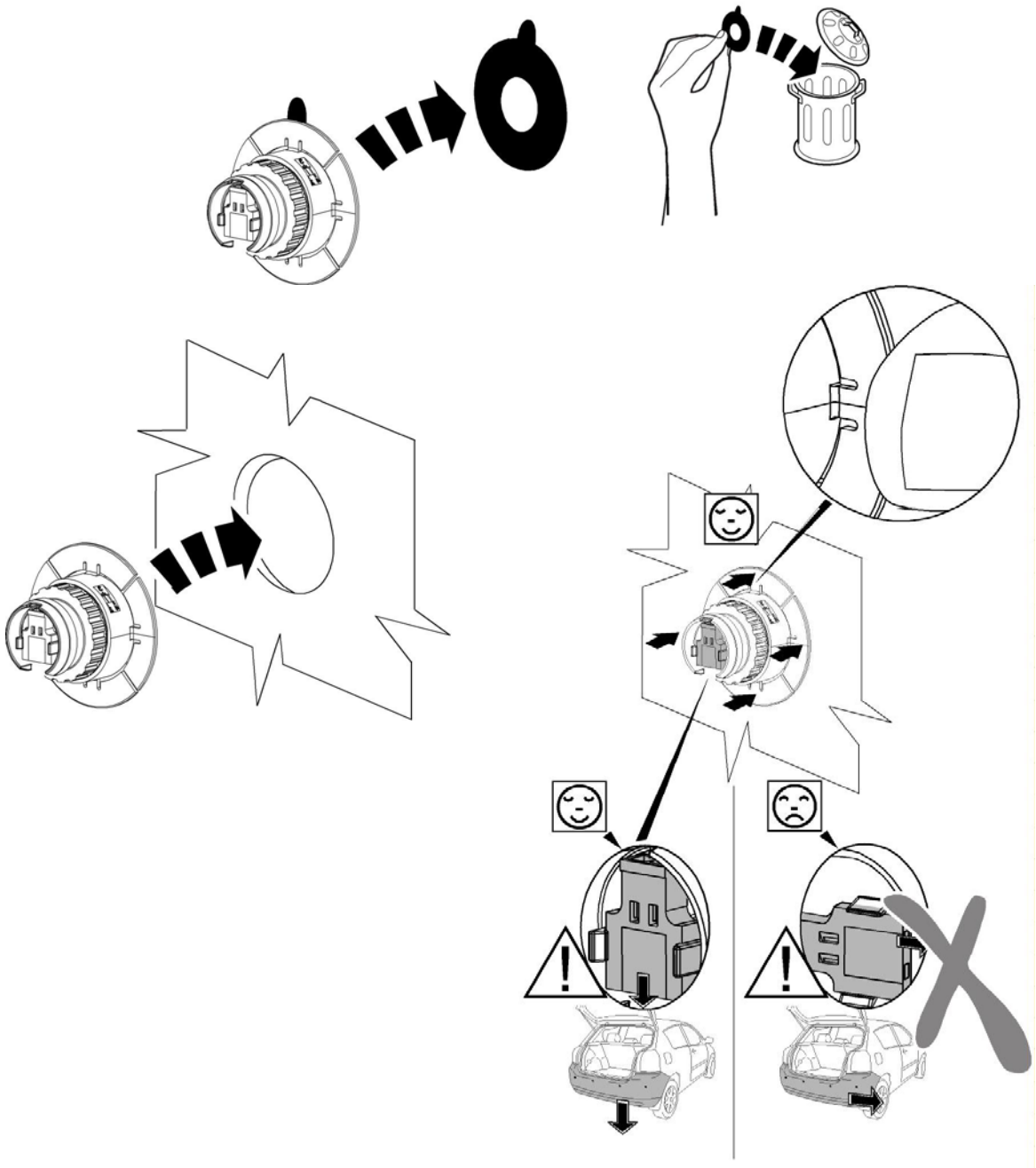
Sensors cleaning, preparation and adjustment



Remove any excess paint from the white rubber of the sensors. Screw the sensor into the flange. Wthout 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

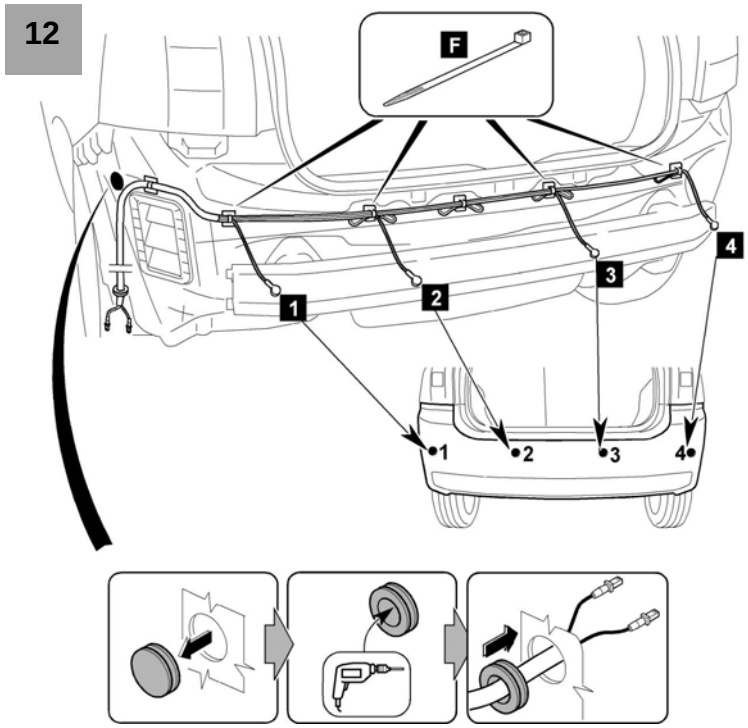
11

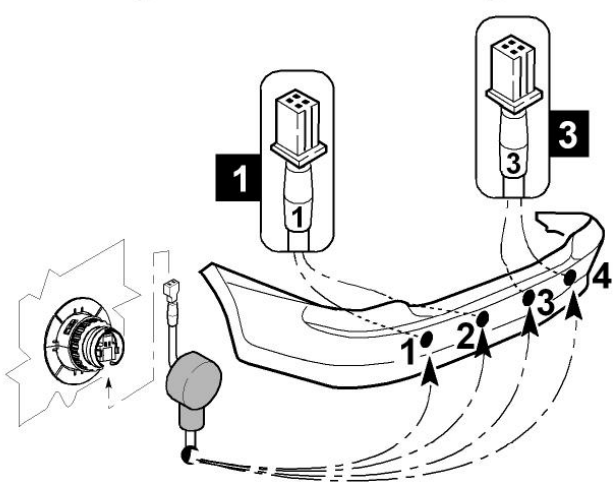


Remove the red film, fix the sensor in the bumper hole (remember to insert each sensor in the hole where has been performed the adjustment) with the connector downwards. They can be rotated 180° degrees without compromising the proper functioning.

Wiring positioning and sensors connection

12





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

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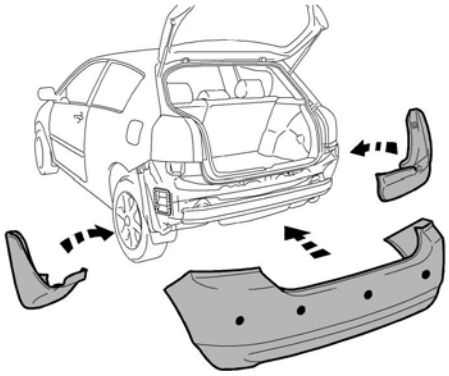
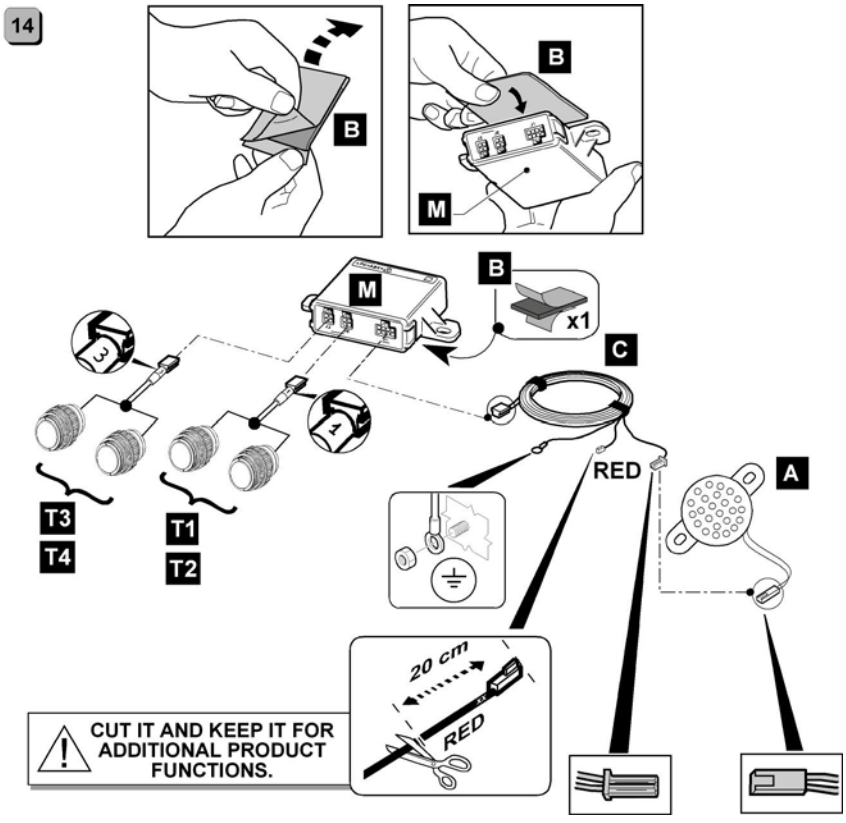


After having performed the sensors connections, reassemble the bumper on the vehicle, paying attention to the wires.

Power supply and sensors connection diagram

14



Use the B biadhesive 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 gear light wire.

Central unit positioning

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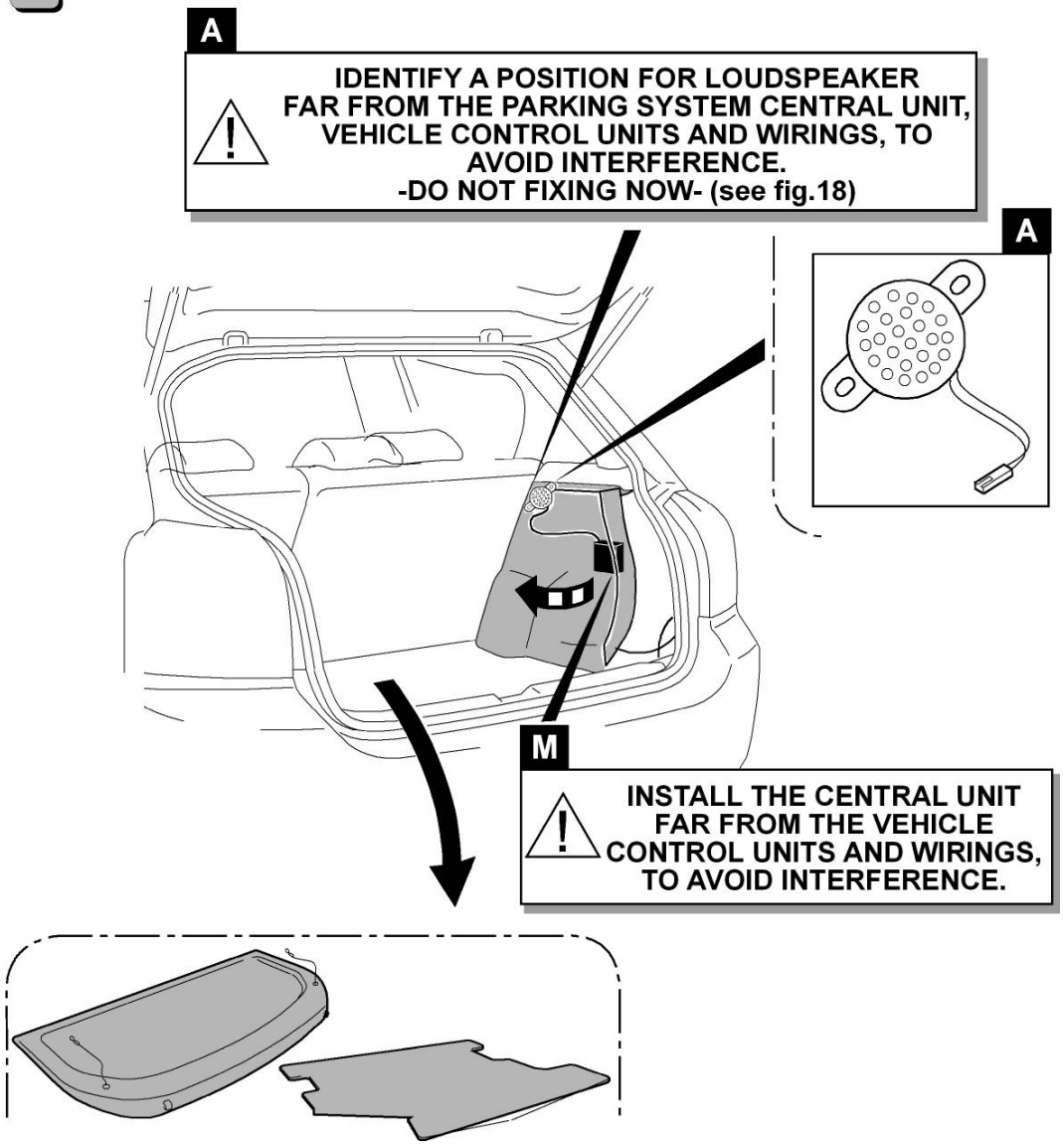

Fix the central unit behind the driver or passenger boot bulkhead as shown in the picture.

Reverse gear wire identification and power supply wire connection

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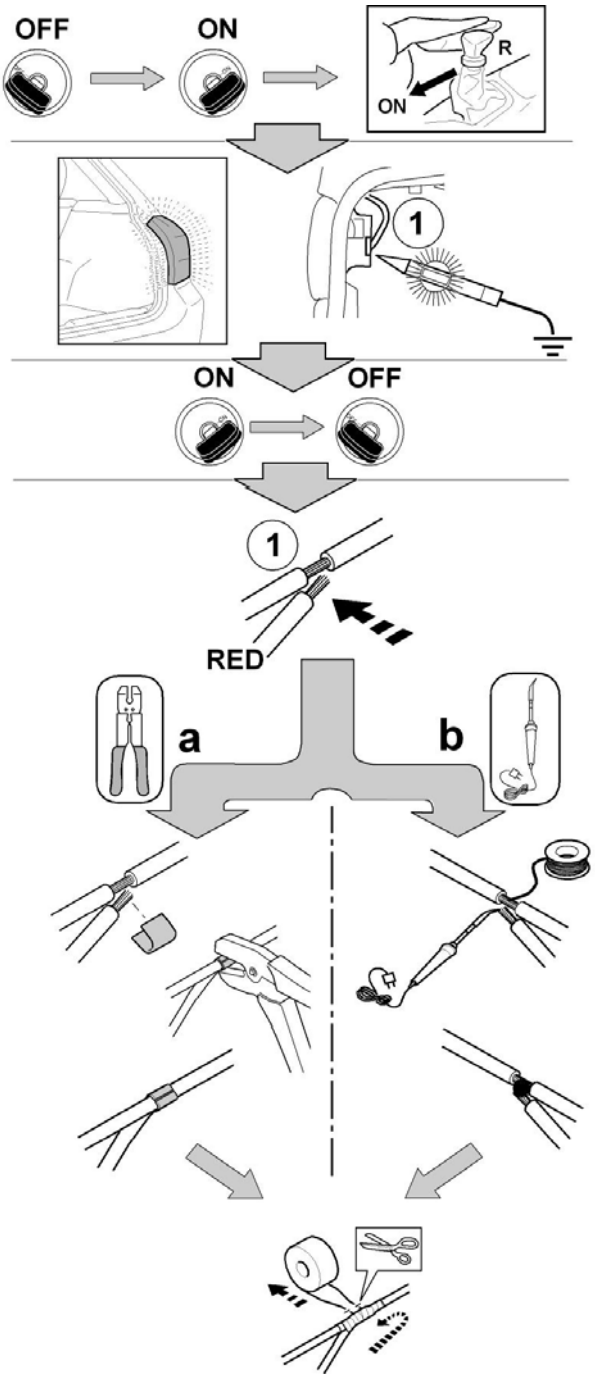
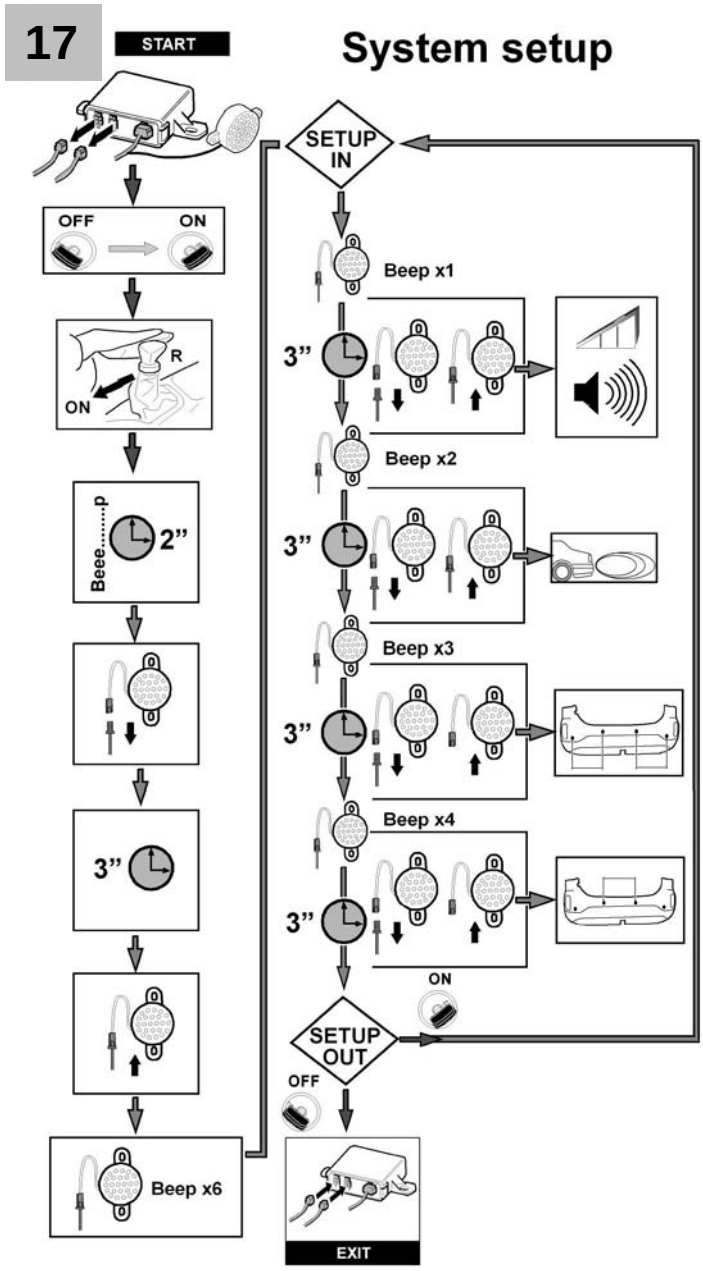


To identify the reverse wire,(central unit power supply), it is necessary to turn the ignition on , engage the reverse gear and check with the test lamp. Turn off the ignition, connect the red wire of the central unit by crimping or soldering it. Isolate the junction with tape.

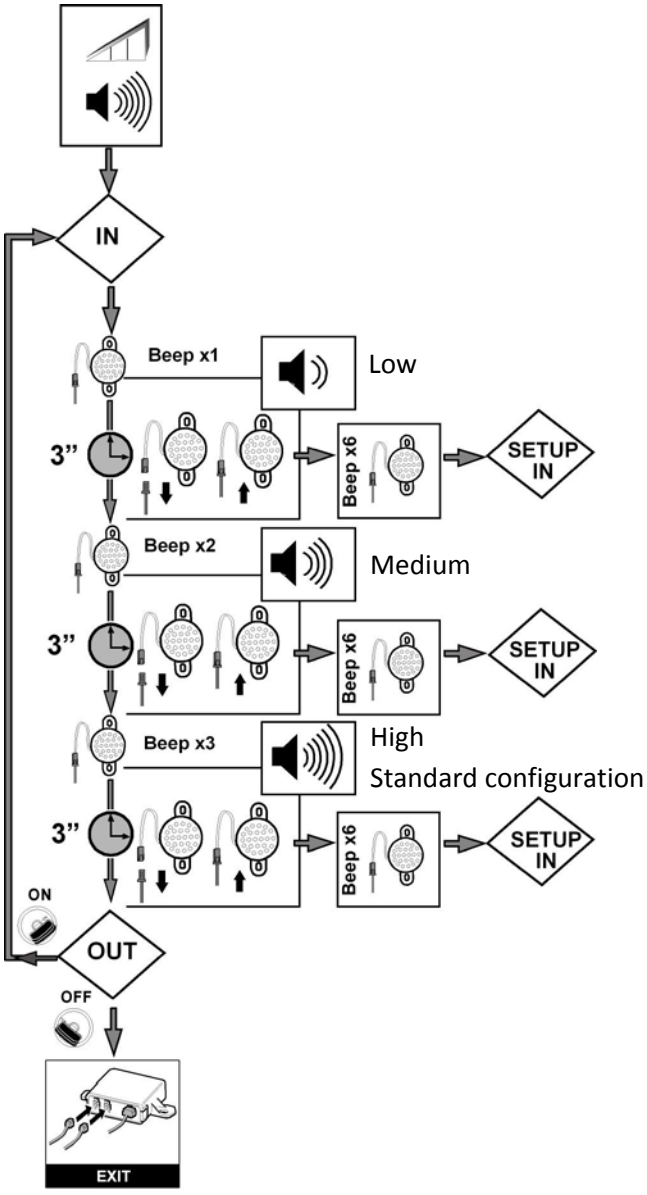
Configuration procedure



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 3 – 550-640 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

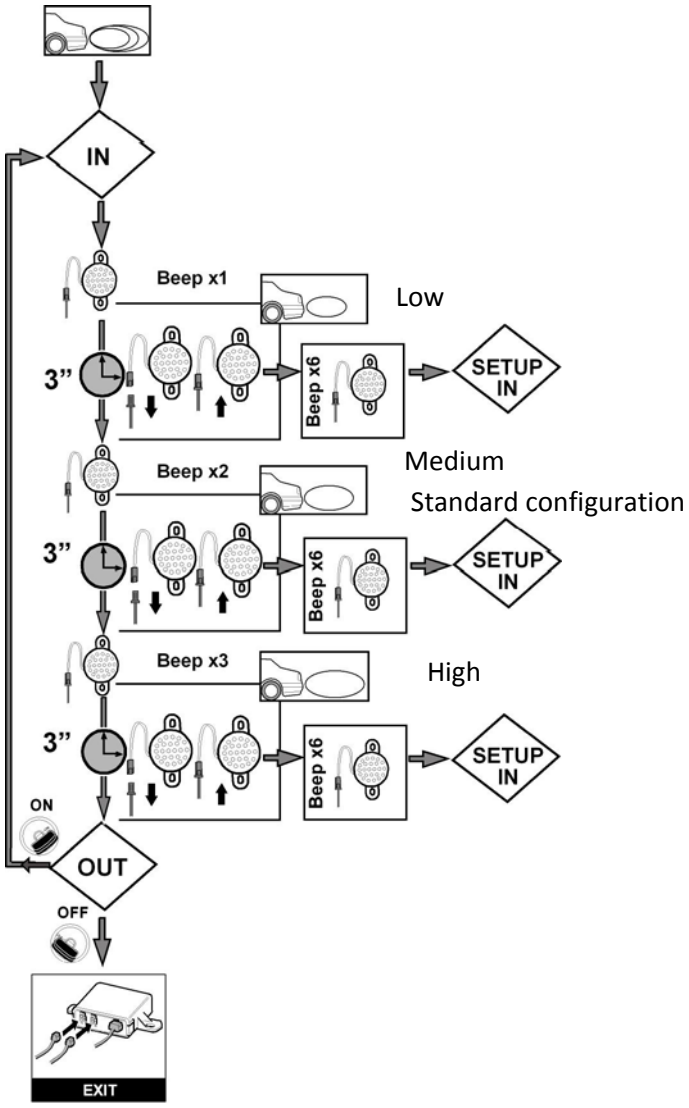
17.1



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

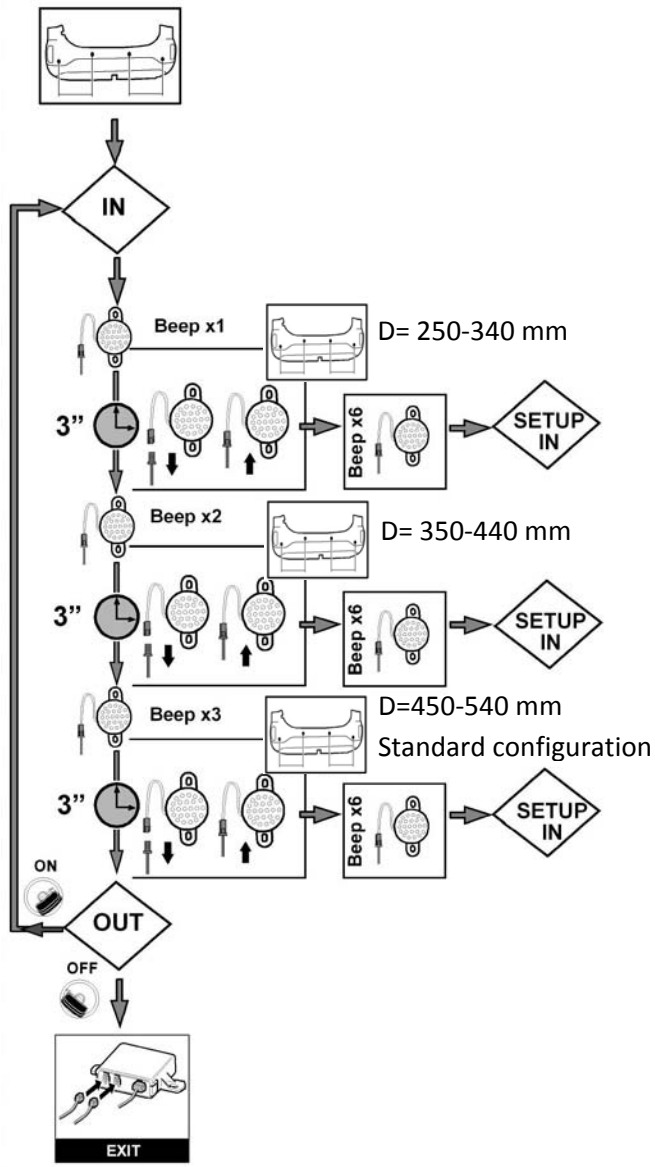
17.2



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

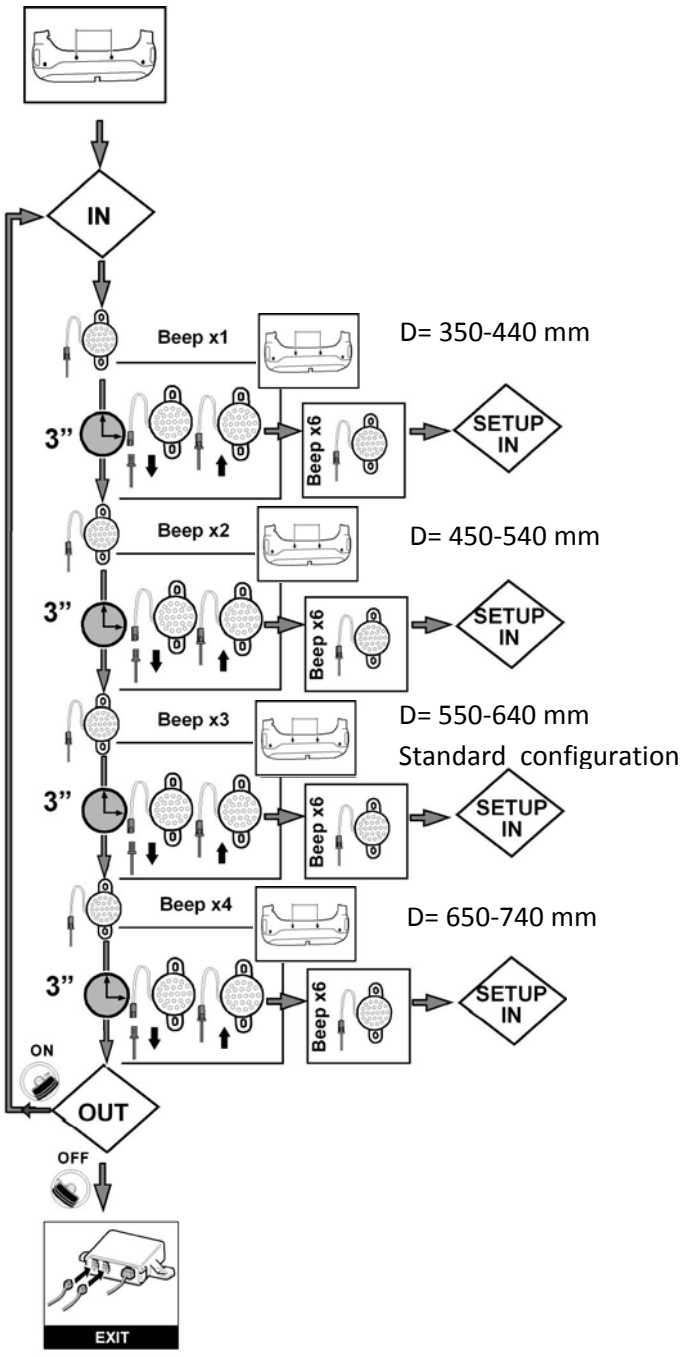
17.3



The system beep 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 desidered 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.

Central sensors distance adjustment

17.4



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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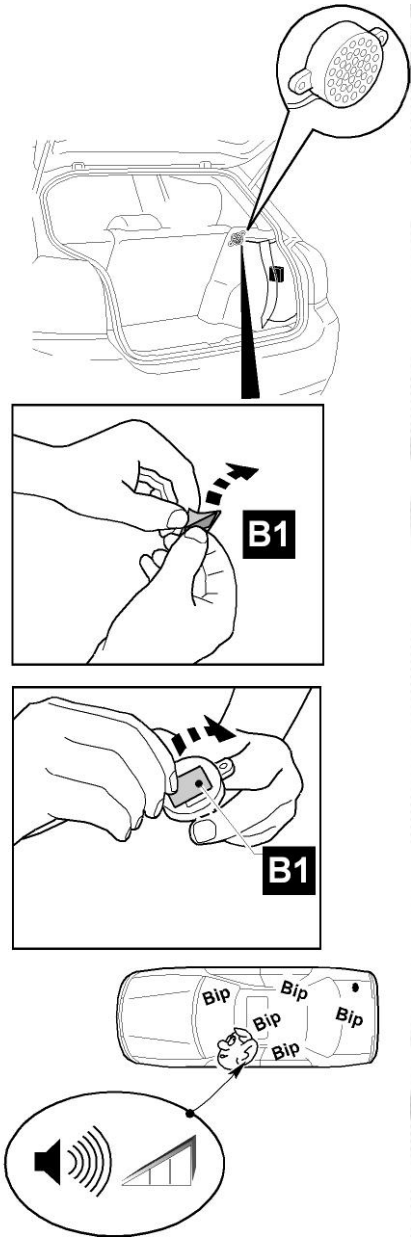
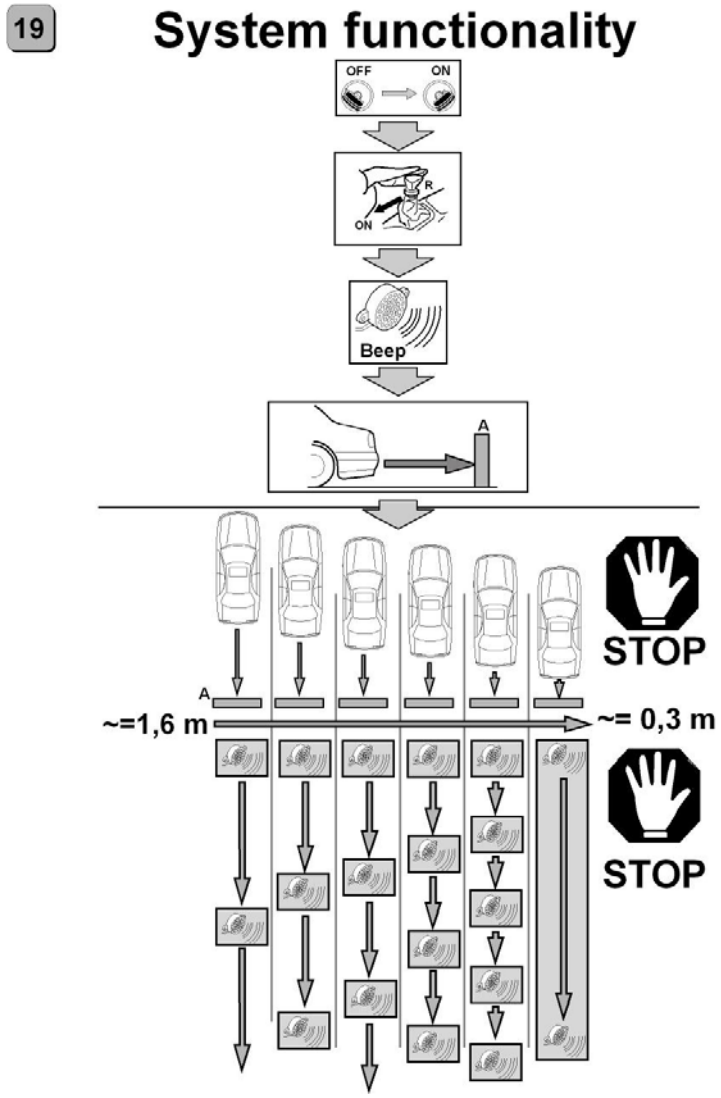


Test the loudspeaker volume before fixing it. Put an obstacle behind the bumper and engage the reverse gear. The loudspeaker beeps: check if the sound is well audible for the driver (with the engine running). If the sound level needs to be adjusted, perform the procedure of chapter 11.1.
After checking, remove the protective film of the B1 biadhesive and fix it.

System functionality check



Test the loudspeaker volume before fixing it. Put an obstacle behind the bumper and 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 11.1.
After checking, remove the protective film of the B1 biadhesive and fix it

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

Special functionalities

Towbar detection exclusion

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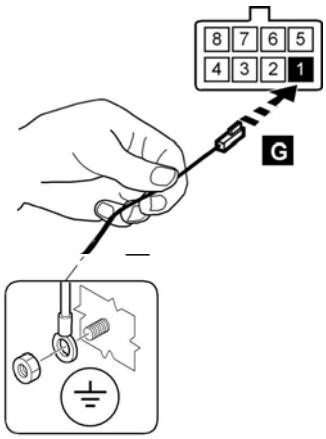
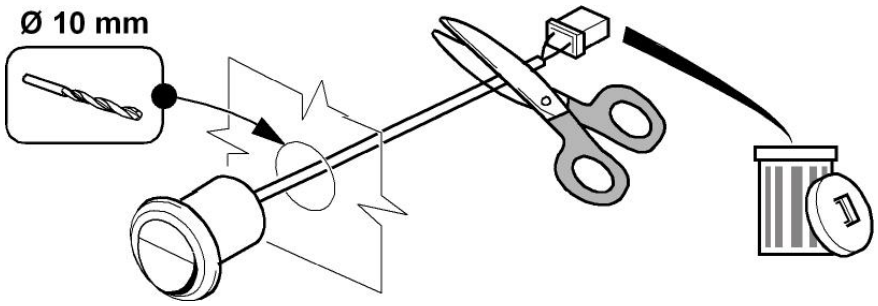
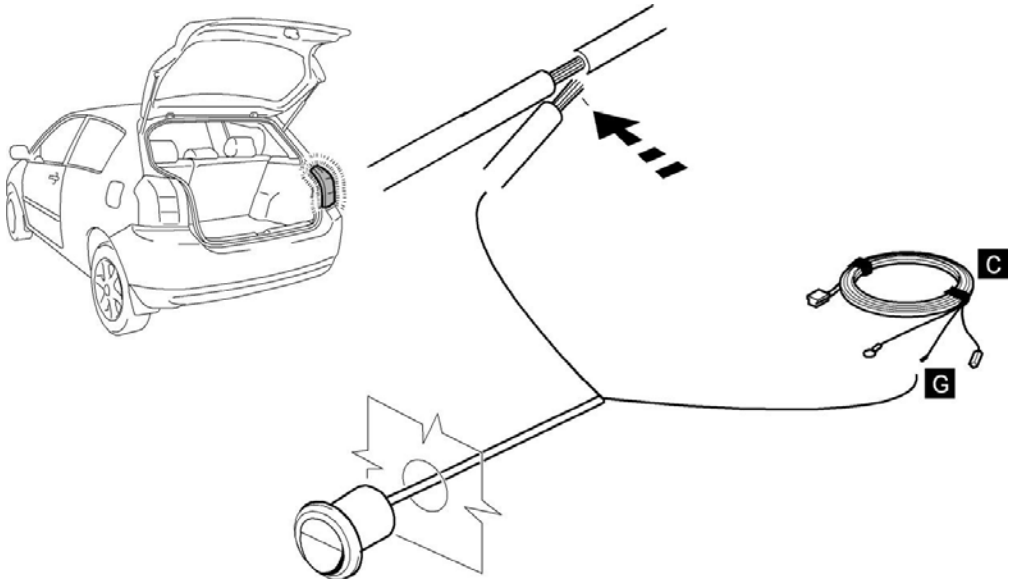


Insert in position 1 of the J1 connector the faston of the RED wire cut during the installation and connect it to ground, to exclude the tow bar detection.

System disarming with trailer

21

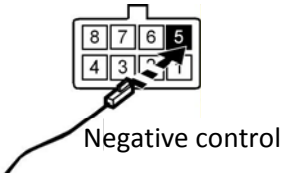




Using the 03CB0436B switch (Optional), you can exclude the system when the trailer is present.
Install the switch in the central console or in the boot cut the connector and connect it as shown.
During the normal use the switch must stay ON(central unit supplied).
When the trailer is present turn off the switch to avoid endless detections during the reversing.
Keep in mind to turn on again the switch every time the trailer will be dropped.

Phone mute

22



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.

Drilling tools

Punch AV0090EUSAC ø 17 mm

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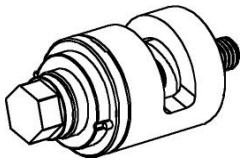

Cutting tool AV0091EUSAA ø 17 mm

Product technical features

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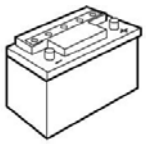
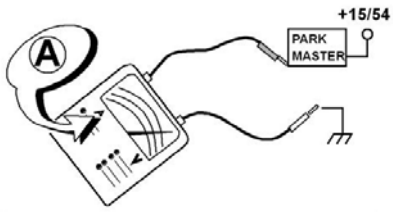
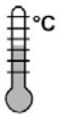


12 VDC.



A < 30 mA typ.



-40° C ÷ +85° C

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