

Garage Door Maintenance

Garages have become necessities in most of the US; it's unusual to find a house without a garage of some kind. More than that, two-car garages are standard and three-car garages are common in some neighborhoods.

This means that most suburban homes have one or two garage doors, and sometimes three. Two types of doors are commonly used: 1-piece (also called tilt-up or up-and-over) and sectional.

Two other types are less common: the swing-hung (side hinge) and roll-up garage doors.



Typical Sectional Garage Door

Since sectional doors are by far the most common type, this presentation will focus on them. If you have another type of garage door, many of the basic principles still apply.

This presentation also assumes a garage door opener, which is more common than not.



Garage doors are probably the largest and heaviest moving parts of your home. As such they naturally have great potential for damage or injury.

Many garage door maintenance tasks can be handled by the homeowner but if you aren't confident about something, play it safe and get help from a professional or handyman.

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Emergency Release

In case of power failure or opener malfunction the garage door can still be opened and closed by hand. There is always an emergency pull cord on the overhead rail where the door attaches to the opener. Pulling down on this cord decouples the door and allows it to be moved freely.

This is useful to get your car out when the opener isn't working for any reason. It is also used for garage door maintenance when you want to test door balance, spring tension and check smoothness of operation.

Note that when the door is uncoupled from the opener, it can be opened by anybody, so use the garage door latch to lock it.



Emergency Release Cord



Door can move freely when lever is pointing down



Flip lever back horizontally to re-connect door to opener

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Opener Safety

Since 1993 garage door openers have at least two safety systems to minimize injury or property damage. If your opener is older, it may not have these features and you should seriously consider getting a new unit.

These safety features should be tested annually, if not more often. Refer to the opener manual from the manufacturer for specific test procedures. A general guideline is given here.

First is the sensor near the floor which stops the door from traveling down if the safety beam is broken. The intent of this sensor is to prevent injury in case a person or animal should be in the path of the closing door.

Test this sensor by commanding the opener to close the door using the wall button or remote control. While it is traveling down, wave an object such as a broomstick in the sensor path; the door should stop moving immediately and go back up again (reverse).



Break the beam while the door is traveling down; the door should stop and then go back up.



Use a breakable object to block the beam. Never place a body part in the path of a moving door.

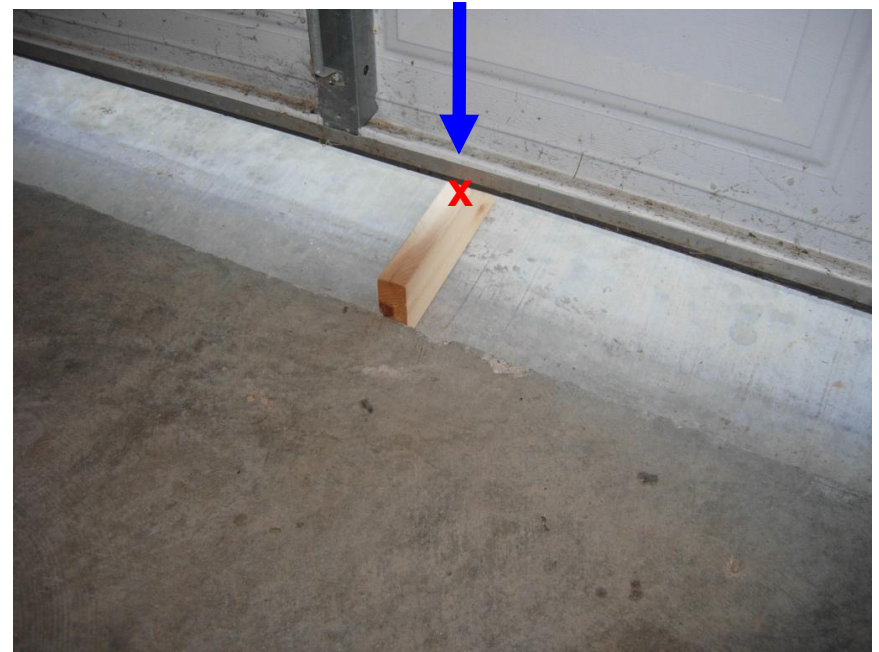
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Opener Safety

The second safety feature of modern garage door openers is a force limit sensor which stops the opener when it is applying too much force in the normal range of travel. This feature can sense a mechanical obstruction which might be crushed by the moving door or damage the door by forcing it too hard.

Test this sensor by placing a sturdy object on the floor (such as a scrap of 2x4 or a rolled up newspaper) in the door path but not breaking the safety beam.

Command the opener to close the door using the wall button or remote control. When the door hits the object, it should stop moving without buckling the door and then go back up again.



Prevent the door from reaching bottom with a sturdy object. The door should reverse without buckling.

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Opener Safety

If the safety beam does not function properly you should have it repaired.

If the force sensor does not reverse properly, it can be adjusted. There should be separate force adjustments screws for both up and down direction.

Increase opener force should it reverse with little or no obstruction (too sensitive).

Decrease opener force if it drives the door too hard against the test object, which tends to buckle the door (not sensitive enough).



Up and down safety reversal force setting adjustments

Opener Travel

Like the force sensor, there may be adjustment screws for open and close travel limits on the opener. It is best to make these adjustments first before setting the force limits.

Other openers have limit switches at the ends of the carriage. Up/down travel is adjusted here by moving the switches.



Up and down travel limit adjustments

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Visual Inspection

A visual inspection of your garage door is perhaps the most important maintenance item and is also the easiest. Many problems are uncovered just by looking. Do this monthly if you can. Check the following items with the garage door closed:

Make sure the springs are intact and not showing signs of fracturing, twisting or unusual wear. Note there are two types of springs that might be used.



Overhead torsion spring



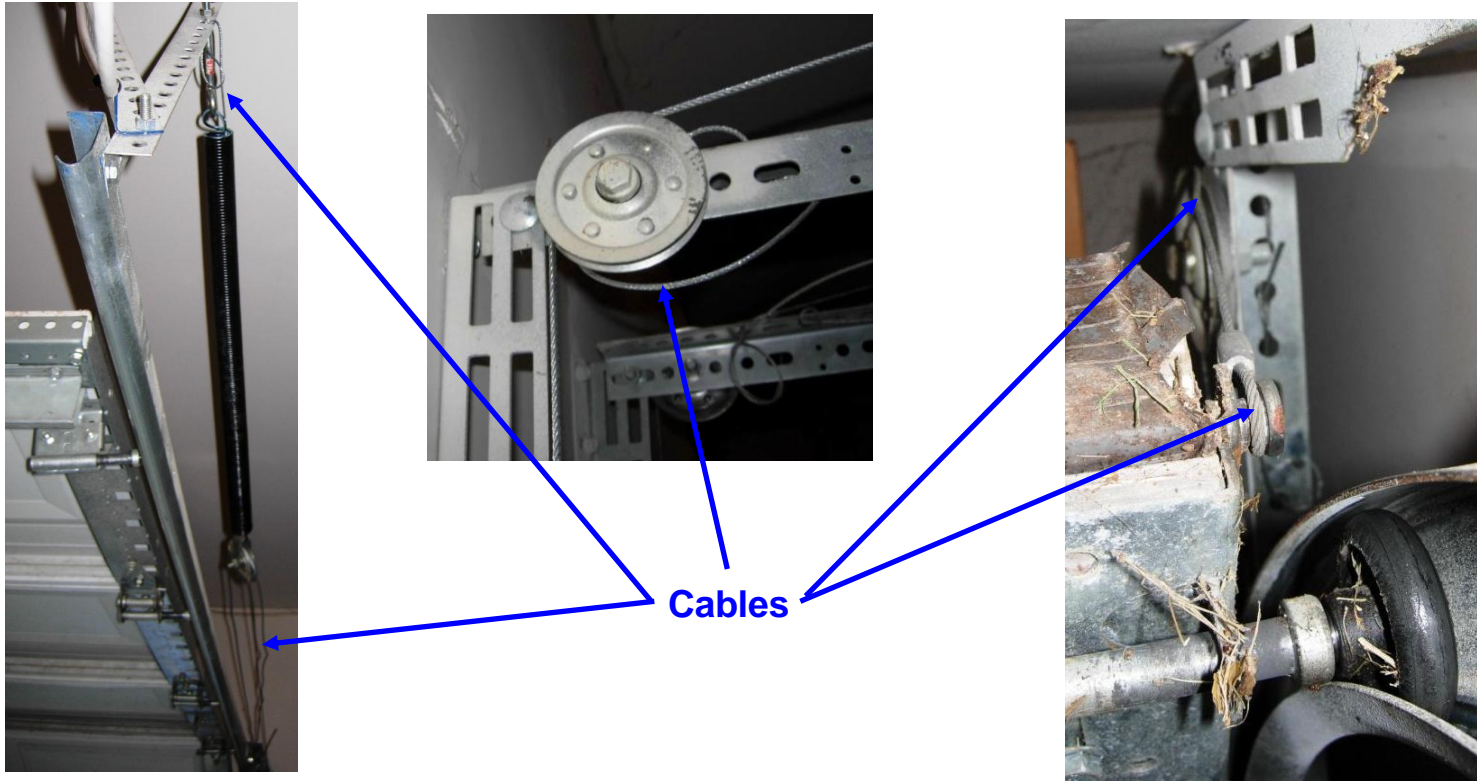
In-line extension springs

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Visual Inspection

There are also cables which connect the door to the pulley or extension springs to the door. Extension springs also have additional safety cables to prevent the spring from flying out should the spring break.

Visually check all cables to make sure none are fraying or cutting through, especially at wear points. Follow all cables the entire length. The pulleys should also be inspected.



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Visual Inspection

The rollers should be round and smooth, unbroken, clean, and lined up inside the door track. The roller mounting brackets should also be in good condition. Straighten or replace any bent brackets.

The guide track should be lined up nicely for smooth operation with no twists, bends or gaps. The track mounting brackets should also be secure with no loose fasteners or bends.



**Lower roller
brackets are
especially prone to
bending**



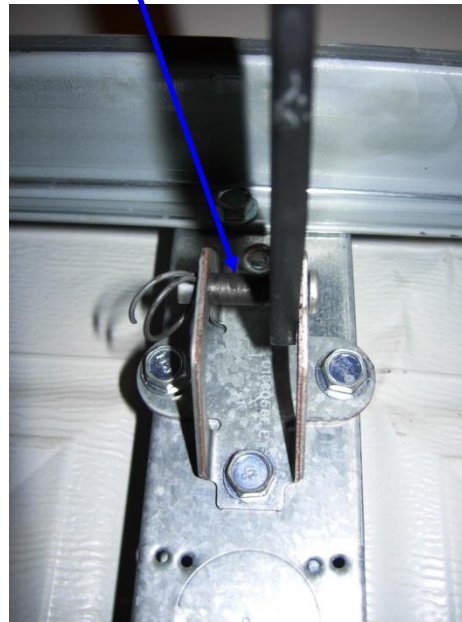
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Visual Inspection

Finally, connecting and mounting fasteners should be checked to make sure there are no bolts or nuts coming loose or breaking. A quick inspection of the hinges and pins on the connecting arm is also appropriate.



Bolts



Pins

Hinges



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Lubrication

Lubrication of both door and opener is also recommended and should be done per instructions in the manuals. Generally this involves spraying lubricant on all hinge points, rollers and opener chain or screw drive. Do not lube the roller guide track. Special garage door lubricant is available but other types will do (silicone or Teflon are great). WD-40 is good for cleaning dirt and grease away but is not technically a lubricant by itself. Avoid using lithium grease which tends to get sticky or gummy with heat and over time.



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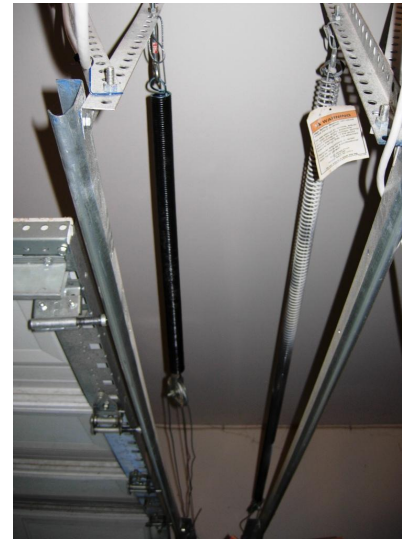
Balance / Springs

Springs act as a counterbalance to door weight so that it is possible for a person or opener to move the door up and down. With no springs the door is too heavy to move. Balance is the optimal tension of the spring so that the door neither pulls up or drops down on its own. Balance makes moving the door as easy as possible.

Check door balance by closing the door and releasing the opener mechanism. Manually raise the door. Verify that it moves smoothly and easily without tremendous effort. If it is difficult to open or does not remain open, the spring(s) may be broken.

Lower the door to about mid-point and let go. It should remain in position by itself at 3-4 feet if perfectly balanced. If it drops shut or pulls open all the way, the spring(s) need to be adjusted for proper tension.

The door should also be balanced with equal tension on both sides (door should be level). If it pulls up more on one side or the other, extension spring adjustment or replacement is advised. Side to side unbalance is unlikely with torsion springs by nature of the design. In any case, **torsion springs should never be touched by anybody but a qualified service person.**



Extension springs



Torsion spring



Web links to garage door and opener maintenance info:

<http://www.garagedoorcare.com/garage-door-operation/garage-door-maintenance.html>

<http://www.naturalhandyman.com/iip/infgar/infgar1.html>

<http://www.garagedooropenerguide.com/maintenance.html>

<http://www.dasma.com/SafetyGDMaint.asp>

Web links to garage door and opener manufacturers:

<http://www.genie-garage-opener.com/geniehelpinfo.html>

<http://www.chamberlain.com/doityourself/support>

<http://www.clopaydoor.com/installation-and-care.aspx>