GARAGE DOOR AND MECHANICAL OPENER SAFETY INFORMATION

A garage door can be a cause of significant injury and even death. The Consumer Products Safety Commission (CPSC) reports that at least 60 children have been killed by entrapment under garage doors that had mechanical openers. In addition, approximately 20,000 people are treated each year in hospital emergency rooms for injuries relating to garage doors. The majority of these are injuries to fingers trapped between door sections-a significant number are also due to injuries from door springs.

If you have specific concerns about your garage door or mechanical opener, the CPSC web site (www.cpsc.gov) has additional safety information and information concerning product recalls.

Before 1982 there was no uniform safety standard concerning mechanical garage door openers. The standards adopted at that time required some basic safety provisions; however, these standards did not address some potential hazards. Standards have been modified over the years to significantly improve garage door and mechanical opener safety.

One early safety improvement was the requirement for a quick release mechanism. The quick release mechanism is a red handle (typically attached to a cord and designed to be located approximately six feet above the garage floor) that will release the door from the mechanical opener when the handle is pulled. A significant improvement for mechanical openers is a safety clutch. This is designed to stop or reverse the door if an object is in the path of travel. Some old mechanical openers only stop the door-they do not reverse. This can be a hazard because a person can become trapped under the door. Any mechanical opener that does not have a reliable safety *reversing* mechanism should be replaced. Another significant safety improvement effected all residential mechanical openers manufactured after January 1, 1993. This safety feature usually is in the form of a photo eye sensor system that will reverse the door if any object passes between two sensors. The mechanical opener must be designed so that it will not function without this safety feature and the sensors must be installed at the proper location.

SAFETY CHECKLIST

- Keep all body parts (especially fingers) away from joints between sections and gaps between doors and frames.
- Check cables and springs for excessive wear or fraying.
- Replace damaged components and distorted springs before a failure occurs (always replace springs in pairs to assure smooth operation).
- Install safety cables to restrain door springs (significant damage or injury can occur when springs break).
- Never attempt to adjust door springs when the springs are loaded (with few exceptions, torsion springs should only be adjusted by trained professionals).
- Make sure that the springs properly counterbalance the door when released from a mechanical opener so that it cannot fall with a significant force. The door should also operate smoothly.
- Make sure that all hardware is tight, especially brackets that are attached to springs and cables.

- Check the reversing clutch or sensors for proper operation. The door should reverse when closing when no more than 15 pounds of force is applied to the bottom of the door. The safety clutch should also stop a door from opening if more than 25 pounds of downward force is applied to the door. It is advisable to adjust the clutch to a low setting before testing to avoid damaging the door or mechanical opener. Reversing sensors must be properly positioned and aligned (the sensors should be 4 to 6 inches above the floor slab).

- The mechanical opener control should be mounted at least 5 feet above the floor and remote controls should be kept away from children. When opening or closing a door make sure the area around the door is clear and keep children away from the door.

- Review door and mechanical opener manufactures instruction manuals and warning labels.

GARAGE DOOR AND MECHANICAL OPENER ADJUSTMENTS

Refer to the manufacturer's instructions before performing any adjustments or have this work performed by a trained professional. Websites for door and mechanical opener manufacturers often have safety information or instruction manuals.

A typical modern mechanical opener will have several adjustment controls on the mechanical opener. Most controls be accessed without removing the mechanical opener housing (controls are sometimes located behind light covers). The safety reverse adjustment controls are typically labeled “close force” and “open force”, corresponding to the direction of travel. Labels should indicate which direction to turn the control to increase or decrease the force needed to reverse the mechanical opener. If you are unsure of the setting it is best to move the control to a light setting so that the door or mechanical opener will not be damaged when testing (many metal and plastic doors can be easily damaged if the setting is not relatively low).

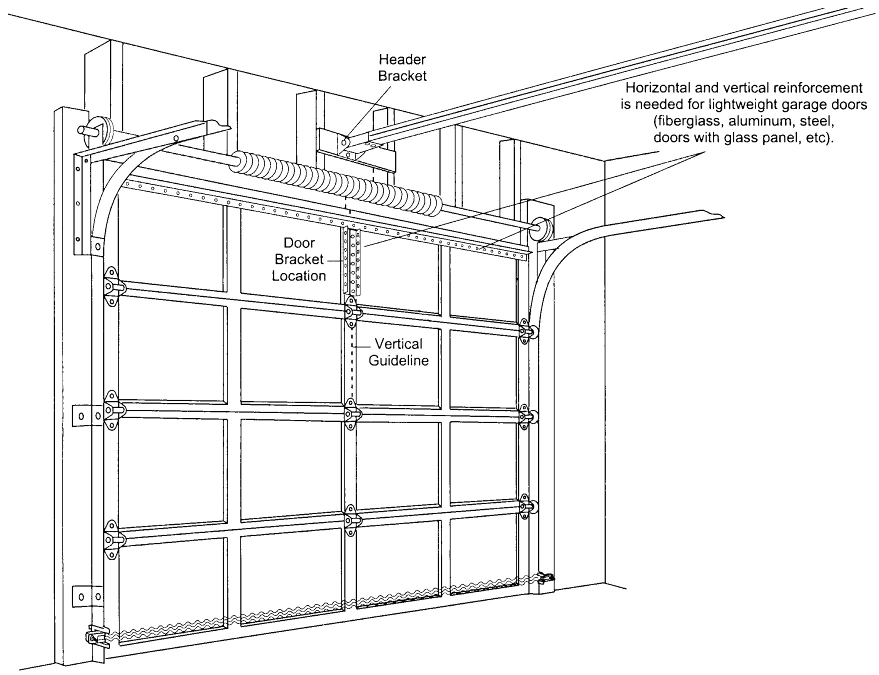
Another typical adjustment for mechanical openers is the travel limit controls. These controls determine where the door stops when open and closed. If not properly set, the door may not close fully, may distort the mechanical opener drive shaft, or may not open fully. These controls are adjusted when the mechanical opener is installed and typically do not need further adjustment.

Safety sensors are typically mounted on the door tracks or adjacent to the tracks. The sensors are required to be located between 4 and 6 inches above the floor. If the sensors are miss-aligned or are defective, the door should not operate. Mechanical openers are designed so that if the sensors malfunction the door can only be closed if the control button is held in the activated position. Try to align the sensors if this occurs, or consult the manufacturer's instructions for further information.

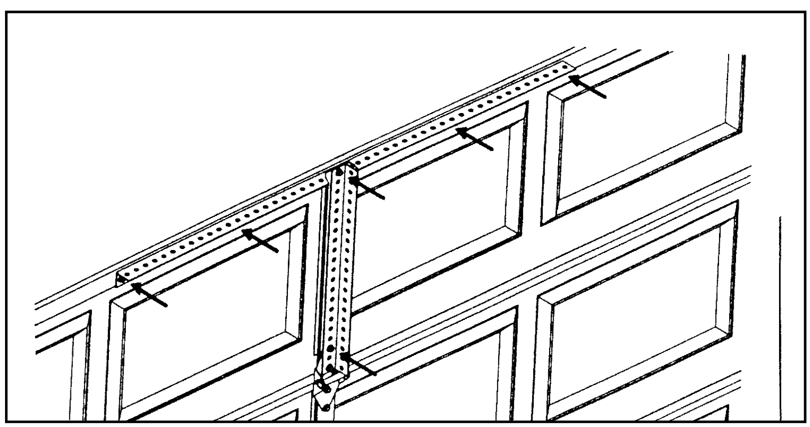
BRACING REQUIREMENTS FOR GARAGE DOORS WITH MECHANICAL OPENERS

Most metal and plastic or fiberglass doors require some form of bracing near the top of the door to prevent bending, buckling, or cracking. Doors are often damaged because of the lack of proper bracing. Review the door or mechanical opener manufacturer's instructions for bracing requirements. If information is not available, the diagrams shown below should be adequate for most doors. Some door manufacturers have optional bracing available for use with mechanical openers.

Most single car wood doors do not require additional bracing when a mechanical opener is installed. Wide wood doors usually come with any necessary bracing. Some single metal garage doors and most wide metal garage doors come with some form of bracing installed. This bracing is usually adequate for use with a mechanical opener.



Typical Garage Door With Bracing
(Diagram from Liftmaster mechanical opener instructions)



Detail of Typical Garage Door Bracing
(Diagram from Clopay garage door instructions)

Note: Angle iron for braces should be approximately 1 1/4" x 1 1/4", approximately 3/32" thick. Use 1/4" or 5/16" bolts with nuts and lock washers. If bolts cannot be used because of the type of construction, use 1/4" or 5/16" sheet metal screws. Arrows show location of fasteners.