



Installation Instructions Reversing Sensor System

ECCO's Reversing Sensor System, when properly installed on the rear of a vehicle, is designed to help drivers avoid reversing collisions. When used with a compatible ECCO back-up camera system (EC4204-SK, EC5604-SK, and EC7004-SK), the four ultrasonic sensors sound an alarm through an in-cab speaker if an object is detected in the danger zone. This manual provides information about installation, function, safety, maintenance, replacement parts, and warranty.



WARNING!

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious bodily/personal injury, and/or death to you and those you are seeking to protect!



Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.

1. Proper installation combined with operator training in the use, care, and maintenance of vehicle camera systems are essential to ensure the safety of you and those you are trying to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this device. Install this product so that the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the signal is not blocked by vehicle components (i.e., open trunks or compartment doors), vehicles, or other obstructions.



WARNING!

1. High voltage is present within the monitor. The opening of the case should be by professionals.
2. Do not watch the video while driving unless you are monitoring the rear view camera display.

IMPORTANT! Occasionally, a few highlights or dark spots may occur on the LCD screen. This is a very common phenomenon in active matrix display technology, and doesn't necessarily indicate any defects or faults. Never try to repair this device by yourself. In case of any problems, please turn off the display at once and notify our company or authorized dealer. The monitor is a complex device. Any disassembly or modification may lead to damage and void the warranty.

Specifications:

Number of Sensors: 4 PCS
Color of Sensors: Black
Ultrasonic Frequency: 40KHz
Detecting Distance: 0.30-1.50m (1ft 0in-5ft 0in)
Display Unit: M or FT optional
Voice Warning: Optional
Camera Volume: Adjustable
Power Supply: DC 10-18V
Operating Temperature: -20 °C-70 °C RH 95% Max
Storage Temperature: -40 °C-80 °C RH 95% Max

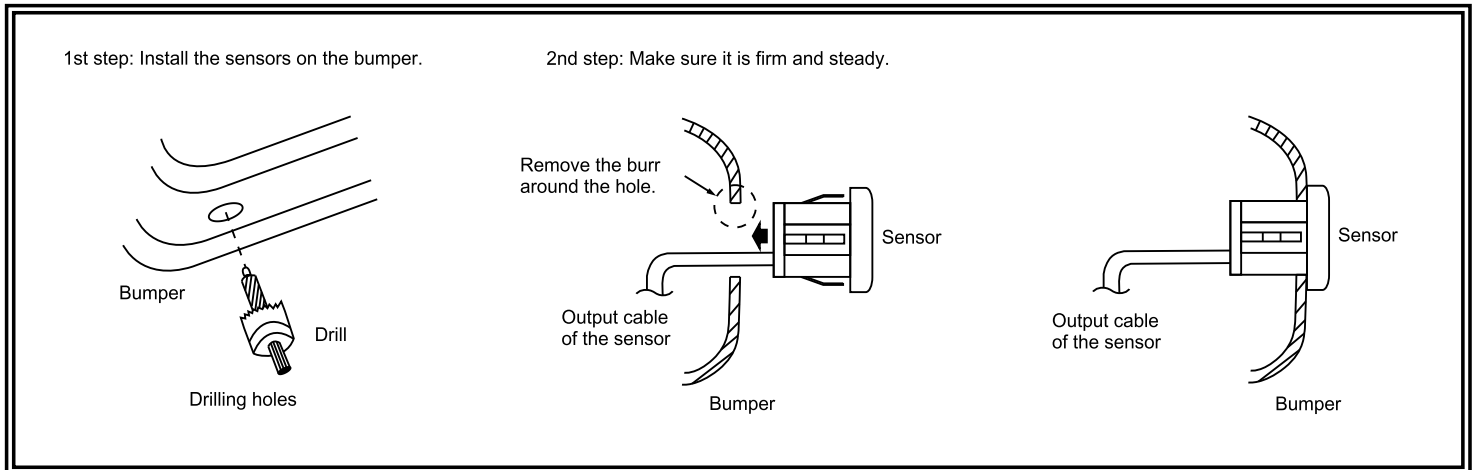
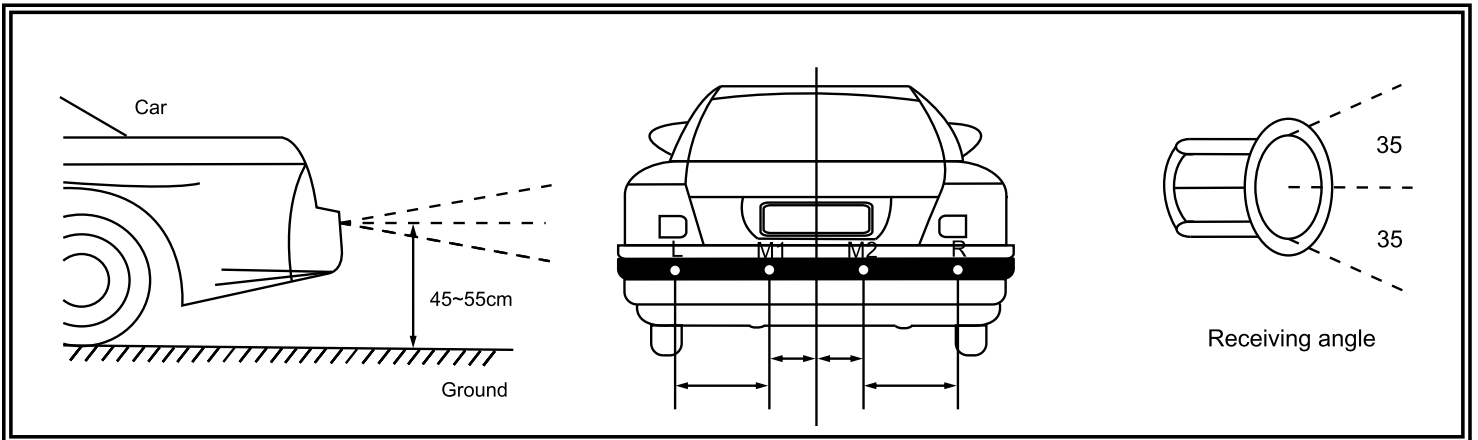
Product Features:

1. The reversing sensor system consists of a control box, 4 proximity sensors, a speaker and cables.
2. When correctly installed the system will operate automatically when reverse gear is engaged. The direction & distance from the object behind the vehicle will display on the monitor screen.
3. An audible alert will sound when the vehicle gets too close to any barriers like vehicles, objects, etc.

Product Installation:

Sensors

1. Choose a proper place for trial installation.
Suggestion: *17.5-21.5 inches (44-55 cm) above the ground at even heights along the bumper
*The distance between sensors should be determined according to the width of the rear bumper.
*Choose the right place for the sensors to achieve best detecting angle.
2. Hole diameter should be 7/8 inches (22mm).
3. Securely mount the sensors (with cables) into the holes.



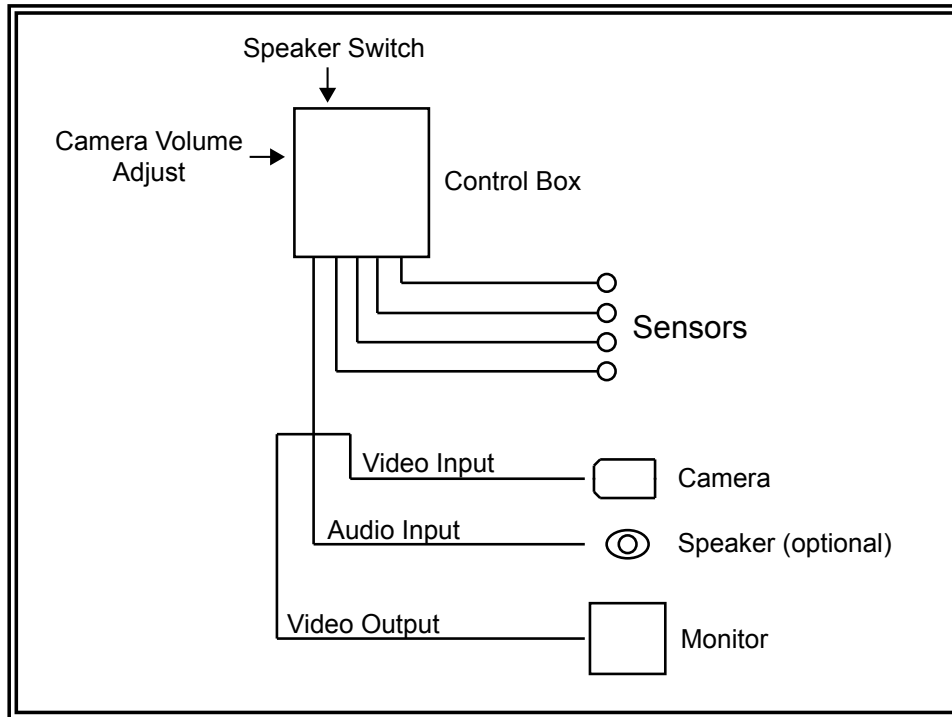
Installation of other parts:

1. Find the appropriate place for camera mounting. e.g.: Drill a hole to install the flush mount camera.
2. Find an appropriate place in the cab to mount the monitor and speaker, or control box.
3. Control box should be placed in a clean and dry place.

Note: Monitor, speaker and control box are not designed to be weatherproof. Please keep these parts clean and dry.

Connection:

1. Please pay attention to the wire harness for connection between the proximity sensor kit and the back up system. Make sure that the reverse trigger wire from monitor is connected to the reversing light.
 2. Connect the 4 Pin Female jack to the monitor and 4 Pin Male plug for camera.
 3. The control box should be connected to the wire harness for VIDEO IN & VIDEO OUT. The sensor output cables should be connected in sequence.
 4. The control box and camera are both powered by monitor which is powered by vehicle battery through the DC Wire.
- Note: Leave the output signal cable from sensors unconnected for testing use.
5. Reference wiring diagram below.



WIRING DIAGRAM

Testing:

1. Switch the vehicle into reverse, reversing lights will turn on automatically.
2. Connect one output cable from sensor to the control box. The sensor will attempt to find an object standing within 1.5 meters to the right/left or in front of the sensor.
3. Remove the sensor and connect others one by one for testing in the same way.
4. After testing is complete, connect all the sensors with the control box.

Notice: *Most problems that occur in the testing are usually caused by improper installation of the sensors.

Hints for Users:

1. While reversing, it is recommended to use the reversing sensor system. This device is intended to offer assistance when reversing; however, safety while operating a vehicle is the responsibility of the driver. Make sure to keep the vehicle at proper speed and pay attention to the surrounding conditions while reversing.
2. There may be improper reception, deviation and error in the reflected signal because of difference in material, angle or size of the obstacle.
3. To turn on/off the voice warning for the system, the driver must have the vehicle turned off. Move the switch to the on/off position before you power on the vehicle.

Troubleshooting:

Symptoms	Possible Causes/Solutions	Solutions
No reaction from the system while the gear is switched to reverse.	No power input.	Check whether the power cable is securely connected.
No reaction on display while there are obstacles within the detecting area.	Improper connection of the sensor or monitor.	Check whether it is loose in connection.
There is no obstacle within the detecting area, but constant warning and voice prompt occurs.	There may be too much dirt in sensors and leads interference.	Clean the sensors.
There is no obstacle within the detecting area, but fixing distance is shown on screen.	The distance from the ground is detected.	Adjust the angle of sensors.

Replacement Parts/Accessories

Description	Part No.
Replacement Sensor System (Includes speaker, control box, sensors and cable)	EC1004-SK
Speaker for Sensor Kit	EC1005
Control box for Sensor Kit	EC-CB04
Sensors with Cable (qty. 4)	EC-RS04
Power cable for Sensor Kit	PC-1004

Declaration of conformity:



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.



Manufacturer Limited Warranty and Limitation of Liability:

Manufacturer warrants that on the date of purchase this product will conform to Manufacturer's specifications for this product (which are available from the Manufacturer upon request), and Manufacturer further warrants that this product is free from defects in materials and workmanship. This Limited Warranty extends for 1 year/12 months from the date of purchase. Other warranties may apply, call Manufacturer for details. Manufacturer will, at its discretion, repair or replace any product found by the Manufacturer to be defective and subject to this Limited Warranty.

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