

FRONT CORNER SENSOR WITH DISPLAY UNIT OWNER'S MANUAL

1.0 INTRODUCTION

Microsensors are the 'Third Generation' of ultrasonic sensors that are 19mm in diameter making it the smallest today. The 'Third Generation Microsensor' utilises the most advanced ultrasonic ASYMMETRICAL sensing technology used in the latest Mercedes Benz. The microsensor has super-wide detecting capabilities that senses an extra wide angle of 160 degrees horizontally and 60 degrees vertically. This technology increases the detection angle by 100% compared with other conventional systems. The micro-sized sensors are designed to blend into all cars and can be spray painted for that original factory fitted look.

2.0 PRODUCT FUNCTIONS

The device has a choice of two or four ultrasonic sensors which is fitted at the front bumper. The system will only be activated when the power switch is ON and indicated by the center LED light-up. The light of the LED bar will alert the driver of any presence of object/s and the distance in front the vehicle.

3.0 BENEFITS AND ADVANTAGES

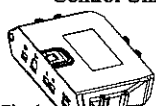

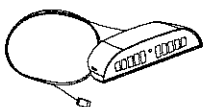

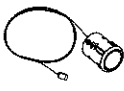
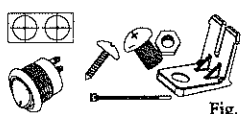
The microsensor over other systems in the market is that the microsensor work in ultrasonic ASYMMETRICAL sensing technology.

- i) Asymmetrical detection technology.
- ii) Small sensor diameter of 19mm.
- iii) Flush and paint able sensor surface area.
- iv) Prevents and Reduces accidents.
- v) Reduces stress when reversing.
- vi) Helps getting in and out of tight parking spots.

4.0 SPECIFICATIONS

Power requirement	: DC 10V ~ 25V
Max. current consumption	: 200mA
Operating temperature	: -20°C ~ 70°C
Storage temperature	: -30°C ~ 80°C
Transmitting frequency	: 40 kHz
System response time	: 0.12 sec

5.0 PART LISTING

<p>Part Name: Control Unit</p>  <p>Fig. 1</p>	<p>Part Name: Power Cable</p>  <p>Fig. 2</p>
<p>Part Name: Display Module</p>  <p>Fig. 3</p>	<p>Part Name: Power Cable Assy</p>  <p>Fig. 4</p>
<p>Part Name: Sensor Unit</p>  <p>Fig. 5</p>	<p>Part Name: Module bracket, Screw, Nut, Cable ties, Power switch, Sticker.</p>  <p>Fig. 6</p>

6.0 DISPLAY UNIT INDICATOR STATUS

Note: Audible tone will only beep for a second at 1 ft. zone

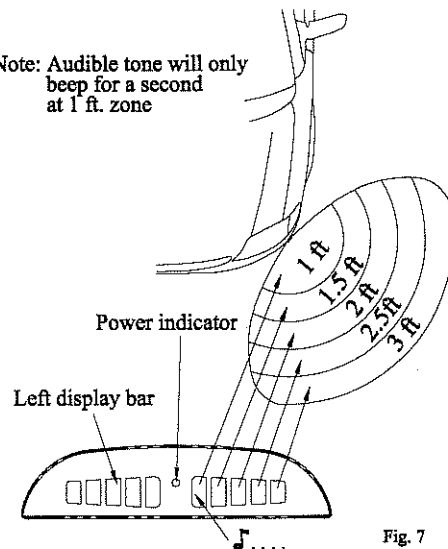


Fig. 7

7.0 WIRING DIAGRAM

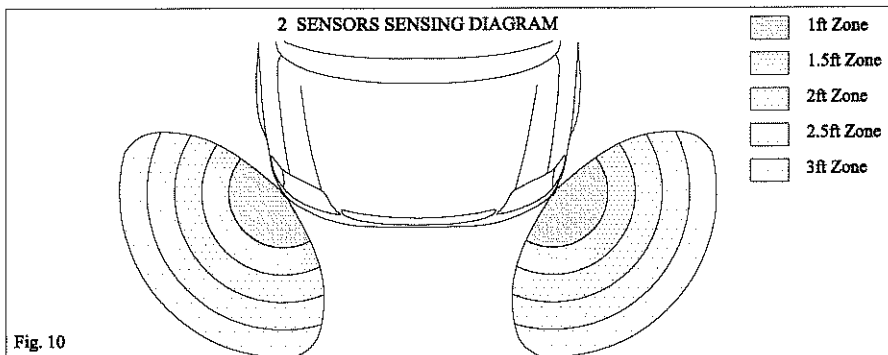
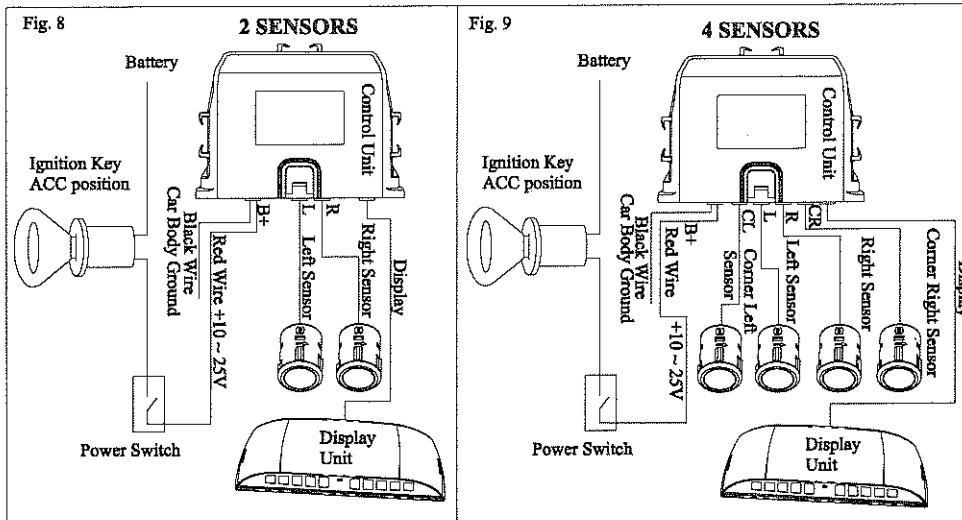


Fig. 10

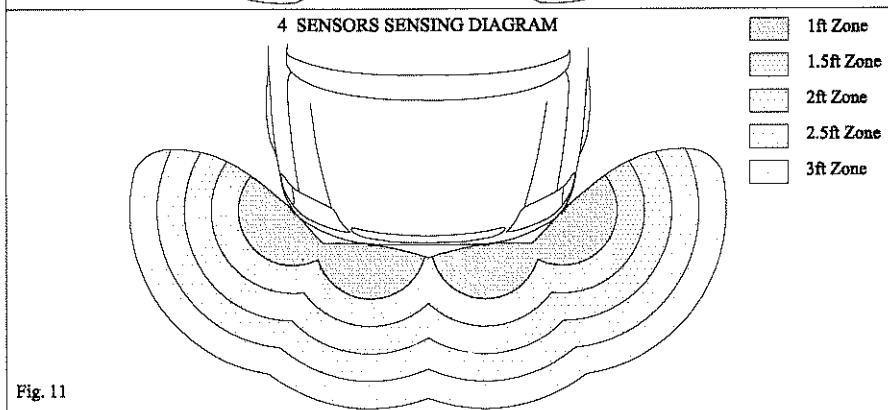
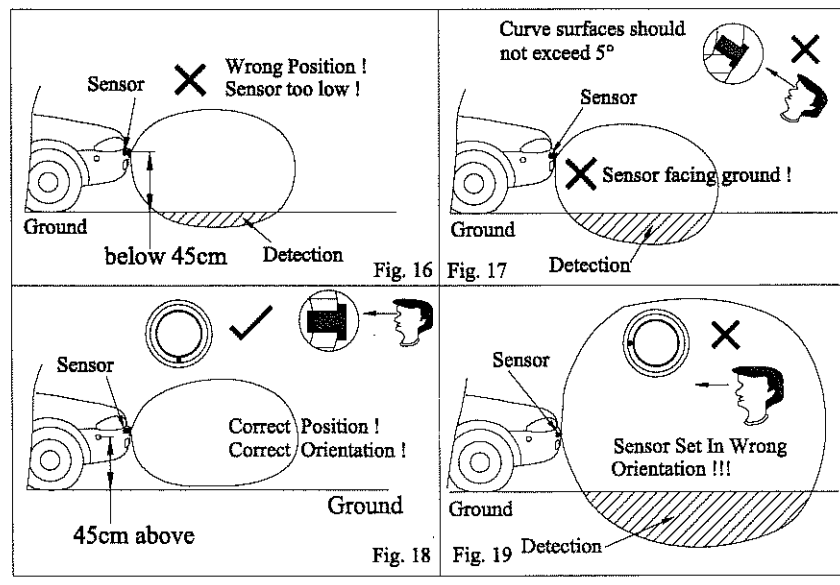
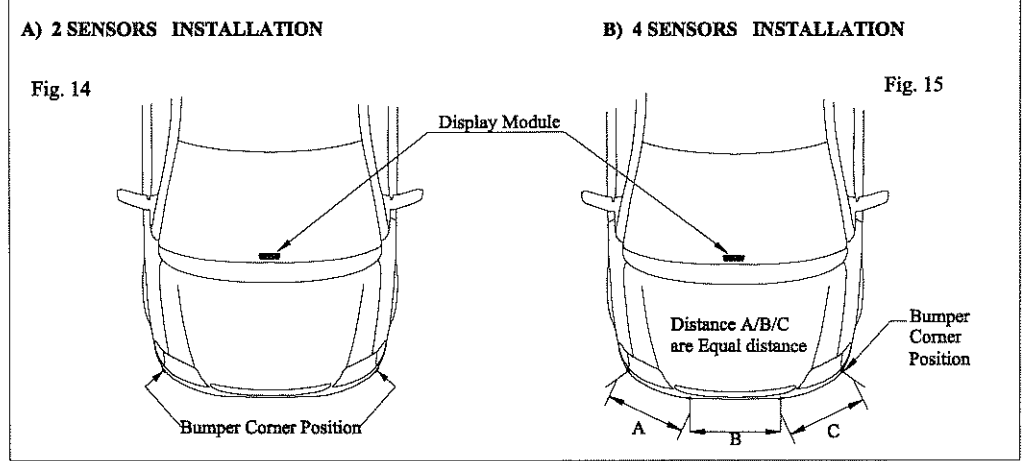
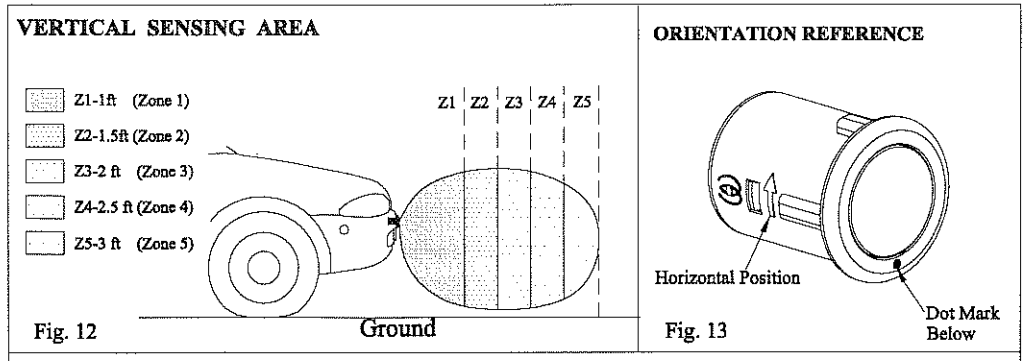
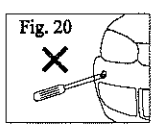


Fig. 11

NOTE: Square object is used to test the Horizontal coverage area of the sensor.
 The dimensions of the square object is 10cm X 100cm.
 Small and fine objects with poor reflection may not be detected.



For Fig. 16, 17 & 19. False alarm will occur if the sensors are installed lower than 45cm causing the sound wave to detect the ground.



Do not apply strong force to the sensors !

8.0 FOR 2 SENSORS UNIT INSTALLATION PROCEDURES

Procedures on the positioning and mounting of sensors depends on the types of cars and shape of front bumpers.

1. Mark from both corners of the front bumper position and mark it with the sticker for both left and right sensors. (Fig. 14)
2. Measure from the ground level a distance of 45cm ~ 60cm to indicate the final position of the sensors. (Fig. 18)

Important ! The preset of the sensitivity for the sensor height is 45cm above the ground. To avoid false alarm, please install the sensors above 45cm from ground. (Fig. 16 & Fig. 18)

3. Ensure that the bumper surface where the sensors are to be mounted is flat. If not, the curve surface should not be more than 5 degrees facing to the ground. (Fig. 17)
4. Drill two 19mm diameter through holes on the bumper markings. (Fig. 14)
5. Insert the left and right sensors into the 19mm diameter sensor holes respectively. (Fig. 14)

Important ! Ensure that the sensors are mounted at the correct position. The "↑ ⊗" of the sensor should always be in the horizontal position and in front view the sensor dot is facing down as shown in Fig. 13

6. Use cable tie to secure and route the sensor cables along the internal bumper wall. When routing the sensor cables, avoid sharp bends, edges and loose routings.
7. Insert the sensor cable connectors to the control unit headers respectively. Do not swop the sensor cable connection. (Fig. 8)

9.0 FOR 4 SENSORS UNIT INSTALLATION PROCEDURES

Procedures on the positioning and mounting of sensors depends on the types of cars and shape of front bumpers.

1. Mark from both corners of the front bumper position and mark it with the sticker for both corner sensors CL and CR right (Fig. 15)
2. Measure sensor left (L) and sensor right (R) which is equal distance between both corner sensor CL & CR and mark it with a sticker as like shown in Fig 15.
3. Measure from the ground level a distance of 45cm ~ 60cm to indicate the final position of the sensors. (Fig. 18)

Important ! The preset of the sensitivity for the sensor height is 45cm above the ground. To avoid false alarm, please install the sensors above 45cm from ground. (Fig. 16 & Fig. 18)

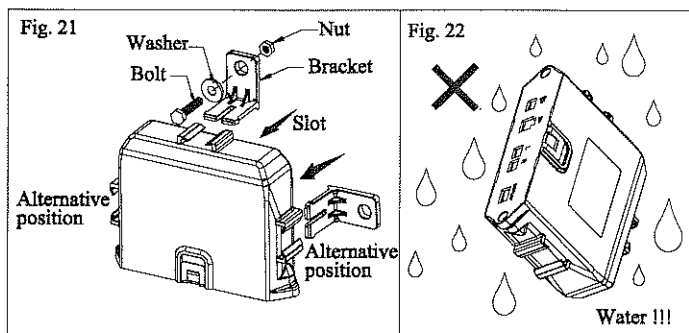
4. Ensure that the bumper surface where the sensors are to be mounted is flat. If not, the curve surface should not be more than 5 degrees facing to the ground. (Fig. 17)
5. Drill four 19mm diameter through holes on the bumper markings.
6. Insert the left, right, corner left and corner right sensors into the 19mm diameter sensor holes respectively. (Fig.15)

Important ! Ensure that the sensors are mounted at the correct position. The "↑ ⊗" of the sensor should always be in the horizontal position and in front view the sensor dot is facing down as like shown in Fig 13.

7. Use cable tie to secure and route the sensor cables along the internal bumper wall. When routing the sensor cables, avoid sharp bends, edges and loose routings.
8. Insert the sensor cable connectors to the control unit headers respectively. Do not swop the sensor cable connection. (Fig. 9)

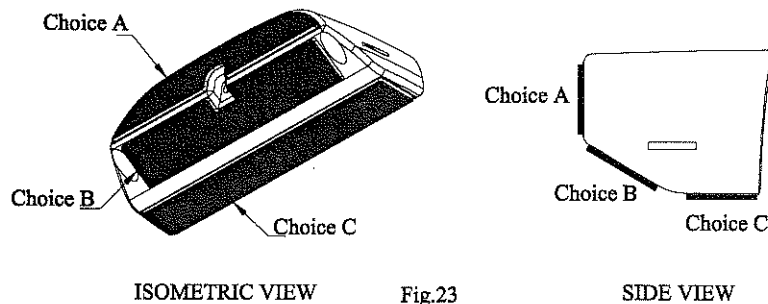
10.0 CONTROL UNIT INSTALLATION PROCEDURES

1. Insert the module bracket into any of the 3 slots as shown in Fig. 21.
2. Attach the bolt, nut and washer and tighten the control unit on a suitable mounting surface. Preferably to be fitted underneath the dashboard on the driver's side.
To prevent water from getting into the control unit, please note the vertical positioning of the control unit as shown in Fig. 21.
3. Route and conceal wire harness underneath the dashboard.
4. Connect red cable to the power switch. (+10 ~ 25V power supply)
5. Connect black cable to an independent ground terminal. (Ensure that it is properly grounded)
6. Plug in the power cable connector to the control unit. (Fig. 8 & Fig. 9)
7. Caution: Do not install the control unit outside the vehicle, make sure that it is installed in a clean dry place, away from dirt, water and moisture (Fig. 22).



11.0 DISPLAY UNIT INSTALLATION PROCEDURES

1. Locate a suitable position for viewing the display unit preferably on the center of the dashboard nearest to the windscreen as shown in fig. 14 & fig. 15.
2. There are 3 choices on how to adhere the display unit onto the dashboard by using the 3 different types of double sided tapes provided. (Fig. 23)



3. Route the cable harness under the dashboard to the control unit.
4. Plug in the display cable connector into the control unit as indicated. (Fig. 8 & Fig. 9)

12.0 POWER SWITCH INSTALLATION PROCEDURES

1. Locate a suitable position and drill a hole for the power switch according to it's size. (Fig.24)

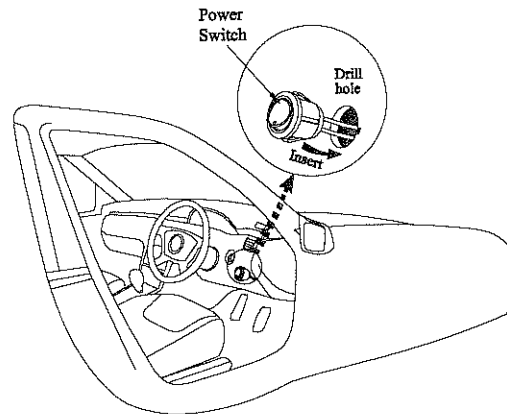


Fig. 24

13.0 OPERATION AND TESTING

1. Turn the ignition to ACC position and switch on the power switch, All the display bar should light up for 0.5 second .
2. To ensure the sensor cables are plugged into the correct terminals, hold a square object (10cm x 100cm) and approach the right sensor area. When the object is about 3 ft from the right sensor, the Zone 1 display bar will light up.
3. By further approaching the right sensor until 1 feet, a beep sound should be heard and the entire right display bar will be lighted up.
4. Repeat step 2 and 3 to test left sensor.

Important (Special Note To Owner)

- This device is designed to aid drivers during parking and negotiating tight spots. It should not be considered as a safety device for any other purpose. Proper driving technique are always essential.
- The manufacturer, distributor and dealer shall not be held liable for any unforeseen accident.
- Detection of human beings and animals are not advisable.

NOTE : ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE