



# **Application manual**

## **Parkmaster R294**

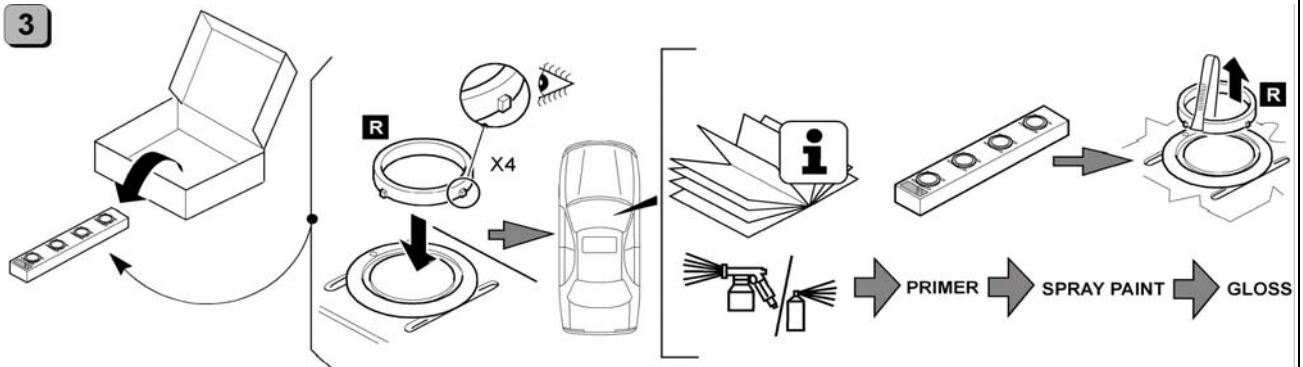
**Installation and configuration guide**

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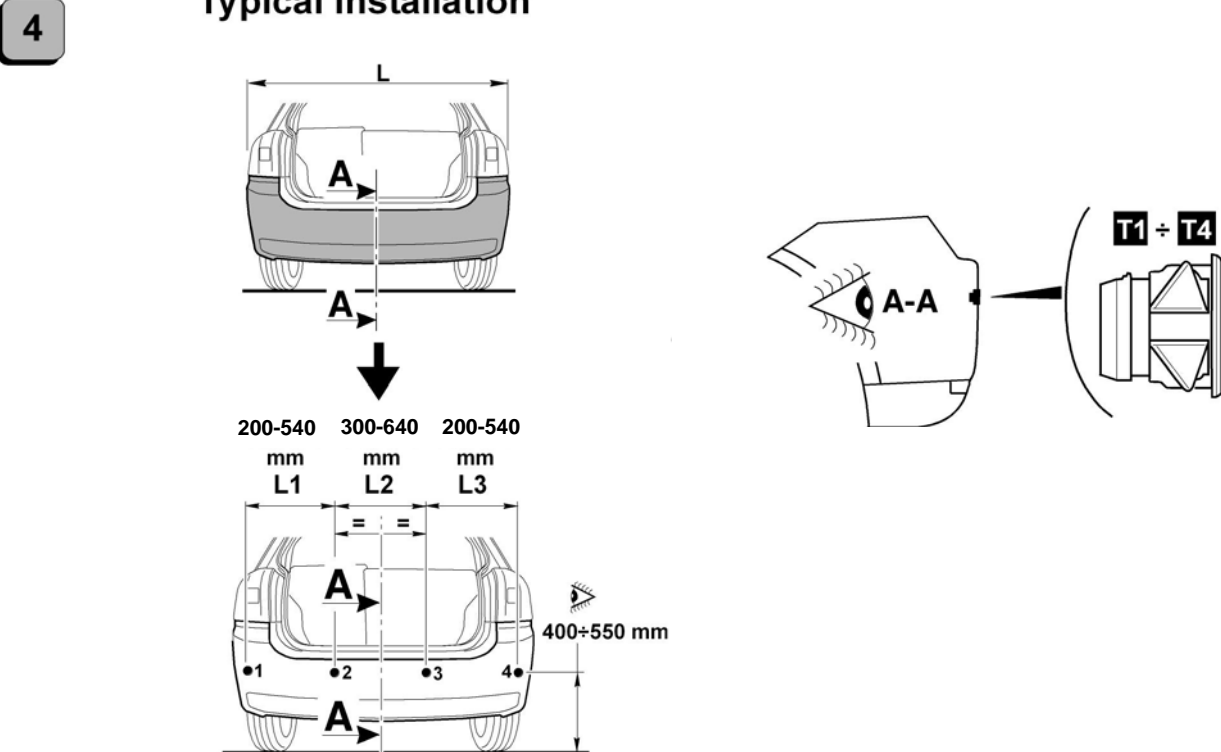
## Sensors painting



Place the rings in all sensors, paying attention to enter them as shown in the picture, check the original code of the car colour before painting.  
 Spray the primer and when it will be dried, paint the sensors with the desired colour. Let it dry and spray the gloss to protect the painting

## Recommended installation

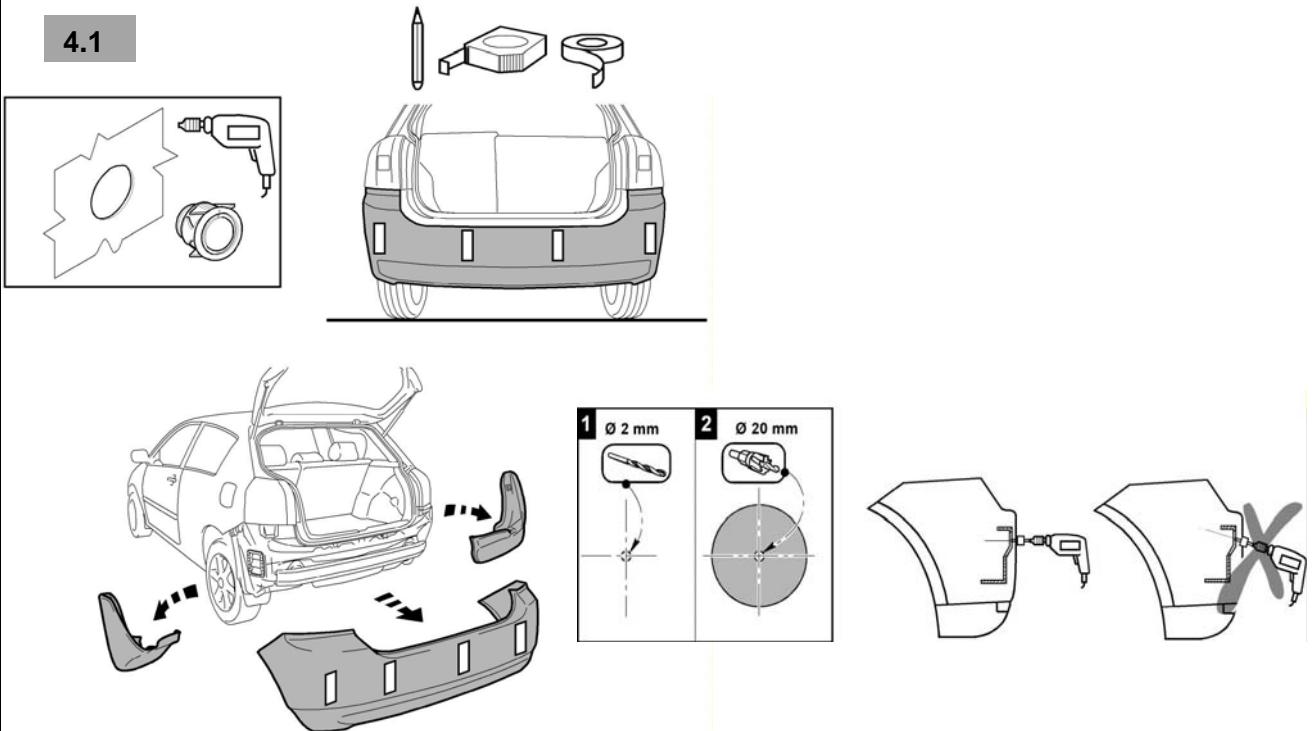
### Typical Installation



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 11.3 and 11.4).  
 The sensors minimum installation height is 400 mm with a 0 degrees angle. If fitted at lower height or with negative angles more than 0 degrees it is required to fit the 10° angles adapter (Optional). If fitted at higher height (more than 550 mm) a sensitivity increasing could be required to guarantee proper obstacle detection.

## Sensors position, removal and drilling of the bumper

4.1

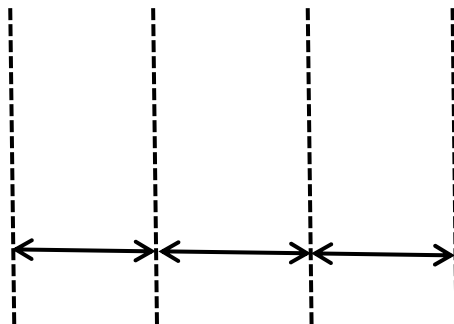


Use a paper tape to mark the positions of the sensors holes on the bumper.

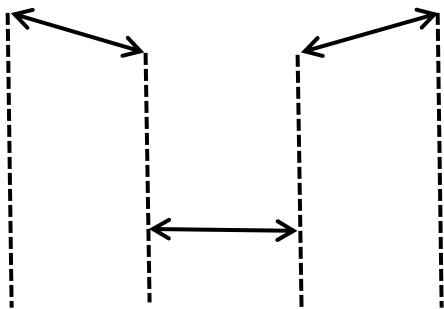
After having marked the positions, remove the bumper and make a 2 mm hole for each sensor. Then use a 20 mm drilling tool to enlarge the hole. **(PAY ATTENTION: drill keeping the tool in horizontal position)**

## How to take the measurement of the distances of the sensors.

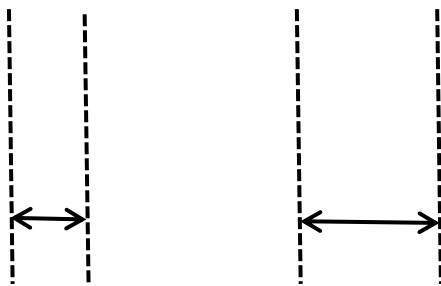
4.2



If the sensors are installed in horizontal line, you have to take the measures as shown in the picture.

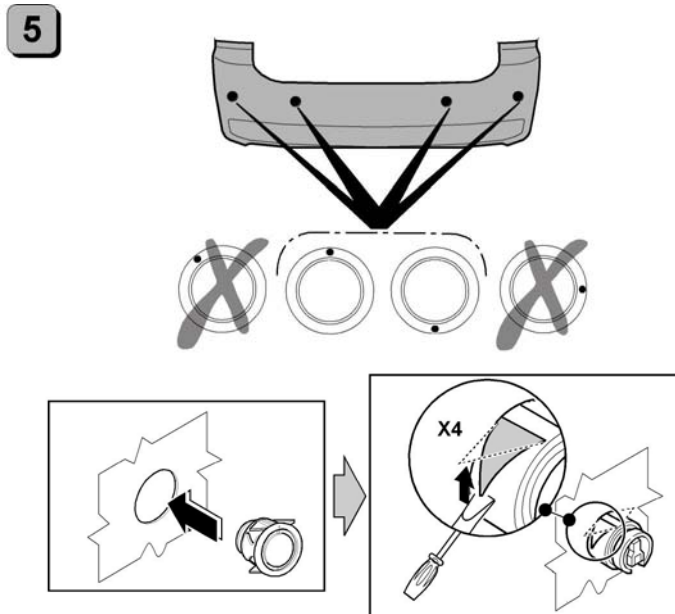


If the sensors are installed in different height positions, you have to take the measures as shown in the picture



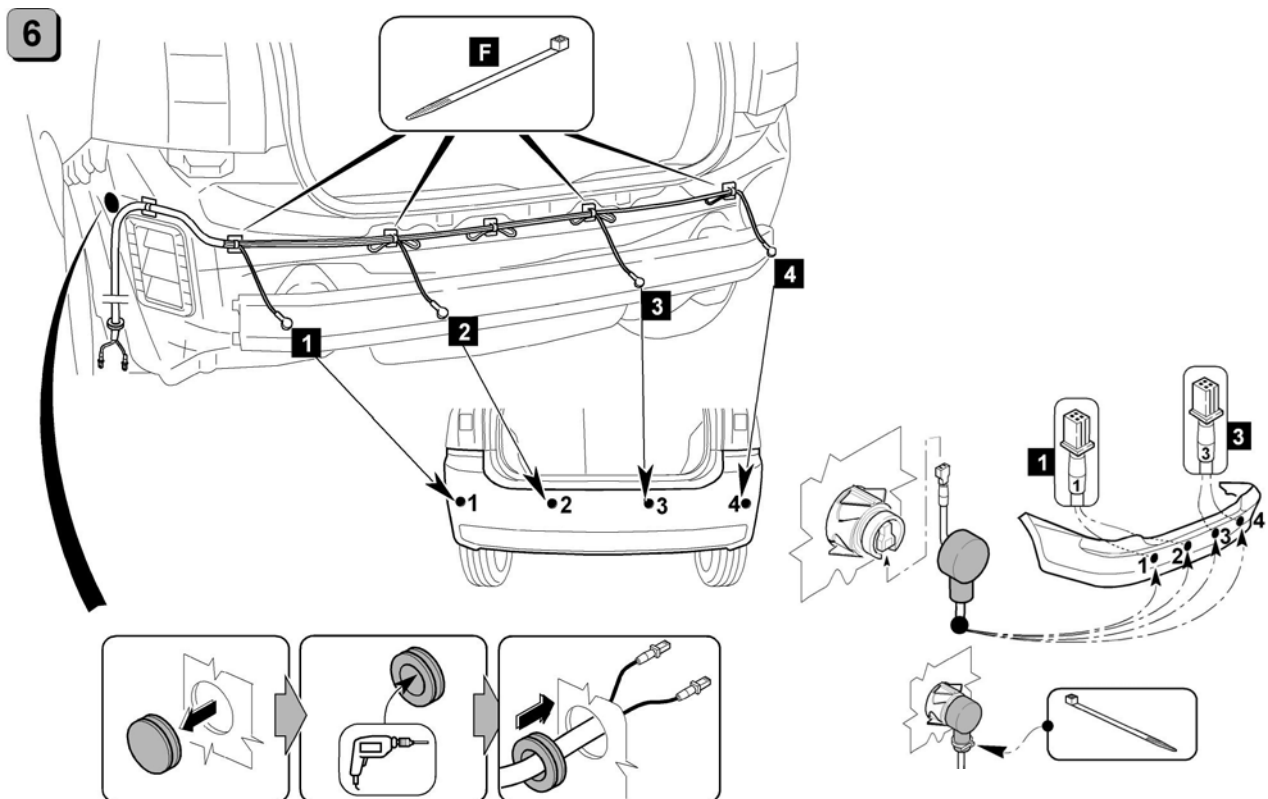
If the side sensors have different measures, you have to use the biggest measure for both . We recommend to set the measure of the side sensors, using the procedure to chapter 12.3

## Insertion of the sensors in the bumper



The sensors must be inserted in the bumper with the reference mark upwards. They can be rotated 180° degrees without compromising the proper functioning. Check that the fixing wings are correctly opened, otherwise open them using a small screwdriver as shown in the picture.

## Wirings positioning and sensors connection

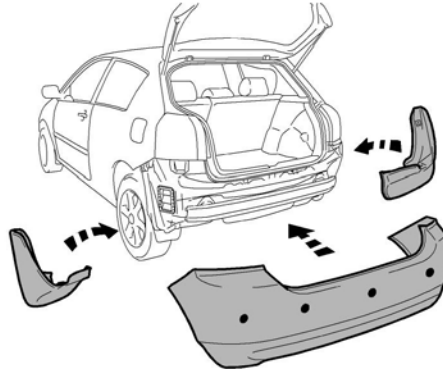


Use an original grommet to route the sensors wirings out of the vehicle.

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

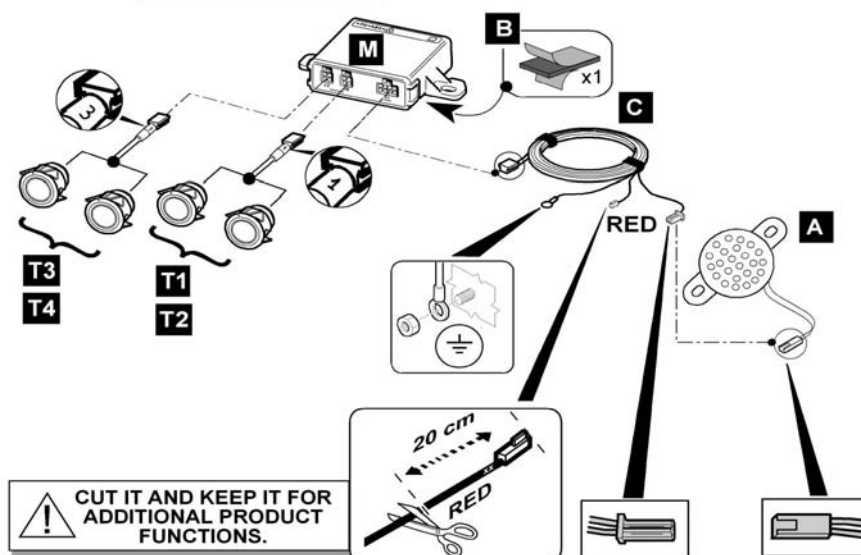
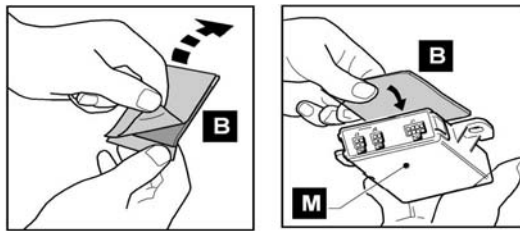
7



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

## Power supply and sensors connection diagram

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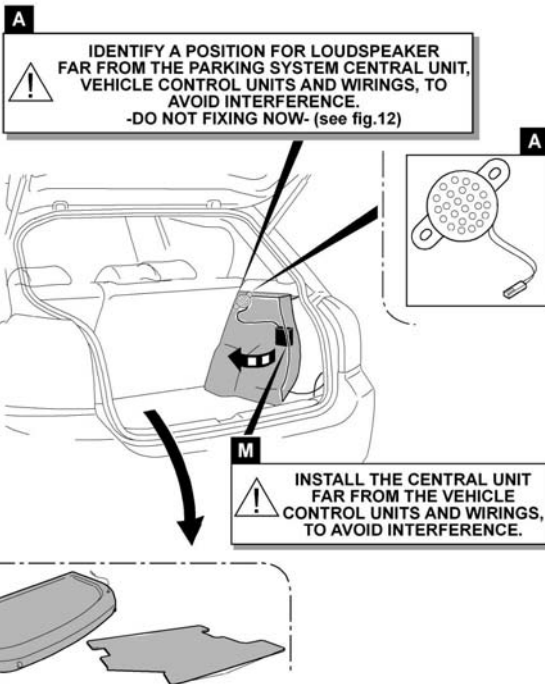


Use the B adhesive to fix the central unit. Connect the connector marked 1 in J2 position and the connector marked 3 in J3 position of the central unit. Connect the black wire with ring terminal to ground. Shorten the RED wire 20 cm. This piece of wire with terminal can be used to make available the 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

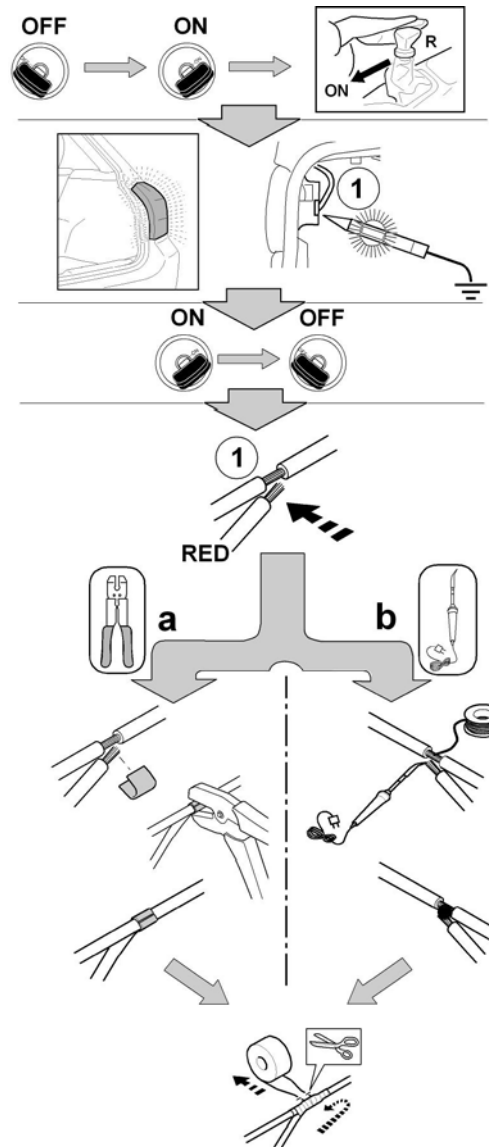
9



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

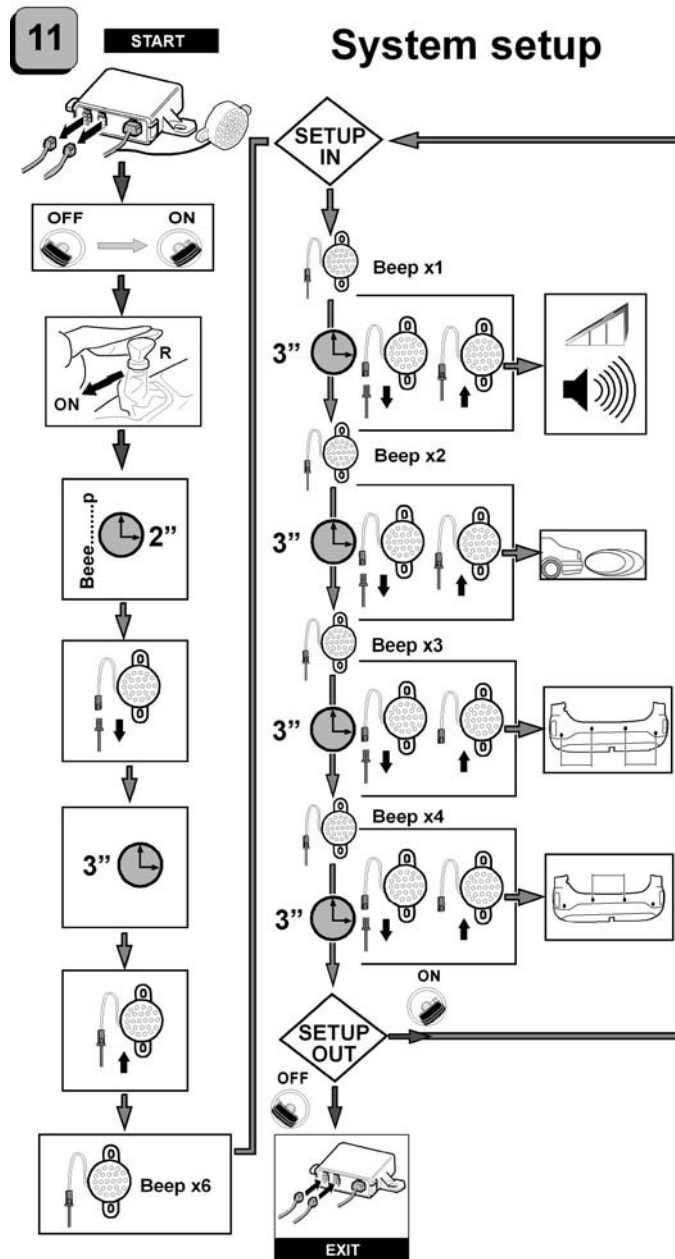
## Reverse gear wire identification and power supply wire connection

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To identify the reverse gear wire,(central unit power supply), it is necessary to turn the ignition on , engage the reverse gear and check with the test lamp that it is a positive signal. Turn the ignition off, 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)

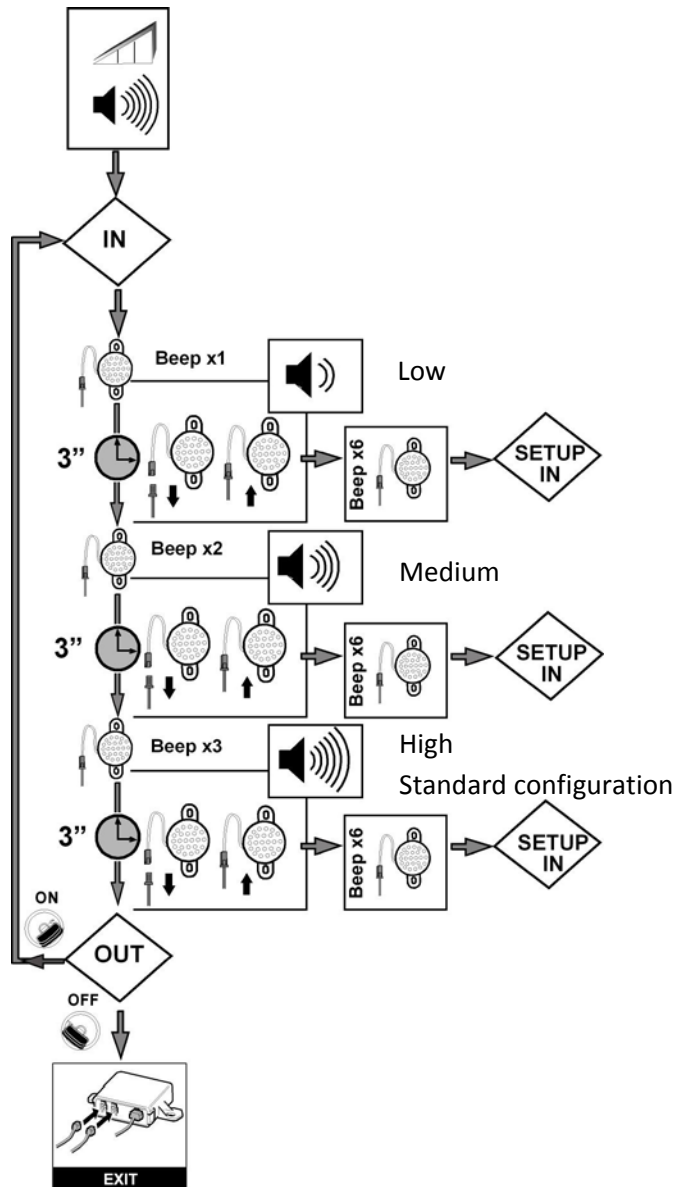
3 beep – Side sensors distance (3 levels - standard level 3- 450-540 mm)

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

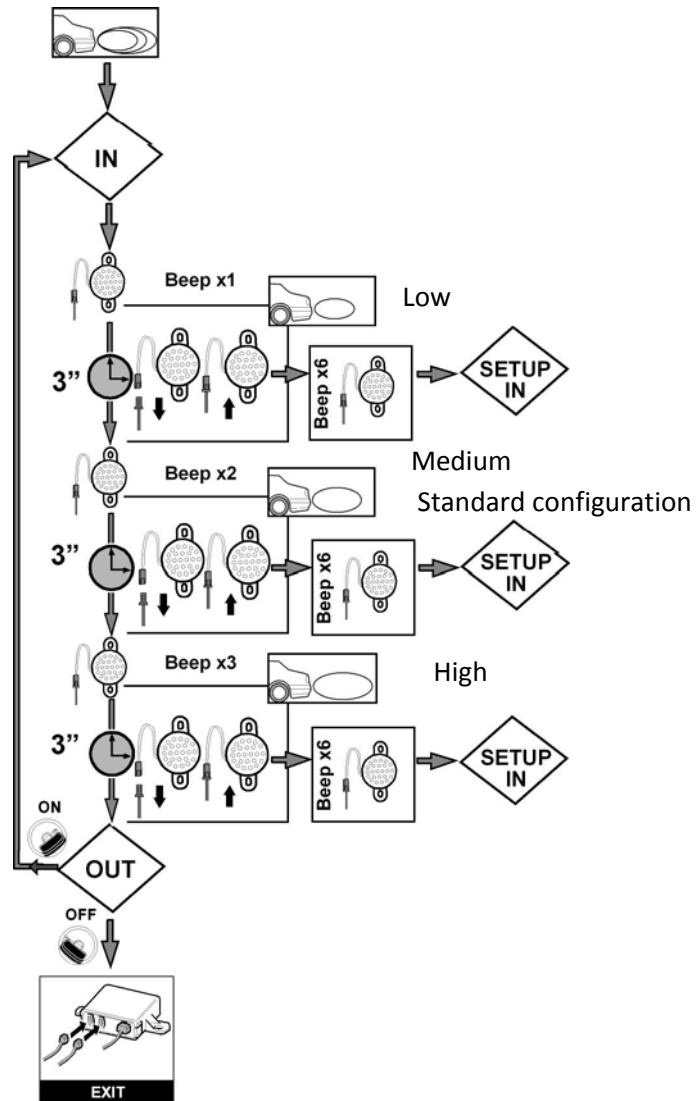
11.1



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

11.2



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.

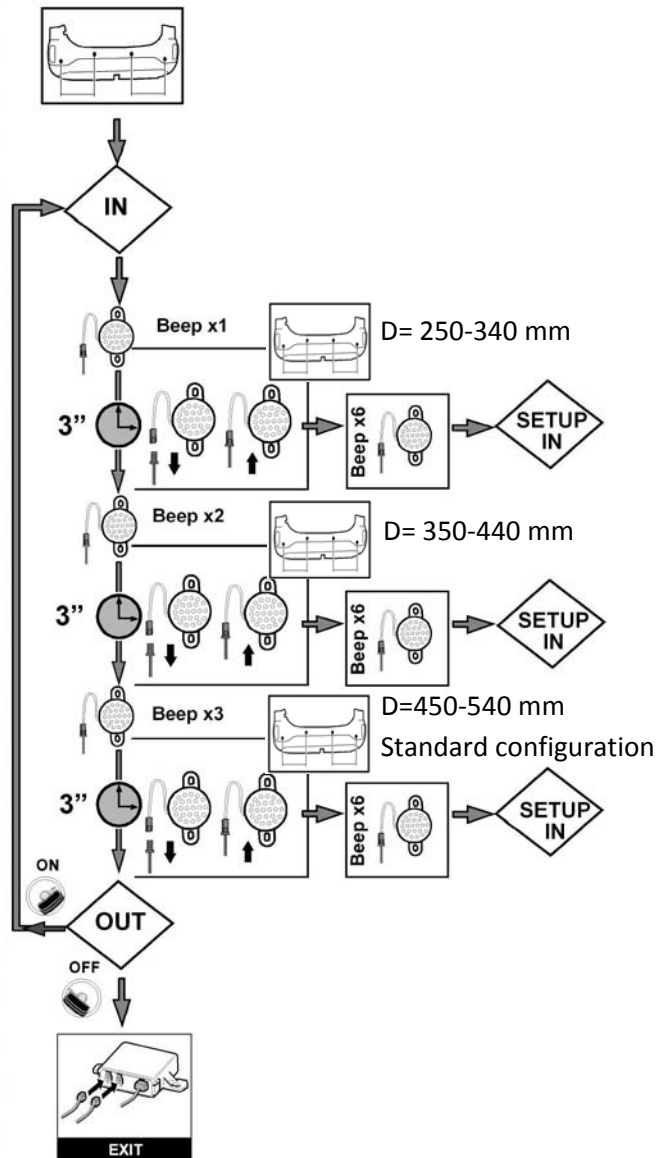
**Low sensitivity:** suitable for sensors height between 400-450 mm. If the height is lower you must use the 10° angle adapters.

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

**High sensitivity:** suitable for sensors height higher than 550 mm

## Side sensors distance adjustment

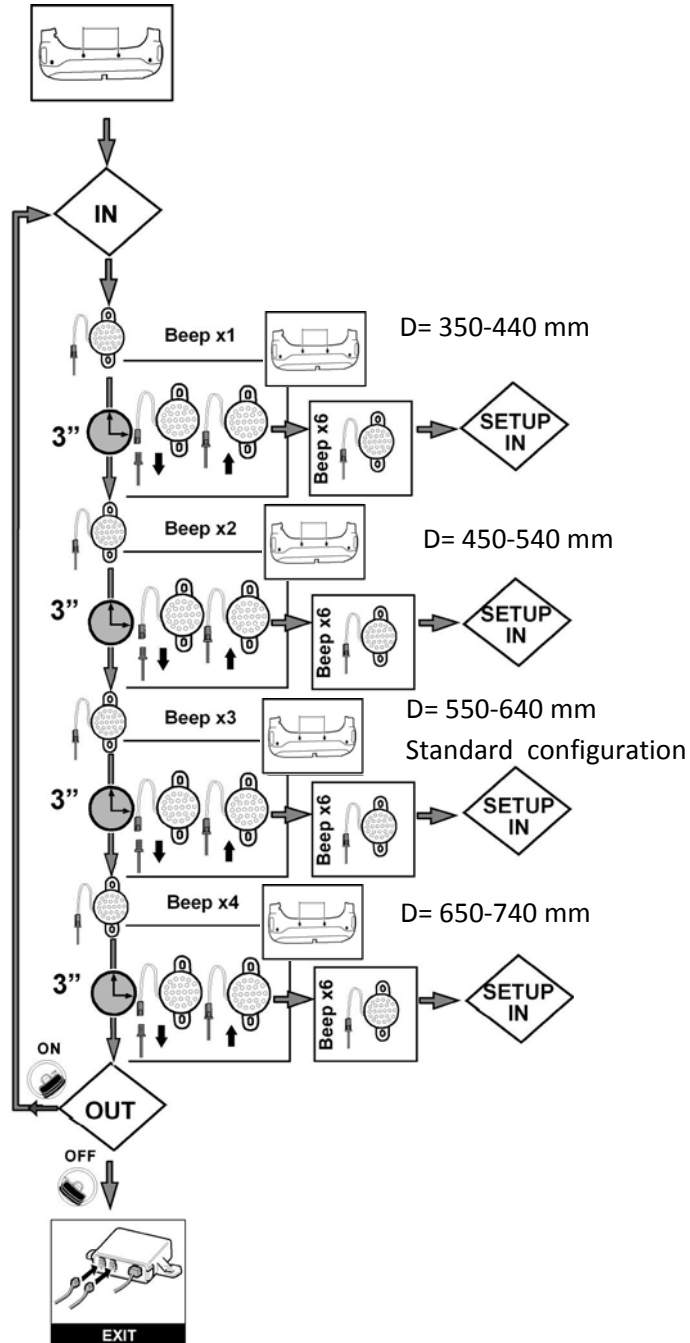
### 11.3



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 desired distance, disconnect and reconnect the connector after hearing the number of beep selected. When the loudspeaker connector is reconnected the system stores the selected distance choice and goes back to the main menu beeping 6 times.

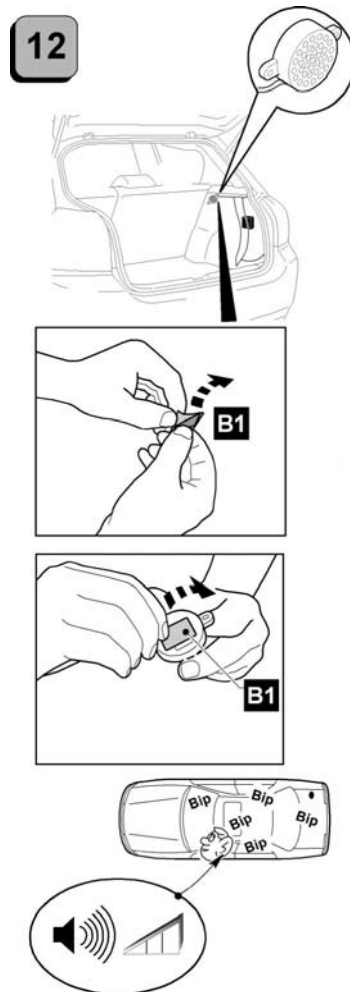
## Central sensors distance adjustment

### 11.4



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

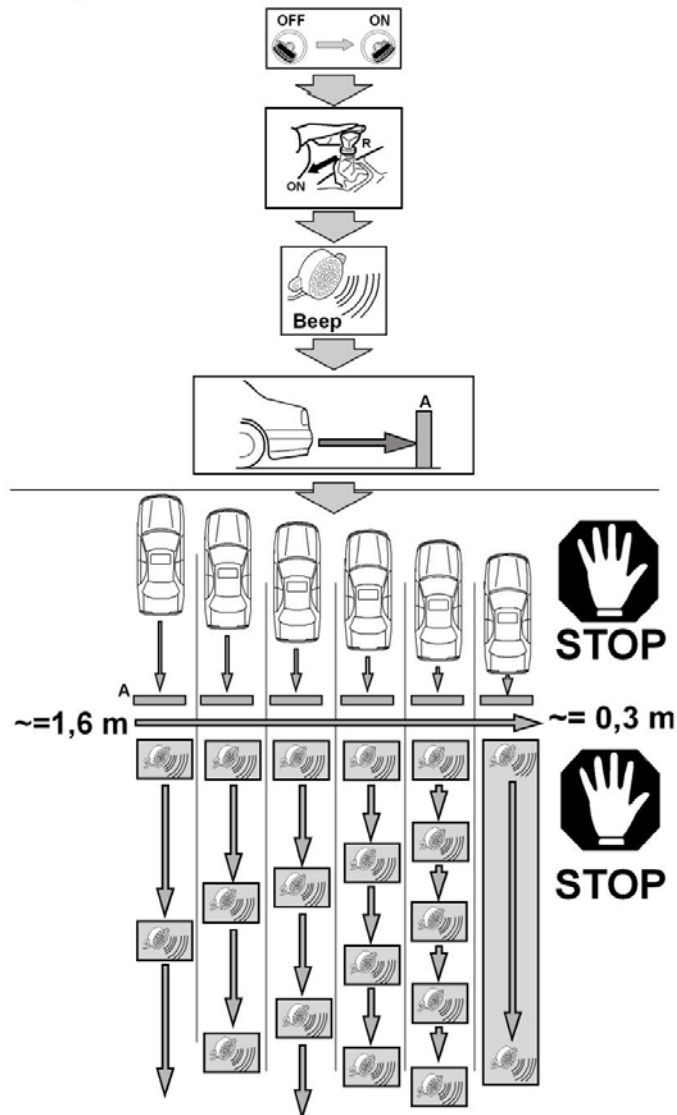


Test the loudspeaker volume before fixing it. Put an obstacle behind the bumper and engage the reverse gear. The loudspeaker beeps: check if the sound is well audible for the driver (with the engine running). If the sound level needs to be adjusted, perform the procedure of chapter 11.1. After checking,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



## System functionality check

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Position the vehicle with the sensors facing a wall at a distance of approximately 1,6 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	Ask your installer
Sensor 2 fault	1 long beep followed by 2 beeps	Ask your installer
Sensor 3 failure	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

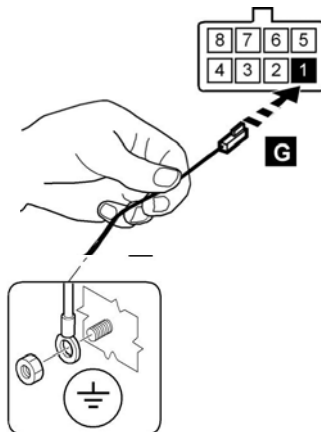
## Special functionalities

### Towbar detection exclusion

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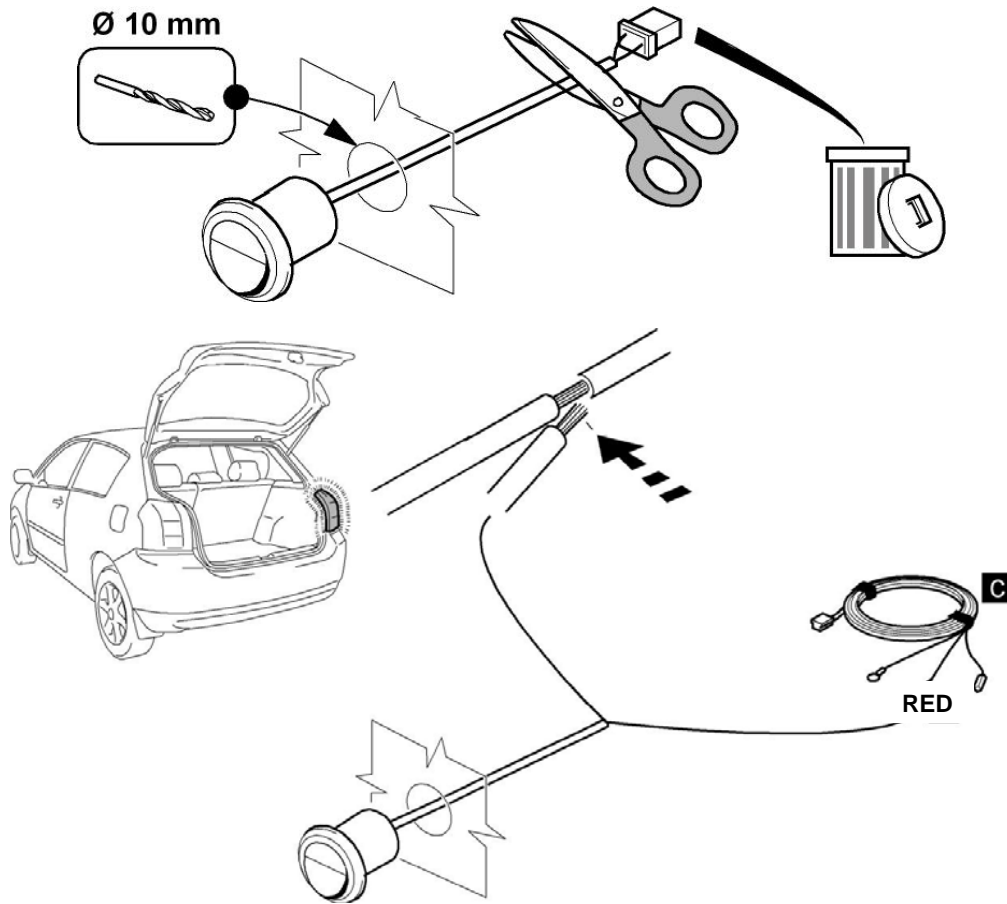


Insert in position 1 of the J1 connector the RED wire cut from the main harness and connect it to ground, to exclude the tow bar detection.



## System disarming with trailer

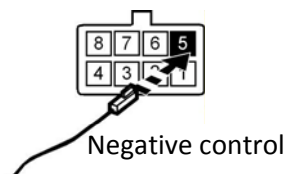
15



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

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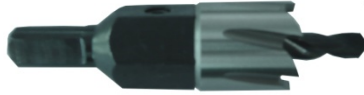


Insert in position 5 of the J1 connector the faston of the RED wire cut during the installation. Connect the other end of the wire to the Phone mute input wire of the radio. (The output signal from the system is negative). Each time the system is activated the radio volume is lowered, thus allowing you to hear the buzzer of the system.

## Drilling tool

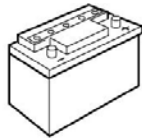
### Cutting tool AV0092EUSAA $\varnothing$ 20 mm

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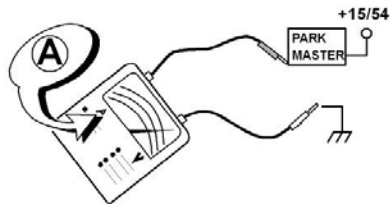


## Product technical features

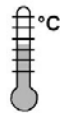
18



12 VDC.



A < 30 mA typ.



-40° C ÷ +85° C

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