

The Protector System™ Safety Reversing Sensor Model 87LM

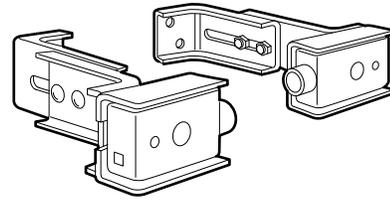


WARNING

Without a properly working safety reversing sensor, persons (particularly children) could be killed by a closing garage door. Read and follow all instructions.

To protect small children, install the safety reversing sensor so the beam is no higher than 4"-6" above the garage floor.

Disconnect power to the garage door opener before installing the Protector System.



Installation procedures are the same for sectional and one-piece doors.

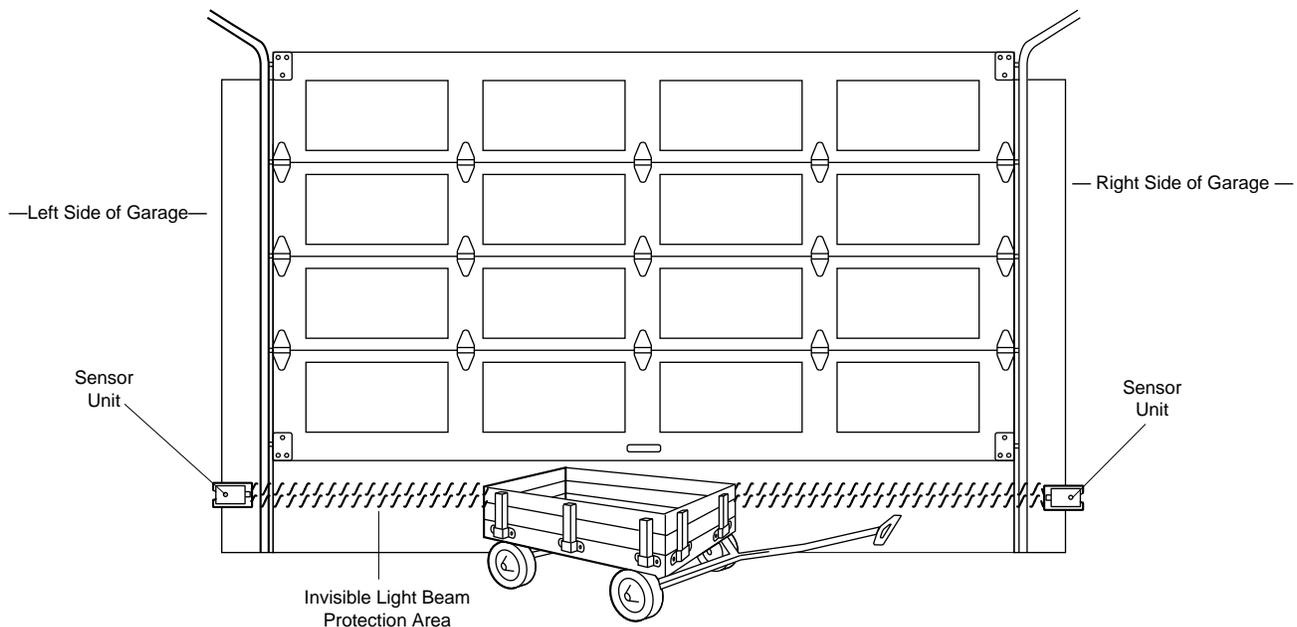


FIGURE 1 Facing the door from inside the garage

Look at the label on the connector end of each case to identify the sensors.

The sending eye transmits an invisible light beam to the receiving eye.

If an obstruction breaks the light beam while the garage door is closing, the door will stop and reverse to full open position; and the opener lights will flash for 5 seconds to alert you to the obstruction.

The units can be installed on either side of the garage door (Figure 1) as long as the sun never shines directly into the receiving eye lens, *but* the brackets must be connected and fastened so that the sending and receiving eyes face each other as shown in Figure 1.

The brackets *must* be securely fastened to a solid surface such as the studs on either side of the door, or add a piece of wood at each location if installing in masonry construction.

The invisible light beam path must be unobstructed. No part of the garage door (or door tracks, springs, hinges, rollers or other hardware) can interrupt the beam while the door is closing. If it does, use a piece of wood to build out each sensor mounting location to the minimum depth required for light beam clearance.

Figures 2, 3 and 4 show recommended assembly of bracket(s) and "C" wrap based on the *wall* installation of the sensors on each side of the garage door as shown on page 1, or on the *garage door tracks* themselves.

Figures 5 and 6 are variations which may fit your installation requirements better. **Make sure the wraps and brackets are aligned so the sensors will face each other across the garage door.**

Garage Wall or Door Track Installation Procedure

- Fasten the "C" wraps to the mounting brackets with square holes, using the hardware shown in Fig. 2.

Garage Wall Installation Procedure

- Connect each assembly to a slotted bracket, using the hardware shown in Fig. 3. **Note alignment of brackets for left and right sides of the door.**
- Finger tighten the lock nuts.
- Use bracket mounting holes as a template to locate and drill (2) 3/16" diameter pilot holes on both sides of the garage door, 4"-6" above the floor (but not exceeding 6"). See Warning on page 1.
- Attach bracket assemblies with 1/4"x1-1/2" lag screws as shown in Fig. 3.
- Adjust right and left side bracket assemblies to the same distance out from mounting surface. Make sure all door hardware obstructions are cleared. Tighten the nuts securely.

Garage Door Track Installation Procedure

Discard slotted bracket. Drill 3/8" holes in each track and fasten securely with hardware as shown in Fig. 4.

Garage WALL or DOOR TRACK Installation

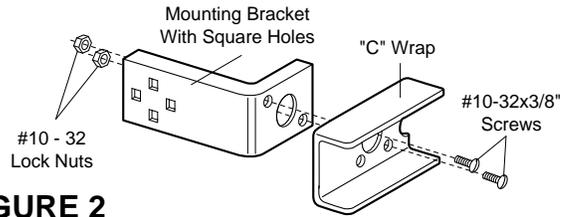


FIGURE 2

Garage WALL Installation

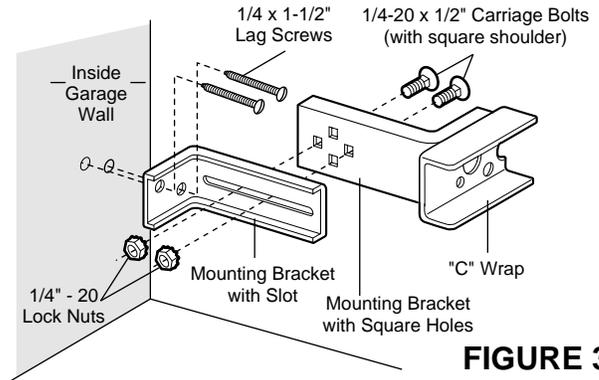


FIGURE 3

Garage DOOR Track Installation

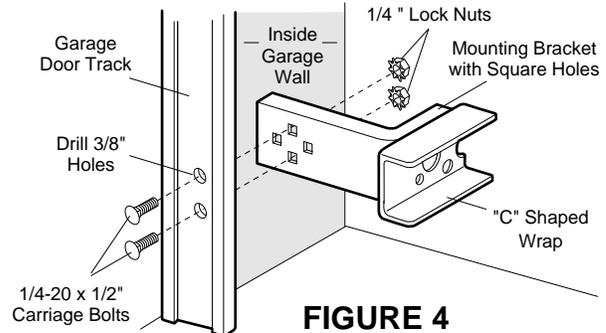
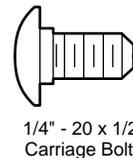
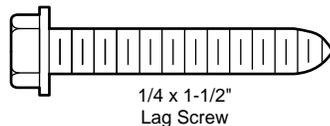
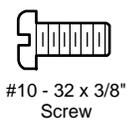


FIGURE 4

Hardware Shown Actual Size



Alternate Wall Mount

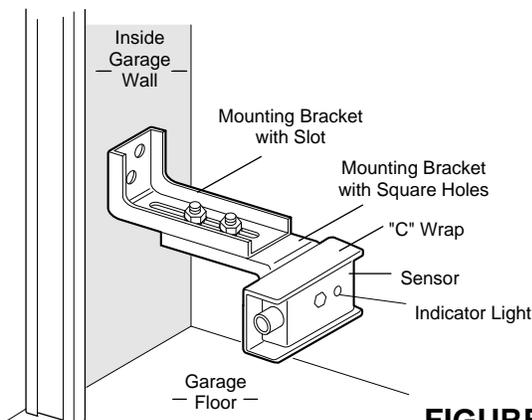


FIGURE 5

Alternate Floor Mount

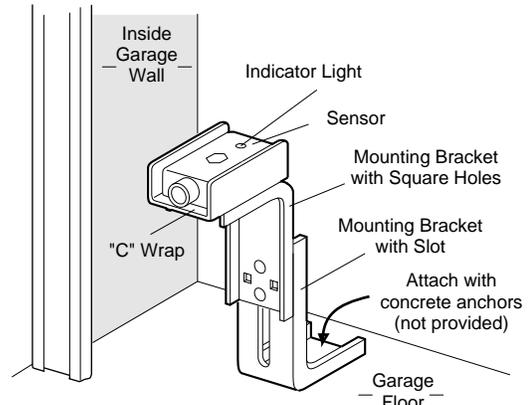
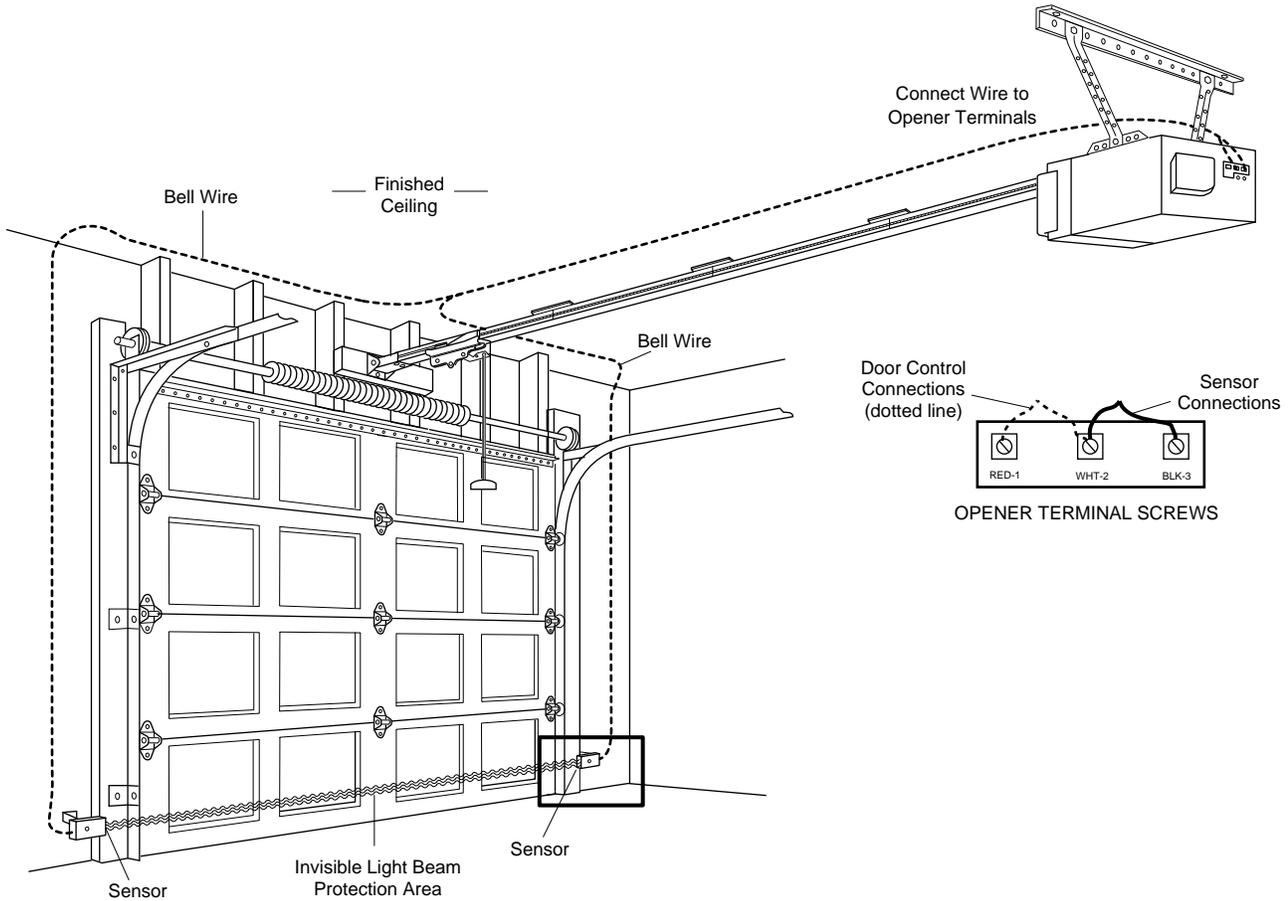


FIGURE 6

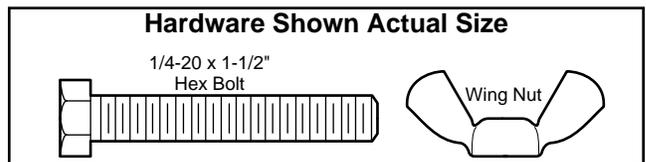
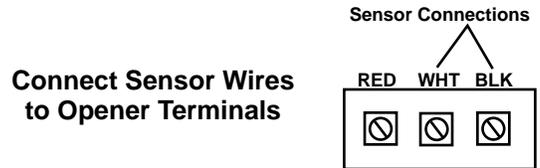
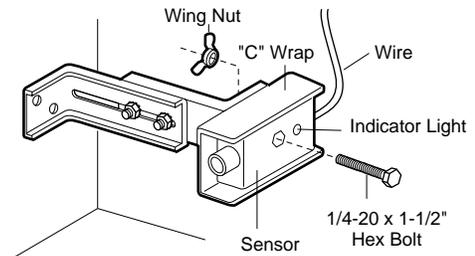
FIGURE 7



- Center each sensor unit in a "C" wrap with lenses pointing toward each other across the door.
- Secure sensors with the hardware shown in Figure 7. Finger tighten the wing nut on the *receiving eye* to allow for final adjustment. Securely tighten the *sending eye* wing nut.
- Run wires from both sensors to the opener as shown in Figure 7. Use insulated staples to secure the wire to the wall and ceiling.
- Connect both sets of wires to the opener terminals as shown (depending upon your model).
- Plug in the opener. If your opener has the Multi-Function Door Control, make sure the Lock Feature is *off*. Red indicator lights in both the sending and receiving eyes will *glow* if wiring connections and alignment are correct.

If the indicator lights are *blinking* (and the invisible light beam path is not obstructed), alignment is required.

- Loosen the receiving eye wing nut to allow slight rotation of unit. Adjust sensor vertically and/or horizontally until the red indicator light *glows*.
- When indicator lights are glowing in both units, tighten the wing nut in the receiving eye unit.



TEST THE PROTECTOR™ SYSTEM

- Press the remote control push button to open the door.
- Place the opener carton in the path of the door.
- Press the remote control push button to close the door.
The door will not move more than an inch, and the opener light(s) will flash.

The garage door opener will not close from a remote control if the indicator light in either sensor is *blinking* (alerting you to the fact that the sensor is: a. not connected, b. misaligned or c. obstructed).

The garage door can be closed by pressing and holding the Door Control push button until down travel is completed.

**WARNING**

Without a properly working Protector™ System, persons (particularly children) could be seriously injured or killed by a closing garage door. Repeat this test once a month.

Professional service is required if the opener closes the door when the Protector System is obstructed.

TEST THE SAFETY REVERSE SYSTEM

TEST:

- Place a one-inch board (or a 2x4 laid flat) on the floor, centered under the garage door.
- Operate the door in the down direction. The door **must** reverse on striking the obstruction.

ADJUSTMENT:

If the door *stops* on the obstruction, it is not traveling far enough in the down direction.

- Increase the DOWN limit by turning the DOWN limit adjustment screw counterclockwise 1/4 turn.
- Repeat the test.

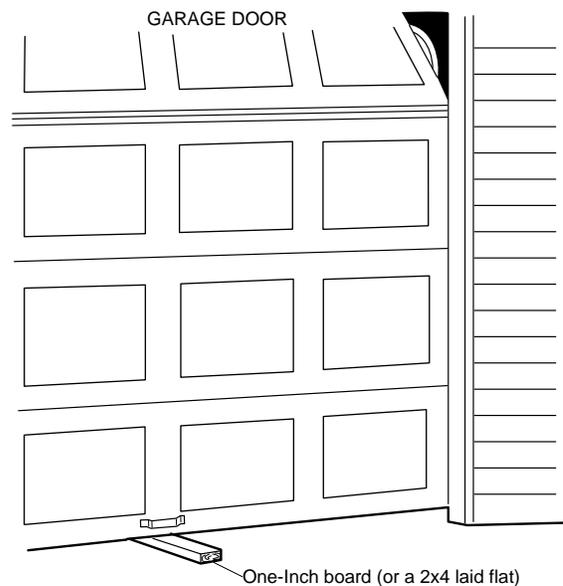
On a sectional door, make sure limit adjustments do not force the door arm beyond a straight up and down position.

- When the door reverses on the one-inch object, remove the obstruction and run the opener through 3 or 4 complete travel cycles to test adjustment.

If the door will not reverse after repeated adjustment attempts, call for professional door service.

**WARNING**

Failure to test and adjust the safety reverse system may result in serious injury or death from a closing garage door. Repeat this test once a month and adjust as needed.



Trouble Shooting

1. If the *sending eye* or *receiving eye* indicator light does not glow after installation, check for:
 - Electric power to the opener.
 - A short in the black/white wires. These can occur under staples or at screw terminal connections.
 - Incorrect wiring between sensors and opener.
 - An open wire (wire break).
2. If only the *receiving eye* indicator light is *off* (and the invisible light beam path is *not* obstructed), check for an open wire to the receiving eye.
3. If both sensors are blinking, realign or remove obstruction.

Replacement Parts

TOLL FREE NUMBER - 1-800-528-9131

2-strand black & white wire with connector	41B4115	C-Wrap Bracket	12B483
Safety Sensor Kit (receiving and sending eyes only)	41A4373	Square Hole Bracket	12B484
Safety sensor hardware bag	41A4116	Slotted Bracket	12B485