



# **Reversing Aid Kit**

## **2 Sensor, Digital Type**

**VAE 221-2**

## **Installation & User Manual**



VAE 221-2	VO	1111027	6AM0-00001
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Thank you for choosing **VISION Reversing Aid Kit VAE-221-2**.

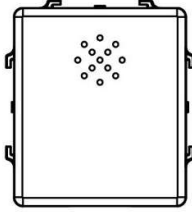
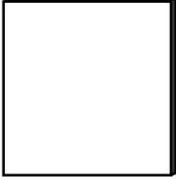
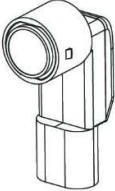
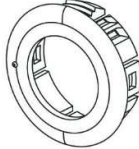
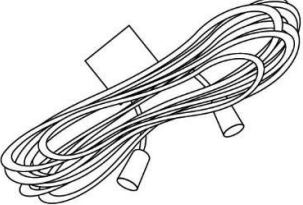
**VISION Reversing Aid Kit** uses ultrasonic sensors to help you judge how close you are to the obstacles behind. The system designed for use on the rear bumper of most cars. It provides a audible alarm when close to large obstacles to aid the driver while reversing.

The sensors should be installed in correct, therefore please read this manual carefully before installation and operation of the system. Please pay attention to all of the precautions and instructions listed in this manual.

## **Contents**

1.0	Part List	P. 1
2.0	Specifications	P. 1
3.0	Detecting Range	P. 2
4.0	Alarm Mode	P. 2
5.0	Wiring Diagram	P. 2
6.0	Installation (Drilling/Sensor/Control unit)	P. 3
7.0	Limitations	P. 5
8.0	Notice	P. 6

## 1. Part List

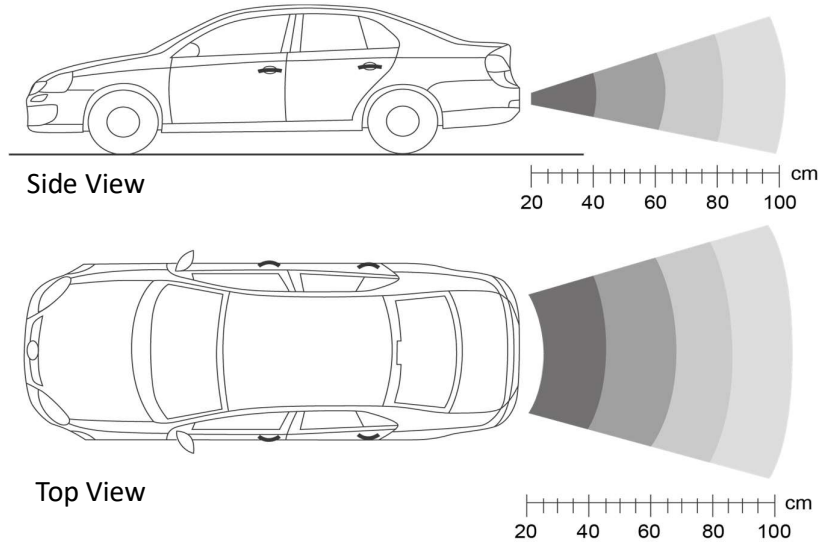
 <p><b>Control Box*1</b></p>	 <p><b>Double-sided tape*1</b></p>
 <p><b>Sensor*2</b></p>	 <p><b>0° sensor masker*2</b></p>
 <p><b>Power &amp; connecting cables*1</b></p>	

## 2. Specifications

1	Maximum Detection Distance	Up to 1.00 meters
2	Accuracy of Detection Distance	< +/- 5cm
3	Preferred Operating Detection Range	Within 0.3-1.0 meter zone
4	Ultrasonic Frequency	40 KHz
5	Operating Voltage	9V to 16V (Rated voltage = 12)
6	Current consumption of Stand-by mode	100mA (max.)
7	Current consumption of operating mode	200mA (max.)
8	Working Temperature	-30°C to 80°C
9	Piezo Buzzer	85 dB (At 10cm distance)

### 3. Detecting Range

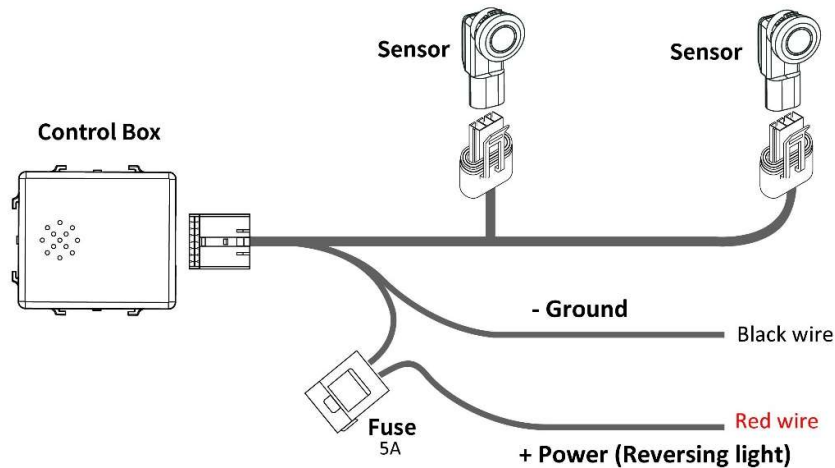
As the obstacle comes closer to the sensors, the system will alert the driver using different audible tones which will increase to tell the driver the obstacle is coming closer and to be cautious. (See Alarm Mode)



### 4. Alarm Mode

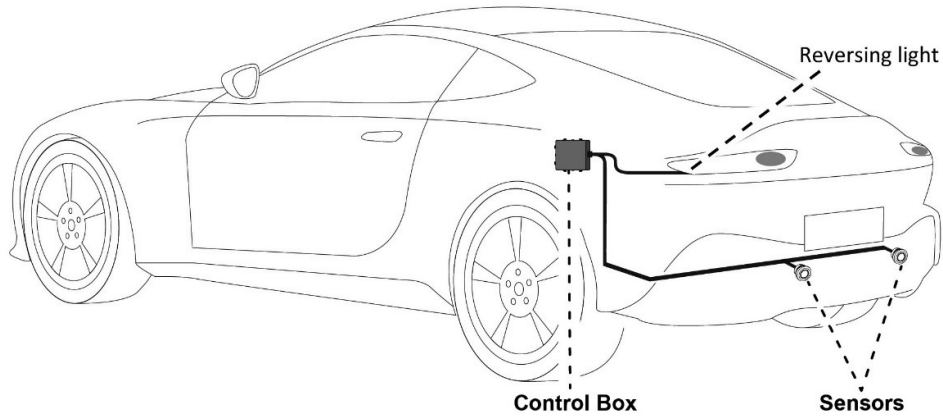
NO	Obstacle Distance	Warning
1	>100cm	Silence
2	80 ~ 100cm	Beep...Beep...
3	60 ~ 80cm	Beep..Beep..
4	40 ~ 60cm	Beep.Beep.
5	< 40 cm	Constant Beep

### 5. Wiring Diagram



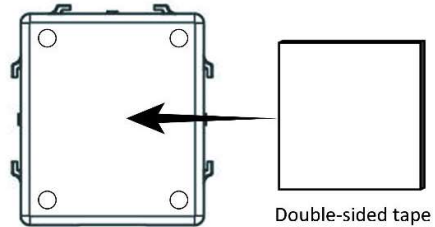
## 6. Installation

### 6.1 Installation position

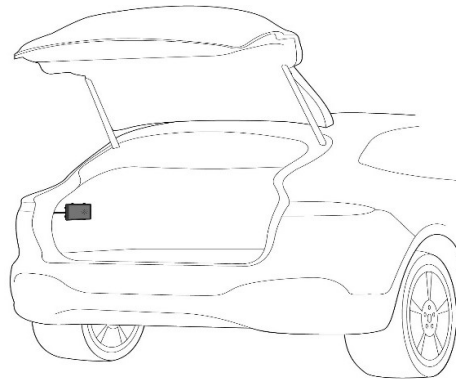


### 6.2 Installation of Control Box

Please put the double-sided tape on the back of the Control box

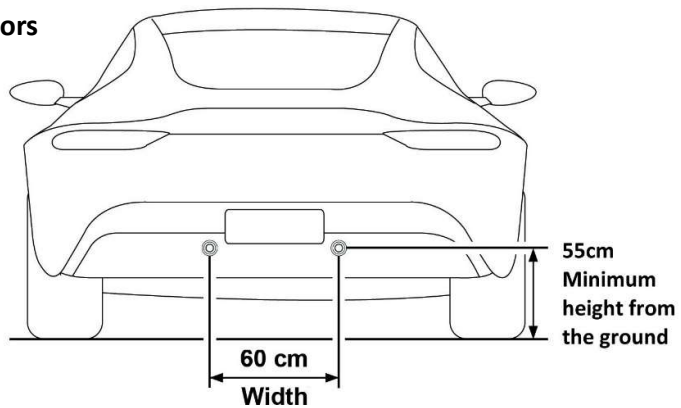


Install the control box in the right/left side of the trunk.



### 6.3 Installation of Sensors

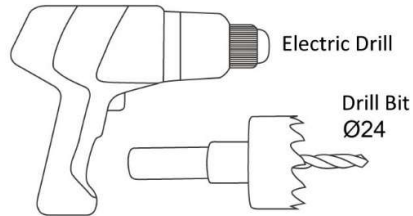
Sensor position



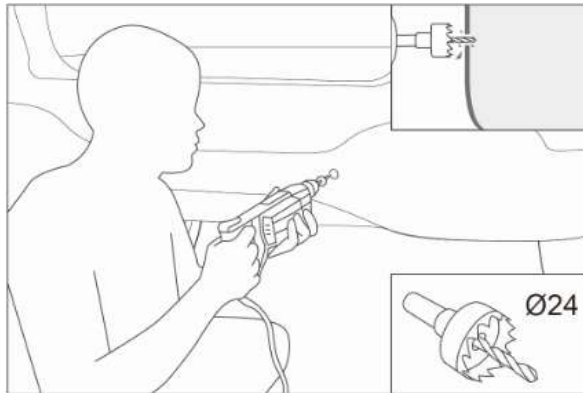
**1<sup>st</sup> step.**

Use the  $\varnothing 24$  hole saw bit to drill sensor holes.

Please prepare the drilling tools.

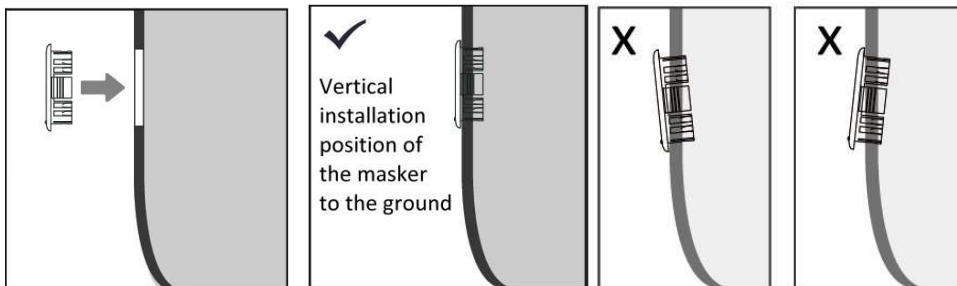
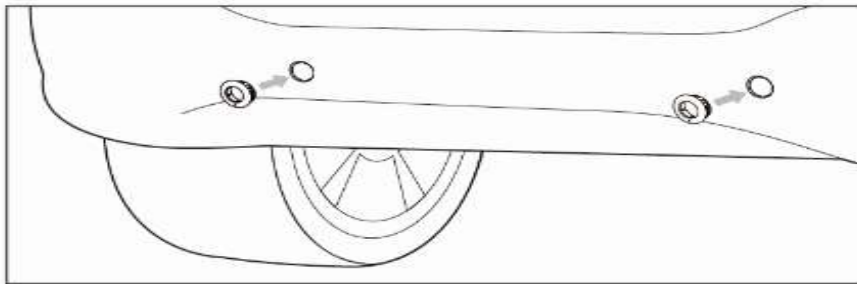


Please remove the burrs around the sensor holes after drilling. Please make sure of the size of the sensor holes and there is no materials blocking the sensor surface. Objects blocking or covering the sensor surface will produce false alarms.

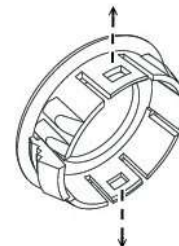


**2<sup>nd</sup> step.**

Install the masker onto a flat bumper surface vertically to the ground and rotate the masker until it is flush with the surface of the bumper.

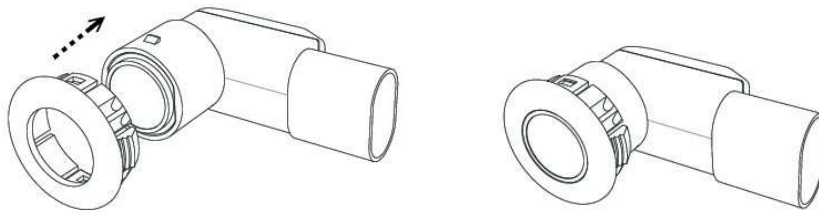
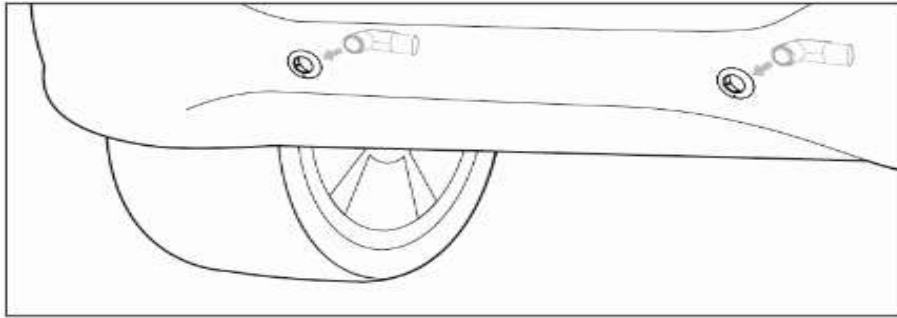


Make sure that 2 positioning holes of the masker facing up and down.

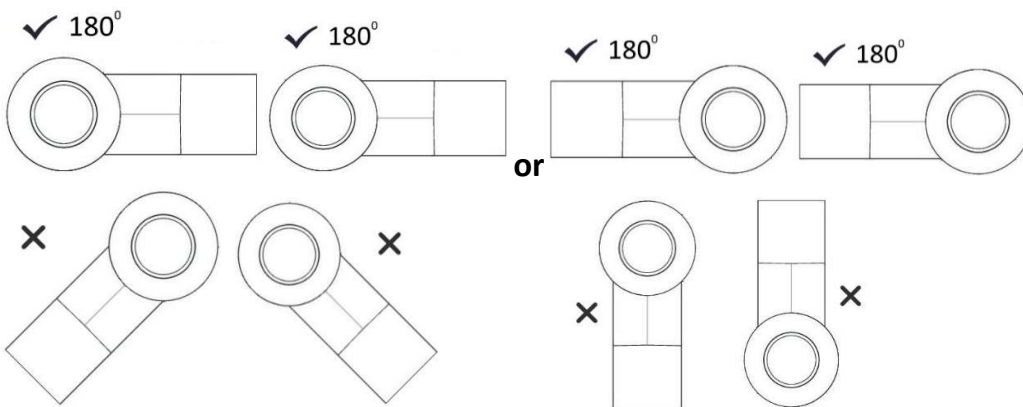


**Final Step.**

Install sensors from the inside of rear bumper and fasten sensors to the maskers. Please ensure that the face of the sensor should be perpendicular to the ground and fixed with the masker.

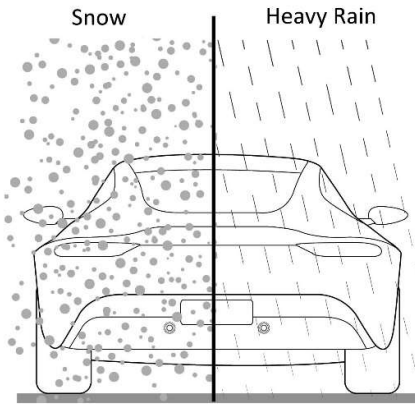


The sensor must be at 180° to the ground after installing on the bumper.

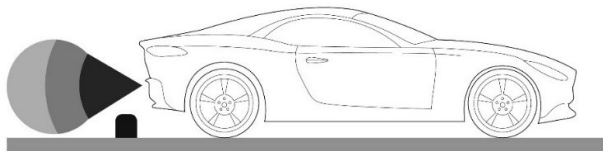


**7. Limitations**

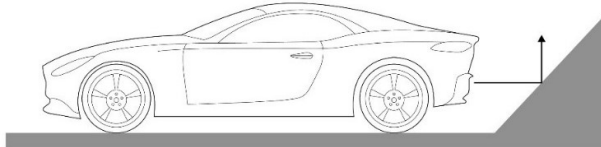
The sensors may not work if an object does not reflect the ultrasonic waves or it has an unusual shape e.g. poles/bollards, cardboard cartons, motorcycle/bicycle tires, small or slender trees. The sensor may not detect another vehicle bumper if it is too high, (Please see examples below)



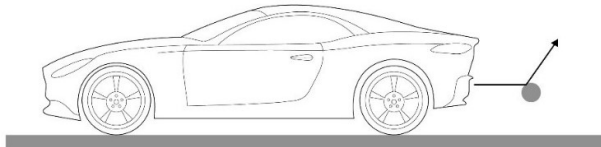
If there is a heavy rain or snow



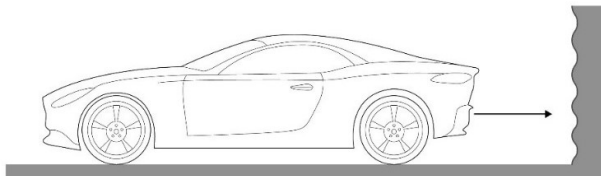
If there is a very small object



If there is a smooth slope



If there is a smooth round object



If there is a objects absorbing wave

**8. Notice**

It is the driver's responsibility to maintain safe reverse parking skills, such as slowing down, use of rear and side mirrors are always essential. Please remove water, snow or mud on the sensors in time.