INSTALLATION INSTRUCTIONS & USER MANUAL
Front parking sensor mod. EPS-FRONT

EPS-FRONT can be installed only on front bumper.

The system is strictly a driver assistance device and should not be relied upon as a security device or a substitute for safe driving practices. Use common sense when reversing and always follow recommended safe driving guidelines.

1. a) The installation of the antenna sensor, constituted by a very strong aluminium adhesive tape, must be applied to the inner surface of the bumper. It is of some importance that the zone of application corresponds to the higher part as regards the ground but also the most distant from the car body. It is not advisable to install the antenna sensor too low.

   Correct zone

   b) Disassemble the bumper.

   Fig. 1

2. STARTING PROCEDURE

   Locate a passage where, from the driver’s place behind the dashboard, it is possible to route the DATA CABLE into the engine compartment up to the extremity of the bumper.

   We suggest to use the interspace that is separating the engine compartment from the lateral outside surface of the car body.

   The right place where to find it is close to the driver door hinge.

3. MOUNTING THE ANTENNA SENSOR

   Thoroughly clean with alcohol or nitro solvent (be carefull not to use antiadhesive detergent) the inner surface of the bumper of the zone previously identified (see Fig.1) on which will be applied the antenna sensor.

   Beginning from the zone where it has been routed the DATA cable, start applying the adhesive aluminum tape (antenna sensor) practing a good pressure to make it well adhere to the inner surface of the bumper (Fig 2).

4. When the antenna sensor has been attached, covering the whole of the bumper from left to right, the excess can be cut off. Place a piece of the included sticking material at either ends of the antenna sensor to ensure a secure fixing on the bumper surface.

   It is recommended (but not essential) to cover the antenna with a black anti-rust protection paint of the same type that is applied to the underneath of a car chassis or similar to protect from the elements (do not use silicon paste).

   *NOTE:

   1) It is important to start and finish the application of the tape to about 15 cm from both ends of the bumper
   2) The antenna sensor can not be applied on metal bumpers.

   Fig. 3

5. Connect the DATA Cable coming from the ECU to the antenna sensor.

   Apply a piece of sticking material on the connection and fix it on the bumper by a strong pressure (If the ambient temperature is below 10 °C we recommend heating both the mastic and the sticking area on the bumper). It is necessary to use the same material to fix the opposite extremity of the antenna. (Fig. 3).

   Fig. 4

6. ELECTRICAL CONNECTIONS

   a) The central unit has to be fitted on the inside of the vehicle under the dash board in the more convenient place from where the DATA Cable has been routed.

   b) Connect the black wires of the power cable to the negative pole and the red to a 12 Volt subkey. (the system is so activated pressing the button).

   c) Insert the four wires connector in the proper place on the ECU and insert black cable of the harness to the buzzer placed in any place where you can easily hear it.

   d) Insert into the ECU all connectors in the proper position (see Fig. 6)

   Some vehicles are equipped with a metal crash protection bar insert facing the inside of the bumper. When this metal surface is too close to the inner surface of the bumper where you have placed the antenna sensor, the distance signal can be reduced.

   To adjust the distance signaling is sufficient to change the dip-switch positions (see schematic). Recall that the sensitivity No 1 is the lowest and the number 4 is the largest.

   The sensitivity that we recommend for most cars is the No 2.

   We suggest to carry out tests to determine the detection range, pointing out that increasing the sensitivity where it is not necessary, can cause more false alerts.

   Fig. 6

FINAL TESTING PROCEDURE

   a) Turn on the key, press the push-button. In a fraction of second the control unit performs a check of the functionality of the system and, if everything has been done correctly, the buzzer emits an acoustic sound of “OK” (one note). Once you have this signal the system becomes operational.

   Possible problems and their solutions

   1. If the acoustic transducer does not emit any signal check all the connections.
   2. If the transducer emits an audible warning signal consisting of 2 notes (one high and one low) repeated 3 times check the connections of DATA cable to the antenna sensor.
   3. If the buzzer produces 8 consecutive fast beeps check the DATA cable connection on the central unit.
**OPERATING PRINCIPLE**

EPS-FRONT is an innovative parking sensor that uses low energy electromagnetic waves and is able to detect the approach of any kind of obstacle. The activation of the device is obtained by pressing the activation button and confirmed by a signal of "OK". Once activated, the EPS-FRONT generates around the bumper, on which is installed, a protection zone (Fig. 5). When any obstacle present in the protection zone tends to approach the bumper you will hear a series of beeps.

**WORKING EXAMPLE**

A) As soon as the EPS-FRONT is activated the control functionality of the system is carried out in a fraction of a second.

- In case of anomalies the speaker emits an audible warning signal consisting of 2 notes (one high and one low) repeated 3 times.
- If this happens check both the DATA cable and antenna connections to the ECU.
- If the control is OK you hear a signal of one single note to confirm the proper functioning of the system.

B) When approaching an obstacle the system activates the acoustic signal at a distance between the bumper and obstacle (measured in the central area of the bumper) of about 60/70 cm with 3 types of sounds:

1) an increase in sequence of "BIP" (alert) informs the driver that an obstacle is approaching.
2) intermittent sounds of fast repetition rate when the obstacle comes close to the bumper at a distance between 15 and 30 cm measured on the middle of bumper (alarm).
3) continuous sound at a more acute frequency (risk of contact) when an obstacle is very close to the bumper (10-15 cm).

**TECHNICAL CHARACTERISTICS**

- Operating range from 9,5 to 18V
- Max current absorption 70 mA
- Operating temperature from -20 to +90 °C
- Max. Distance to begin detection 60-70 cm