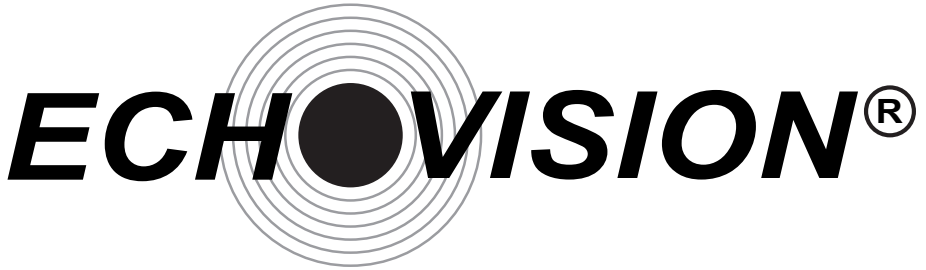


MODELS
EBD 0335
EBD 0335W
EBD 0331



**INSTALLATION
INSTRUCTIONS**

**REAR
OBSTACLE
DETECTION SYSTEM**

This product is intended solely as an additional aid for the operator. It does not substitute for the appropriate use of mirrors or safe driving procedures

ECHOVISION

DUAL BACK SYSTEM INSTALLATION INSTRUCTIONS

General:

Your Echovision kit contains the following parts:

- Sensor Module, right (Slave)
- Sensor Module, left (Master)
- Display Module
- Display Cable
- Sensor Cable

The following lists will aid you in preparing to install an Echovision System:

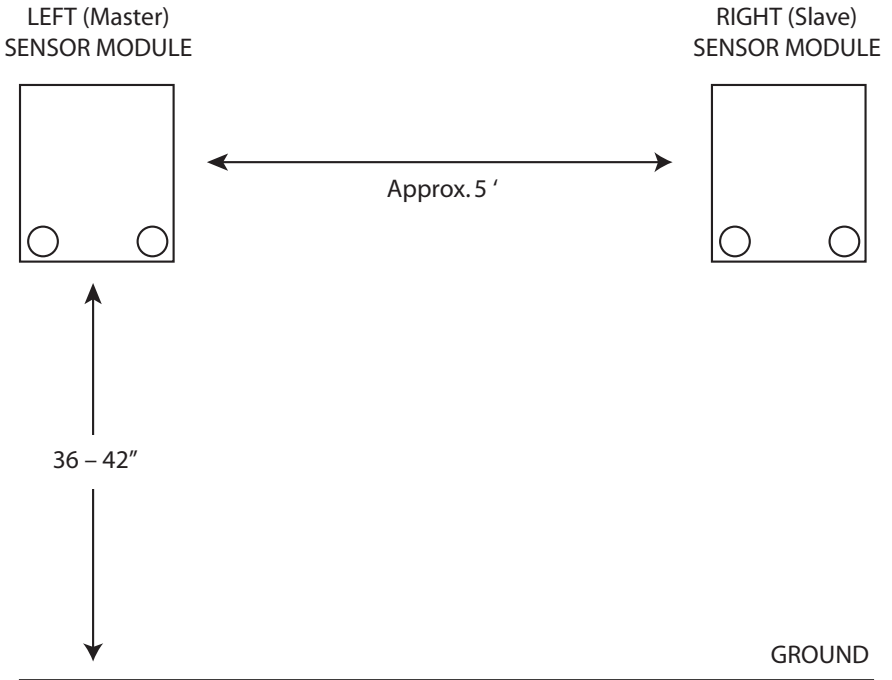
- Wire Ties
- Electrician's Tape
- Crimp Type Connectors
- Silicon Sealer
- Red Wire (16 to 20 AWG)
- Black Wire (16 to 20 AWG)
- 1/2" Split Polyvinyl Wire Loom
- #10-32 x 7/8" Stainless Steel Bolts
- #8 x 1/2" Sheet Metal Screw
- #10-32 Keps Nut, Stainless Steel
- Wire Cutter/Crimper/Stripper
- Tape Measure
- #1 and #2 Phillips Screwdriver
- Test Lamp Probe
- Drill Bits 1/8" to 1"
- Drill

COMPONENT LOCATION:

The sensors are mounted on the rear of the vehicle as shown in Figure 1.

The display is located where it can conveniently be seen by the driver. The brackets can be reversed for top or bottom mounting.

Figure 1
Sensor Mounting



INTERCONNECTION

The system will be interconnected as shown in Figure 2. All connections must be made with the power off. The individual wires coming out of the display box are connected as follows:

Red Wire Back-up light switch
Black Wire Electrical Ground

COMPONENT MOUNTING:

Determine the sensor location in accordance with Figure 1. The sensors can be mounted with #10 nuts and bolts or sheet metal screws. For convenience, a 1/2" access hole can be drilled for the sensor cable first, then the sensor can be used as a template for marking its mounting holes*.

The display should be mounted where it can conveniently be seen by the driver with #8 sheet metal screws. The mounting holes can be marked using the module as a template.

The display cable should be routed from the display to the left sensor. The cable should be secured with tie wraps and/or wire loom. The cable should be connected to the left sensor and the display.

The sensor cable should be routed between the left and right sensors. The cable should be connected to each sensor.

Locate the back-up light wire, using the test probe and a solid electrical ground point. Connect a black wire, cut to a suitable length, to ground and a red wire to the back-up light wire. Any wires that you choose to run through the engine compartment should be protected with a wire loom. The red wire from the back-up light should be connected to the red wire coming out of the display module and the black ground wire should be connected to the black wire coming from the same module. All normal shop procedures should be used in connecting and securing these power leads. The Echovision system will draw less than 100 milliamps and has an automatically re-settable fuse in the module.

Installation is now complete.

** If the system you have includes weatherproof connectors a one inch hole is needed to fit the connector through.*

SENSITIVITY ADJUSTMENT:

A potentiometer, located on the side of the display module is for adjusting the sensitivity of the system if necessary. To increase sensitivity, turn the potentiometer clockwise. To decrease sensitivity turn the potentiometer counter-clockwise. If the sensitivity is set too high, the system will pick up signals reflected from pebbles and other small ground irregularities.

FINAL TEST:

After installation the system must be subjected to a final test to ensure it's operating properly.

TROUBLE SHOOTING CHART

Effective on vehicles manufactured from May 1999 on

TROUBLE	CHECK	INTERCONNECTION DIAGRAM
Red/green status light off	<p>The system is not getting power.</p> <p>Check the +12V power connection coming from the back-up lights.</p> <p>Check the red wire going from the display/control module to the sensor modules. If no power here change display/control module.</p>	<p>CENTRAL COMPUTER CABLE Part # 405-3400 Module # EDC3320</p> <p>Module # ESC2640 Sensor Cable</p> <p>DISPLAY MODULE EMN 2286</p>
Red status light is on	<p>Self test signal is not being received by the display/control module.</p> <p>Check and clean all sensors.</p> <p>Check sensor connections.</p> <p>Check which sensor is not functioning properly by presenting a target to each one separately and change out any sensor found faulty.</p>	
Constant alarm	<p>Check for an object within ten feet of the sensors.</p> <p>Check which sensor is creating the alarm by separately disconnecting the Slave Sensor Module and then the Master Sensor Module. Change out any faulty sensor module found.</p> <p>Reduce the gain by adjusting the potentiometers on the side of the display/control module.</p>	
No alarm at start-up or when targets are present	<p>Check that system is operating properly as evidenced by the green STATUS light.</p> <p>If STATUS light is red and no audible alarm, change display/control module.</p>	