



02/2001 TECHNICAL BULLETIN

How to install Hella ParkMaster® – Intelligent Reversing Aid System

1. INTRODUCTION

Kit contents and operating principle:

a set of transducers with relative wiring, a central unit and buzzer. The four transducers installed on the rear bumper of the vehicle issue ultrasound pulses that are reflected whenever they encounter an obstacle.

Park Master establishes the distance of the vehicle from the obstacle by processing the signal came back to the plant.

The presence of an obstacle is detected at about 200 cm from the bumper when the car is moving.

Park Master issues intermittent beeps signals whose frequency increases until they become a permanent sound when the car is about 30 cm from the obstacle (fig. 8).

2. TRANSDUCERS

2.1 PAINTING

The transducers are housed in a box so that they can be painted the same colour as the bumper. Position the black rings as shown in the figure the paint must not cover the rubber seal that surrounds the transducer.

The painting cycle is described below:

- 1 - coat of primer or paint adhesion promoter
- 2 - coat of paint
- 3 - coat of glass or fixative

The rings must be removed after each phase and repositioned before the next one.

2.2 CHOICE OF THE POSITION

Fig. 1 shows the best position for the four transducers. The best height from ground level is between 45 and 55 centimeters. The transducers must be positioned parallel to the ground. They can also be fitted at a lower height verifying that, when installed, they will point upwards.

To determine the correct position, measure the width of the vehicle (L) and divide the value by four (L/4). Find the center of the bumper and position the templates for transducers T2 and T3 at a distance from the center equivalent to L/8.

In any case the distance between two contiguous transducers must be advanced to 30 cm. and inferior to 70 cm..

Position the templates for transducers T1 and T4 at a distance of L/4 from T2 and L/4 from T3 respectively.

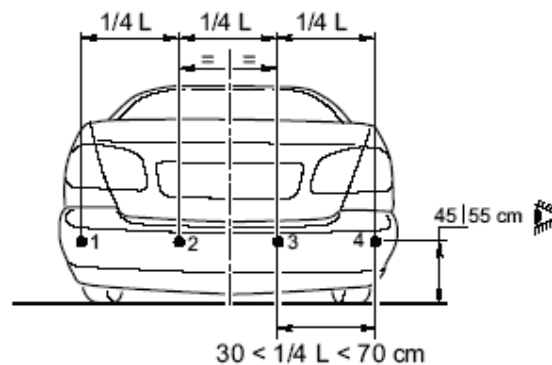


Fig. 1



Fig. 2 and Fig. 3 illustrate two possible alternative solutions.

Remember that transducers T2 and T3 must be positioned as near as possible to the license plate of the vehicle while transducers T1 and T4 must not be too far towards the side (min. 15 cm from the ends of the mudguards) otherwise Park Master could detect obstacles at the sides of the vehicle. If they point downwards, reflections on the ground could give rise to obstacles being incorrectly signalled.

Warning: the two transducers must always be 30 cm to 70 cm away from each other.

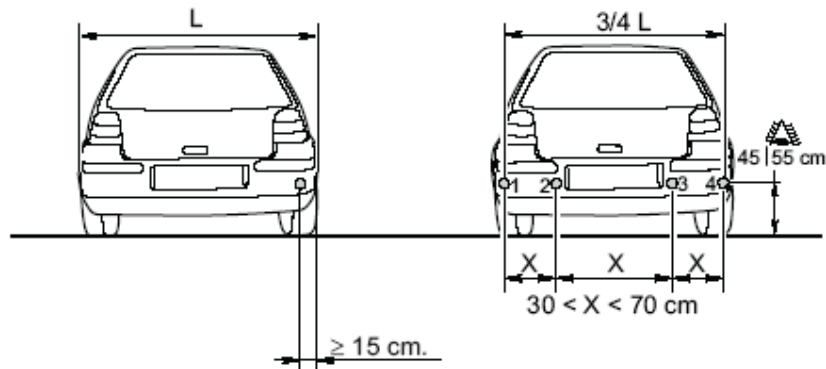


Fig. 2

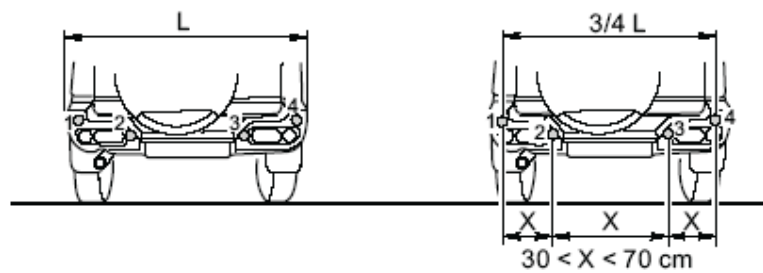


Fig. 3

2.3 FITTING

Demount the bumper and first make the 2 mm holes (one of these is used to house the retainer notch), then enlarge with a 20 mm bit. Fig. 4 shows how the four transducers are inserted into the holes (with the retainer notches upwards) along with the relative connections.

Eliminate the burr with a round file, but make sure that the hole is not enlarged. Insert the transducer, then fit it in place by widening the tabs with a small screwdriver.

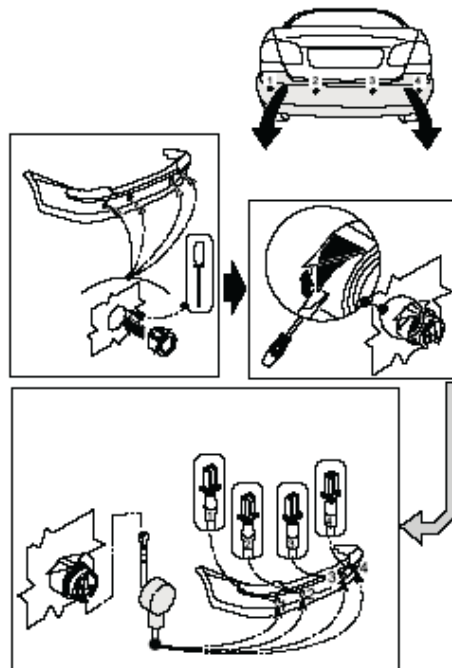


Fig. 4

2.4 CONNECTIONS

Connect the transducers, taking great care to fit the connector correctly in place.

Transducer 1 (Fig. 4) must be connected to wire number 1.

Transducer 2 (Fig. 4) must be connected to wire number 2.

Transducer 3 (Fig. 4) must be connected to wire number 3.

Transducer 4 (Fig. 4) must be connected to wire number 4.

Park Master will ONLY operate if the transducers have been connected as described above.

Cover the rear of the transducers with the relative cap on the wire of each.

3. CENTRAL UNIT AND BUZZER

Find out where the grommet is in order to access the boot.

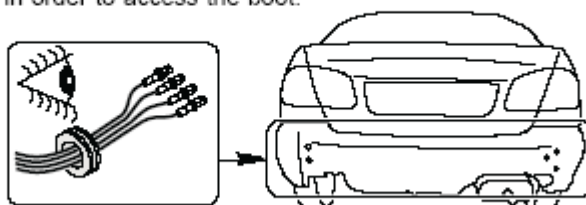


Fig. 5 shows how the wiring is routed according to the position of the grommet.

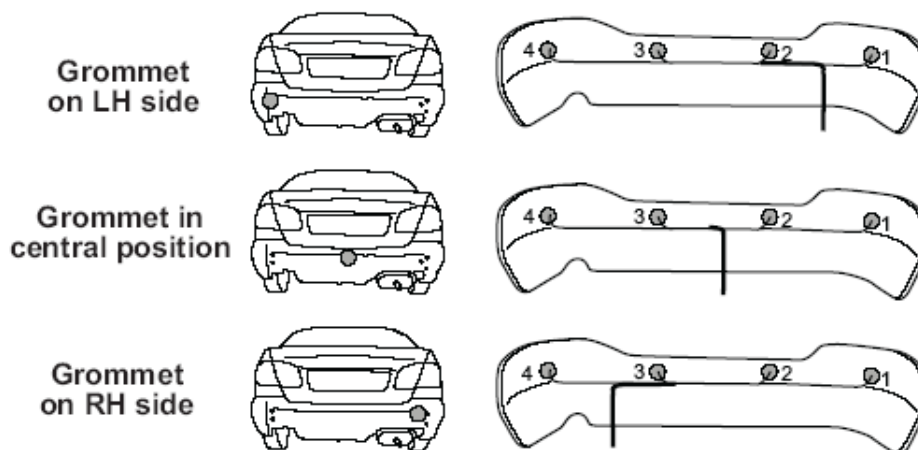


Fig. 5

Affix the buzzer with the supplied double-sided adhesive tape so that the signal can be heard by the driver as he reverses (Fig. 6). Test with the engine running.

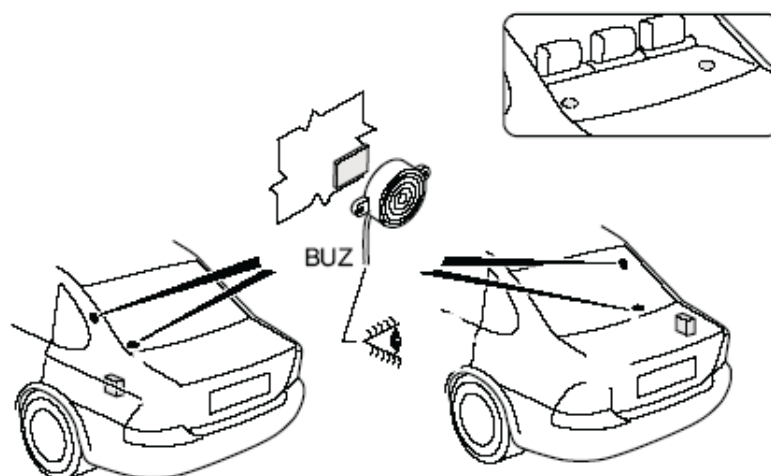


Fig. 6

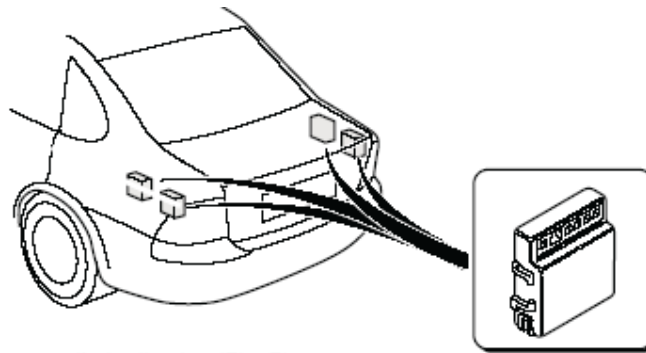


Fig. 7

Fix the plant in position with the supplied adhesive (Fig. 7).

4. ELECTRICAL CONNECTIONS

- Identify the wiring harness connected to the reversing light.
- Identify the wire that receives positive power with the ignition key in the ON position and the reverse gear engaged.
- Connect the RED wire of the Park Master harness to the identified wire.
- Connect the BLACK wire of the Park Master harness to a grounding point in the boot of the vehicle.

5. SET - UP

After installation, it is essential to carry out the set-up procedure.

- 1 Make sure that the BLUE loop of the wiring has not been cut.
- 2 Position the vehicle so that the part that projects most from the rear bumper (e.g. spare wheel or tow hook) is 50 cm from a wall. The bumper must be parallel to the wall.

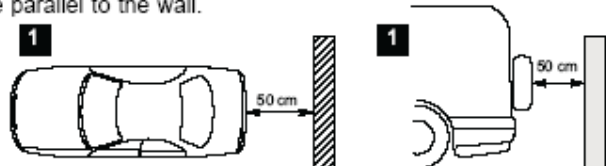
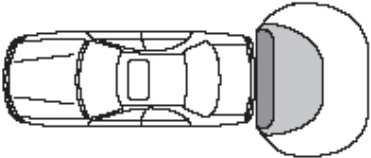



Fig. 8


- 3 Make sure that there are no obstacles between the vehicle and wall (Fig. 8).
- 4 Power the dashboard and engage the reverse gear.
- 5 Park Master will issue two beeps to confirm that the set-up procedure has started.
- 6 Within a maximum 100 seconds, Park Master will issue:
 - 6a - a continuous acoustic signal to confirm that the set-up procedure has terminated in the correct way;
 - 6b - an intermittent acoustic signal to indicate that the vehicle is not at the correct distance from the wall. In this case, check to make sure that the vehicle is effectively 50 cm from the wall.
 - 6c - absence of the signal means that one or more of the transducers has not been connected in the correct way.
- 7 Turn off the dashboard and cut the BLUE loop in the Park Master wiring. Insulate the two pieces of wire. A new set-up procedure must be carried out if the mudguards are successively changed in any way (e.g. addition of a tow hook). In this case, re-connect the BLUE jumper and repeat the procedure from point 2.


6. OPERATIONAL TEST

Start the vehicle and engage the reverse gear. Park Master will issue an acoustic signal to indicate that it has been activated. Park Master will issue intermittent beeps which will become more frequent until they become a continuous sound as described below:



■ =  Continuous signalling zone: this is the zone nearest to the mudguards (about 30 cm). Park Master detects obstacles and signals them with a continuous beep when the vehicle is both at a standstill and moving.

■ =  Static zone: this is the intermediate zone (up to about 120 cm). Park Master detects obstacles and signals them with an intermittent beep also when the vehicle is at a standstill.

□ =  Dynamic zone: this is the most extensive zone as to distance (up to about 200 cm) and width. Park Master detects obstacles and signals them with an intermittent beep but only when the vehicle is moving. If Park Master detects an obstacle in this zone the moment it is activated (reverse gear engaged), it will signal this with a beep lasting about 3 s.

11/01 06DE1665B

