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Glossary of Garage Door Terms and Definitions

Garage doors open – garage doors close. Cars go in. Cars go out. With the garage door closed, the cars are safe and dry. But what if that door didn't open?

How to save hundreds of dollars in garage door repairs.

With the hustle and bustle of life today, things like garage doors usually get taken for granted. And if they suddenly stopped working, think of how fast they'd occupy our minds. We'd certainly do whatever we could to get them fixed ASAP, wouldn't we?

But to fix garage doors, we need knowledge – knowledge most of us probably don't have. And that's why we've assembled this glossary of garage door terms and definitions, so you'll know what's going on when that repairman or builder starts throwing garage door jargon at you. So read on, and get a quick education. It'll be a lesson well learned.

- **Astragal**
  Astragal is the name of the weather-stripping that runs along the bottom of the garage door, stopping any drafts or rain from entering the garage.
- **Back hangs**
  Back hangs are the vertical supports that hold the horizontal track in place, and stop the door from moving around in the track.
- **Backroom**
  Relating to garages, the backroom is NOT the room where you go to play cards with the boys. It actually refers to the amount of space required to install a garage door, and is measured from the door to the back of the horizontal track.
- **Bottom bracket**
  There are two bottom brackets, or corner brackets, on a garage door – one on the right, and one on the left. The lifting cables are attached to the bottom brackets on most sectional doors.
- **Bracket-mounted track**
  Sometimes, a vertical track is attached to a doorjamb with angle brackets. This is referred to as a bracket-mounted track.
- **Cable drums**
  Cable drums are an important part of a tension spring system. As the garage door opens, the lifting cable winds around the grooves in the cable drum. It keeps the lifting cable in line, so it doesn't get tangled.
- **Cable safety device**
  A cable safety device stops the garage door from falling if the cable breaks.
- **Cable stop**
  A cable stop is another safety device, attached to the end of the cable, that stops it from slipping through the drum.
- **Cable**
  The cable, or lifting cable, connects the bottom bracket to the counterbalance mechanism.
- **Center hinge**
  The center hinge is a flat hinge mounted on the door section that allows it to negotiate the curve between the vertical and horizontal tracks.
- **Center support bearing**
  The center support bearing is mounted in the middle of, and above, the door, supporting the spring shaft.
- **Clearances**
  You'll need to know your clearances before you start your garage door

installation. That refers to how much backroom, headroom and sideroom, or the distance around the walls of the garage, is needed to efficiently install your door.

- **Curtain**
  The curtain refers to the face of the door that goes up and down, or side-to-side.
- **Cycle**
  One cycle of a garage door goes from when it's fully closed, to fully open, and then back again to fully closed. Torsion spring doors are rated by how many cycles they're supposed to safely complete in their lifetime, for example 25,000, 50,000 or 100,000 cycles.
- **Dead load**
  A dead load refers to a load that doesn't move, like a garage door as it rests in the closed position.
- **Door frame**
  The door frame holds the garage door with two vertical pieces and a horizontal header, or top piece.
- **Door movement**
  Door movement refers to how much room a door has to lift in relation to the inside measurements of the garage. Door movement may be standard lift, full vertical lift, high lift, or low headroom.
- **Door size**
  When specifying a door size, you give the width first, then the height.
- **Double-thick glass**
  Double-thick glass is around 1/8" thick.
- **Extension springs**
  Extension springs are one of the two types of spring systems used to carry the weight of a garage door as it lifts. They stretch on either side of the door, running from a pulley attached to the door, to the rear track hanger.
- **Flag bracket**
  A flag bracket connects the vertical and horizontal tracks.
- **Flush design**
  A garage door with a flush design is flat, with no indentations or grooves.
- **Galvanizing**
  Galvanizing is the process of coating steel to prevent rusting. All steel garage doors are galvanized.
- **Garage door opener**
  Garage door openers consist of all the hardware that combines to open and close a garage door. A garage door opener can be operated automatically by remote control.
- **Garage building plans**
  Garage building plans consist of all the garage blueprints and designs that, when followed carefully, will produce the garage of your dreams.
- **Garage door screens**
  Garage door screens are similar to any regular screen door, but they're big enough to fit in the opening of a garage door, keeping out bugs and dust.

- **Gauge**
  Gauge refers to the thickness of steel. The higher the number, the thinner the steel.
- **Hinges**
  Hinges are used to connect the sections of a garage door, allowing the door to bend as it runs up the vertical track and onto the horizontal track.
- **Horizontal track**
  The horizontal track runs parallel to the garage ceiling, and supports and guides the door as it reaches its fully-open position.
- **Insulation**
  The insulation in a garage door can be made of polystyrene foam or polyurethane filler. Polyurethane insulates better than polystyrene, but polystyrene lasts longer.
- **Jamb seal**
  The jamb seal is the weather-stripping that runs around the door jamb, stopping drafts and rain from entering the garage.
- **Jambs**
  The jambs are the vertical pieces on either side of a door frame.
- **Lift-handle**
  A life handle is sometimes installed on a garage door for use if manual operation is required.
- **Lites**
  Lites are the industry's word for glass or clear plastic windows in a frame. Some lites are double-glazed for insulation.
- **Low headroom**
  If your garage ceiling is lower than normal, you may need special low-headroom track hardware accessories.
- **Muntin**
  A muntin is a piece of material that separates glass panes in a door.
- **Opening size**
  The opening size refers to the distance between the walls and the doorjambs in a garage door opening.
- **Overhead garage door**
  An overhead garage door is one that's built in hinged sections, allowing it to travel up and down tracks as it opens and closes.
- **Pane**
  A pane refers to one section of a door.
- **Perimeter seal**
  A perimeter seal kit includes enough weather-stripping to completely surround a garage door.
- **Photo-electric sensor**
  Photo-electric sensors are required by law for safety reasons. They're mounted 6" above the ground in the doorway, and will reverse the direction of the door if it hits an obstruction. If the sensor isn't working, the door won't work, either.
- **Pneumatic sensing edge kit**
  A pneumatic sensing edge kit serves the same purpose as a photo-electric sensor.

It consists of an air hose that runs along the bottom of the garage door that'll reverse the direction of the door if it comes into contact with an obstruction.

- **Portable garage**
  Portable garages are made of UV-resistant and fire-retardant tarps or plastic sheets supported by metal tubing, that'll house oversize items, like boats or RVs.
- **Radius**
  The radius is the curved part of a track between the vertical and horizontal pieces.
- **Rain stop**
  A rain stop, or water stop, is a piece that runs across the garage floor, and holds the door flush against the outside finish when it's closed.
- **Rear track hangers**
  Rear track hangers attach the horizontal track to the ceiling, thus stabilizing it.
- **Roller assembly**
  The roller assembly consists of an axle with a wheel attached, that runs up and down the track.
- **Rollers**
  The rollers are the wheel part of the roller assembly that roll freely using ball-bearings.
- **Safety spring containment**
  Safety spring containment is a system found in extension springs, whereby cables run through the inside of the coil, holding it in place in case it breaks, thus avoiding injury.
- **Sectional doors**
  Sectional doors are just that – doors made up of sections hinged together, thus allowing it to bend around the track as it opens and closes.
- **Shaft bearings**
  Shaft bearings support the weight of the counterbalance system against the weight of the door.
- **Sideroom**
  Sideroom is a measurement you need when you're figuring out what size door system you need. It represents the distance from the door, back to the closest obstruction.
- **Spring assembly**
  The spring assembly is the hardware that transfers the weight of the door to the counterbalance system.
- **Stop molding**
  The stop molding is the wooden or plastic piece that's attached to the outside of the door jamb, to seal out weather and light.
- **Top header seal**
  The top header seal is the piece of weather-stripping that runs along the top of the garage door.
- **Torsion spring counterbalance assembly**
  The torsion spring counterbalance assembly is all the hardware that combines to evenly distribute the weight of the garage door as it opens and closes.
- **Torsion springs**
  Torsion springs are the other type of spring system (as opposed to extension

springs) that aid in raising and lowering a garage door. They're mounted above the door, and are loosened and tightened by the cables as they wind around the drum when the door is opened and closed.

- **Track**
  The track is the part that holds and guides the roller assembly. It runs vertically to the top of the garage door, then horizontally parallel to the ceiling.
- **Winding sleeves**
  The winding sleeves are the hardware that convert the tension as it enters the tension spring, thus distributing it into a manageable weight for the spring system.
- **Windload**
  Windload refers to the force of the wind as it hits a garage door in the closed position. In hurricane or high-wind areas, doors are required to carry up to 110mph windload resistance.

That's the basics, folks. We've included all the important garage door springs and parts so you'll know what you need for your garage door installation, whether you're doing it yourself, or hiring a professional. If you want complete garage door packages, then go online – there's a wide variety of styles available.

These days, garage door manufacturers are up-to-date with your demands, continually creating better looking and better functioning garage doors. So, no matter whether you're remodeling or building a new house, and no matter how far out you might think your ideas are for a garage and garage door design, there's probably one waiting for you. So go ahead –start that project. Garage doors today are as efficient and aesthetically-pleasing as ever. And when your garage is finished, your car will be safe and dry – and so will you!

Scenario 1 – Buying a New Home

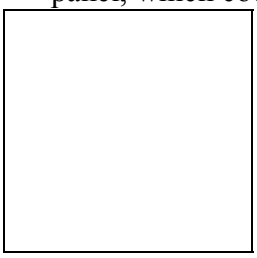
You have bought a brand new home that has metal (steel or aluminum) hollow pan (insulated or non-insulated) garage door(s) but no electric opener(s). You call a company to install a new opener or you install one yourself.

Runs great!

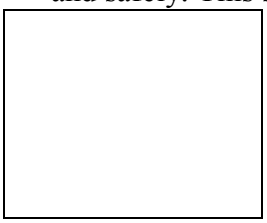
But there is something you should know:

A. Without knowing the proper way to install an opener and a door together. You would not know that you could be missing two important pieces that will save you hundreds of dollars in repairs. The persons installing the doors will save money by putting the thinnest grade of door with as least amount of parts necessary. The company installing the opener do not care enough to tell you that you could avoid future problems by having an operator support bracket and a strut or brace

installed on the door. Without these pieces, the top panel will be damaged from the constant pulling up and down on the door. Which will lead to replacing the panel, which could cost you hundreds in repairs.



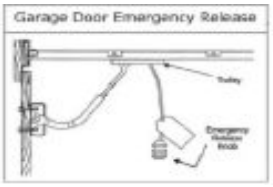
B. This problem normally occurs within the first three to five years.
C. If a repair call on one door or opener is over $350.00, you are paying to much.. The most expensive repairs should range in between $250.00 - $350.00. If there is that much damage, then you should replace the door or opener. Or the company is over charging you for the repairs you are having done. (Considering that the panel is the most expensive part of a door).
D. Routine maintenance is very important in keeping your door running smoothly and safely. This should be done once a year.



E. You should inspect your door once a month for any problems or inconsistencies that may have developed.
F. If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com
G. I could save you lots of money.

Scenario 2 – You have a door with windows.

You will notice that on this picture that the windows go all the way across. This is not recommended unless you live in a gated community or highly secure area. The reason is because this is an invitation for burglars who know that they can have easy access to through your garage by breaking the center window and pulling on the emergency release cord on the electric operator.



This allows the burglar to open the door and go in and take there time in taking whatever they want especially if it faces an alley.

Many people have suffered great losses do to this very scenario. Don't be a victim! Police do not respond as quickly as you think they should to alarms. A crook can see what is in your garage by driving by when the door is open and have an idea on what they are getting. They can know your work schedule and your habits.

Once again, if you replace your top panel with a solid panel or purchase a door without windows. This could save you hundreds of dollars and the headaches from being burglarized. If you absolutely need windows, then get two or one on each end to suffice for visual purposes or for light to come in.

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Scenario 3 -My door won't close or go's a few inches stops and comes back up.

- Openers sometimes have infra-red sensors that mount on either side of the garage door a few inches off the floor.
- Check that they can "see" one another. If they cannot the opener thinks there is something in the way of the garage door and will not close.
- Make sure the wires that go to the back of the sensors are not broken.
- Make sure bugs have not made a home in the lens part of the sensor. Here in Texas mud doppers love to put mud in these lenses and make a home of them. Spiders also like to build webs or even leaves blown in from outside can cause the infrared to malfunction.
- Make sure they are not in shock. Voltages higher than normal, like lighting storms and power company voltage spikes can "shock" an infra-red. It will cause it to not work and not allow the door to close.
- Garage door companies charge any where from $69 - $199 to repair this problem without telling you that it was a simple fix.

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Scenario 4 - My remote has stopped working or has short distance.

- Check your battery. You will be surprised how many times most calls I've gone on that this was the only problem.

- Your RF coil in your remote could be off freq.
- Your receiver could be bad.
- Check your dip switches in your remote. Make sure your receiver matches what's in your remote . Not all remotes have dip switches. Refer to you user manual.
- Your contacts in your remote could be dirty.
- A remote can wear out and need to be replaced. 3-5 years of use
- If you can get an original remote, do so, they work better than universals and get better range.
- If you have an old remote that they no longer produce, I recommend a universal receiver kit made by Liftmaster. As long as you have a working wall button. It will work.

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Scenario 5 - My Garage door opener opens by itself. Also my pushbutton no longer works.

- Most times it's the customer's own remote that is causing false operation. Open your remote and make sure that the contact strip is not broken and laying flat on your circuit board.
- Check that your pushbutton wire is not shorted out.
- Change your code setting.

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Scenario 6 - My opener hits the floor to close then opens right back up.

- Your front limit switch is either bad or out of adjustment. - Your down limit setting is out of adjustment.
- Your door is hitting an object when closing.

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Scenario 7 - My door opener just hums and will not start.

- Check your starting capacitor. This is the part that gives the opener an extra boost to start. Some times these parts leak or smoke when they go bad. If this happens most times the opener hums and will not start.
- Check to see the opener is not bound up. The screw on a Genie should always turn easy.
- Check to make sure that the opener is engaged to the opener.

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Scenario 8 - My opener is dead. No noise or movement.

- Check to make sure there is power to your outlet the opener is hooked to. Be careful!
- Check to see if the low side of the transformer is producing correct voltage.
- Logic board or circuit board could be bad.
- Pushbutton wire could be shorted.

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Scenario 9 - My opener makes a loud chattering noise when just about open.

- Make sure your up limit switch or up limit setting is correct. The opener can ram itself into the motor head and cause serious problems.
- Grease your opener and door.

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Scenario 10 - I can hear a click from the door-opening unit but it won't open.

- It sounds like a bad connection.
- If it is a linear or multi-code check the solder connectors were the three wires from the receivers circuit board hooks to the board. Where the three solder connections are look very, very close. Most of the time the solder connection is broken. It is a very small break, you almost can't see it. But this is why when the temp changes the metal expands and the connection is made.

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Scenario 11 – Is my opener strong enough to lift my door?

Before installing a garage door opener, you should ensure that the door operates easily manually. The rule of thumb is that if a ten year old child can lift the door with little or no effort, the door is well balanced. If the door is hard to lift, you should have a professional authorized dealer check the springs and other hardware on the door before installing an opener.

Generally speaking, if you have a two car garage door, you can use either the one third (1/3) or one half (1/2) horsepower garage door opener.

Remember that the easier it is to open the door manually, the easier it will be for the garage door opener to open the door and that means the longer your garage door opener will last.

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Scenario 12 - Which model is better, the chain drive, the belt drive or the screw drive?

Each garage door opener has its advantages. The chain drive and belt drive are good in all applications, and the screw drive is best used on one piece doors that tilt rather than go up on a track. The screw drive runs a little slower than the other two garage door openers.

The belt drive is the quietest garage door opener and would be recommended for garages that have a room above them.

The chain drive is the garage door opener that most manufacturers have been making the longest and offers dependable performance year after year.

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Scenario 13 - What if I have a eight, nine or ten foot high door?

The way the garage door opener comes out of the box it will open up to a 7 foot door. This is standard height. I always recommend that you buy a professional model. See the chart for comparison differences.

WHY BUY AN ELECTRIC OPENER FROM "THE PROFESSIONALS?"

PROFESSIONAL DEALERS	vs.	RETAILERS
FULL CHAIN / FULL BELTS / FULL SCREW	.....	HALF CHAIN / HALF CABLE
FULL MULTI-YEAR WARRANTIES STANDARD	.....	90-DAY WARRANTIES STANDARD
ONE PIECE STEEL RAILS	.....	3 PIECE RAILS REQUIRING ASSEMBLY
VIBRATION ISOLATORS STANDARD	.....	NOISIER UNITS WITHOUT ISOLATORS
PROFESSIONAL INSTALLATIONS	.....	RETIRED "JOBBERS" INSTALLING
TRAINED TECHNICIANS TO DIAGNOSE AND FIX DOOR PROBLEMS	.....	TYPICALLY LACKING GARAGE DOOR REPAIR PARTS AND EXPERIENCE

Our chain drive garage door openers can open up to 10 feet high with the proper extension kit. We have a kit for an 8 foot door and we have a rail assembly for 10 foot high doors. Both of these are optional equipment. Our screw drive and belt drive garage door openers can be extended to open an 8 foot high door. Once again, it is recommended to buy a solid rail professional model, especially for doors 8 ft high or higher.

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Scenario 14 - How do I test the automatic reverse system?

Your garage door opener has two safety systems. The first and most apparent is the Safety Sensor System® which is located 4 to 6 inches above the garage floor on both sides of the door. To test the sensors, first open the door, then place a carton or an item that completely blocks the infrared beam of the sensors. When commanded to close, the door will not move more than an inch and the opener's light bulb will flash for 5 seconds, equaling 10 flashes. Removal of the carton or item will allow normal operation. If the safety sensors become misaligned or obstructed, the garage door can be closed by pressing and holding the wall door control button until down travel is completed.

The second safety feature is a built-in automatic reverse system that will reverse upon striking an obstruction, provided the opener and door are installed and adjusted properly.

After adjusting the opener, always test the safety reverse system. We recommend repeating this test monthly.

> Place a one inch board (or 2 x 4 laid flat) on the floor, centered under the garage door. Operate the door in the down direction. The door must reverse upon striking the board. If it does not,

refer to your owner's manual. If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

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. Failure to pass the above test could result in serious injury or death.

Please remember to repeat this test once a month.

Scenario 15 - Why does my garage door reverse as it is closing?

All garage door openers manufactured after January 1, 1993 include the federally mandated Safety Sensor Reversing System®. These sensors are found 4 to 6 inches above the garage floor and protect the door opening with an invisible beam. If there is any problem with the safety sensors, the light bulb on the opener will flash 10 times (This may very depending on brand of opener) and the garage door will not close unless constant pressure is applied to the wall button.

Both the sending and receiving sensors have a small LED light to help us align and troubleshoot them. The LED on the sending eye will glow regardless of alignment or obstruction. The LED on the receiving eye will go out when the beam is obstructed, and it will flicker if out of alignment.

The first step is to make sure that each sensor has a steady glowing LED light. If both lights are on, but one appears to be flickering very slightly, chances are the sensors are misaligned. To check for misalignment, first obstruct the beam of the sensors so that they cannot see each other. When the beam is blocked, the indicator light on one of the two sensors will temporarily go out. This is the receiving eye. Remove the obstruction so the light on the receiving eye comes back on. Then loosen the wingnut on the back of this sensor. Move the sensor around and make sure the green indicator light is bright and steady before you retighten the wingnut. This can take a few attempts before it is back in alignment.

If an indicator light is out on only one of the sensors, check for a possible loose wire. The sensor wires are attached to the white and black terminals on the back or side-panel of the overhead motor unit. Make sure the wires are securely connected to the terminals. If everything looks okay here, check the wires at the sensors. Move the wire around where it is connected in the back of the sensor. If the indicator light comes on, you have a short in the wires and/or sensor, and will have to replace the sensors.

If the problem seems to occur only during the daytime, check to make sure the receiving eye is not in direct sunlight. If this is the case, remount or adjust sensor back toward the side of the garage.

After any adjustment to the sensors, the opener itself or the door, test both reversing systems.

To test the safety sensors with the door open, press the remote control or pushbutton to close the door. Break the beam using your hand or a carton. The door should immediately reverse to a fully open position and the opener bulb will flash 10 times (This may vary depending on brand of opener).

Next, place a one inch board (or 2 x 4 laid flat) on the floor, centered under the garage door. Operate the door in the down direction. The door must reverse on striking the board. If it does

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Failure to pass the above tests could result in serious injury or death.

Please remember to repeat this test once a month.

Scenario 16 - How do I control my limit adjustments?

The limit adjustments are accessed through the cover or end panel of your garage door opener by using a flat head screwdriver. Refer to your owner's manual for the exact location on your specific model.

Each adjustment screw attaches to an individual switch, one for up and one for down. Increasing the down, for example, allows the motor to run longer, moving the trolley farther down the rail, and consequently lowering the door onto the floor. Decreasing the down acts in reverse. The more you decrease, the less time the motor runs, therefore stopping the trolley and the door before it completely closes.

This same principle applies to the up travel adjustment. Turn the screw towards the increase and the door will open farther. Turning the screw towards the decrease button will have the opposite effect.

Things to remember during this adjustment phase:

- One complete turn of the adjustment screw is equivalent to approximately 2 inches of travel.
- Turning the adjustment screw the direction of the arrow always increases travel. Turning it the opposite of the arrow decreases travel.
- The motor may overheat and shut off with repeated operation. Simply wait at least 30 minutes and try again.
- Always test the safety reverse system after adjusting the opener. We recommend repeating this test monthly.

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Scenario 17 - How do I make force adjustments?

The force adjustments control the pressure used to open and close the door. A new garage door opener from the factory is set to the lowest possible force adjustment. If you have a properly-

balanced door, the forces required to open and close the door should be minimal.

The force adjustments are usually located on the rear of the garage door opener and/or under one of the light lenses, if your opener has two lights. If you have lights on the side of your opener, the force adjustment will be located under the right light lens. The force adjustments are labeled with an arrow indicating open or close and numbered 1 to 9, with one being the lowest force and nine the highest. The force adjustments can only turn 260 degrees, or ¾ of a complete turn. Changes to the forces should be done in 10-degree increments. Please remember that too much force will interfere with the proper operation of the safety reversal system. Do not increase the force beyond the minimum amount required to close the door. Do not use the force adjustments to compensate for a sticking, binding, or unbalanced garage door.

After adjusting the opener, always test the safety reverse system. We recommend repeating this test monthly.

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If an indicator light is out on only one of the sensors, check for a possible loose wire. The sensor wires are attached to the white and black terminals on the back or side-panel of the overhead

motor unit. Make sure the wires are securely connected to the terminals. If everything looks okay here, check the wires at the sensors. Move the wire around where it is connected in the back of the sensor. If the indicator light comes on, you have a short in the wires and/or sensor, and will have to replace the sensors.

If the problem seems to occur only during the daytime, check to make sure the receiving eye is not in direct sunlight. If this is the case, remount or adjust sensor back toward the side of the garage.

After any adjustment to the sensors, the opener itself or the door, test both reversing systems.

To test the safety sensors with the door open, press the remote control or pushbutton to close the door. Break the beam using your hand or a carton. The door should immediately reverse to a fully open position and the opener bulb will flash 10 times.

Next, place a one inch board (or 2 x 4 laid flat) on the floor, centered under the garage door. Operate the door in the down direction. The door must reverse on striking the board. If it does not, refer to your owner's manual. If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com
I could save you lots of money.
Failure to pass the above tests could result in serious injury or death.

Scenario 19 - What do I do if my remote control does not open my garage door?

The average range or distance for your garage door opener to respond from a hand-held remote is approximately 3-5 car lengths. If your opener does not respond from a lesser distance, you may have an interference problem causing poor range. Following are examples of what can be done to improve your range:

- Try a fresh battery in your remote control. A weak battery will transmit a weak signal, which produces poor range.
- Make sure your antenna is straight and pointing down toward the floor.
- Clear out the receiver and reprogram the remote control(s). Erase all codes in the receiver by holding the "Smart/Learn" button for 6 seconds (This may be different depending on age of unit and brand, refer to owners manual). The adjacent LED will go out. Reprogram your remote to the opener. To do this, simply press and hold your remote control button, push and release the smart/learn button. The opener light bulb should go on and off indicating the code is learned. Release the remote pushbutton and test the remote to see if your range improved.
- If your door always closes, but you have to get closer to the door to make it open, your signal might be “blocked”by your door. Occasionally steel doors will act as a shield and the remote signal has difficulty transmitting through the door. For this scenario, adding a co-axial antenna to your opener and relocating the antenna outside should improve your range. Contact your local Professional Garage Door Dealer for more information on an extension kit.
- Disconnect your pushbutton wires from the overhead motor unit and test your remote control. If your range improves, try relocating your pushbutton wires. If your pushbutton wires are near electrical lines, they may cause RF or noise. Moving the wires away from the source may help.
- Do you have more than one remote control? If so, is the problem persistent in all remotes, or

just one? If the problem is with only one, change the battery and reprogram. If no improvement is noted, replace the remote control.

- Do you have two or more garage door openers? If so, is the range problem evident in one unit only and not the other? If so, unplug the opener that is working fine, and then test the range on the opener you have been having problems with. If improvement is noted, you may have a defected unit. Call the manufacturer for customer service or your local garage door professional.
  Various objects will occasionally cause interference. Some items that have been known to cause interference are TV cable, cable amplifiers, surge protectors, fluorescent lights, battery charging devices such as power tools & golf carts, and anything that utilizes a timer such as sprinkler systems, lights, and alarm systems. If you have any of these devices, you can unplug or disable the device temporarily to see if your range improves. If it is determined that something in the area is causing the problem, and it cannot be isolated or eliminated, please contact your local Garage Door Dealer for additional suggestions.

Scenario 20 - My remote control has 8 or 9 switches. How do I code it?

If your remote control has more than nine code switches, If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

I could save you lots of money.

If your remote control has eight or nine switches, the replacement transmitter will be a model 750CB. This remote will work with all of our openers that were manufactured between 1984 and 1996. It will not work with the new Security**+**® Rolling Code Garage Door Openers. This could vary depending on brand of product.

If you have a current remote with 9 switches, simply match the switch settings in the new remote to the switch settings in the old remote. The new remote control should automatically work.

If your old remote control or receiver has only eight switches and they are numbered **1-8**, match switches 1-8 in the new remote to switches 1-8 in the receiver and/or old remote control. Set switch number 9 in the new remote control to the middle, zero position.

If your old remote control or receiver has only eight switches and they are numbered **2-9**, match switches 2-9 in the new remote to switches 2-9 in the receiver and/or old remote control. Set switch number 1 in the new remote control to the middle, zero position.

If your original remote control has three buttons, and you are using the largest button to activate your door, make sure switch number one in the new remote control is set to the negative position.

If you do not have an existing remote control and your receiver has a smart/learn button, simply set the switches in the new remote control to random positions. Next, locate the smart/learn button on the back or side panel of the overhead motor unit. This button is located directly below the first screw terminal, and could be white, yellow, gray, or green in color. Push and hold the button on the new remote control and at the same time, push and release the smart/learn button. Let go of the button on the remote control. The remote should now be programmed. (This could vary depending on brand and age of opener.)

If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

Scenario 21 - My remote control has a green light on the front. How do I code it?

A remote control with the green light on the front and no code switches inside is called a "billion code" remote. This is because each remote has a unique code, which is one of over 3.5 billion codes. These computer-programmed codes will never be duplicated in our lifetime.

This type of remote control will only work with our openers manufactured since July 15, 1992 that have a green Smart/Learn button. They will not work with Security**+**® garage door openers. (This could vary depending on brand and age of opener.)

To program the remote control, first locate the green smart/learn button. On our chain drive models, this button is on the end farthest from the door. On our belt and screw drive models, it is on the right side as you face the door from the opener. Push and hold the button on the new remote control and at the same time, push and release the green smart/learn button. Let go of the button on the remote control. The remote should now be programmed. (This could vary depending on brand and age of opener.)

If you have lost a remote, you should erase all of the codes in the receiver by pressing and holding the Green Smart/Learn button until the indicator light beside the button goes out. This will take approximately 6 seconds. After you do this, you will then need to reprogram all of your existing remotes back into memory. Simply hold the button on the remote control and at the same time, push and release the green smart/learn button. Let go of the button on the remote control. Repeat this last step for each additional remote control.

Scenario 22 - My remote has a yellow light or no light on the front and no code switches. How do I code it?

A remote control with a yellow light or no light on the front and no code switches inside are called "Security**+**®." This is rolling code technology, meaning that each time you press the button on the front of the remote control, the code that it transmits to the garage door opener automatically rolls the code to any one of 100 billion codes, never to be repeated. These remote controls will only work on Security+ garage door openers, which have a square orange/red Smart/Learn button. (This could vary depending on brand and age of opener.)

To program the remote control, first locate the orange/red smart/learn button. On our chain drive models, this button is on the end farthest from the door. On our belt and screw drive models, it is on the right side as you face the door from the opener. Push and hold the button on the new remote control and at the same time, push and release the orange/red smart/learn button. Let go of the button on the remote control. The remote should now be programmed.

If you have lost a remote, you should erase all of the codes in the receiver by pressing and holding the orange/red Smart/Learn button until the yellow indicator light beside the button goes out. This will take approximately 6 seconds. After you do this, you will then need to reprogram all of your existing remotes back into memory. Simply hold the button on the remote control and at the same time, push and release the orange/red smart/learn button. Let go of the button on the remote control. Repeat this last step for each additional remote control.

With some Security**+**® models, you can also program your remote control or additional remotes, without climbing a ladder, right from your Multi-Function Control Panel. Simply press and hold the remote control button. Then press and hold the light button and the pushbutton on your Multi-

Function Control Panel. The opener lights will flash to confirm that the remote control has been successfully programmed.

As an added feature, Security**+**® remote controls can be programmed to operate the garage door opener lights without opening the garage door. This feature can only be programmed using the Multi-Function Control Panel.

With the garage door closed, press and hold the remote control button that you want to control the light. Secondly, press and hold the light button on the door control panel. Then press and hold the lock button on the door control panel. After the opener lights flash, release all buttons. Test this by pressing the remote control pushbutton. The garage door opener lights should turn on or off, but the door should not move.

If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

Scenario 23 - How do I program my Wireless Keyless Entry System? (This could vary depending on brand and age of opener.)

I recommend that you look up instructions on the internet for your specific brand of unit and model #.

If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

Scenario 24 - Why isn´t my remote control and/or Keyless Entry System functioning?

First, assuming that you have more than one remote control or battery-powered keyless entry, determine if all remote devices have failed, or just one. This is very important. If one of three hand-held car remotes stopped working, but the other two are functioning, the problem is isolated to that one hand-held unit. Before proceeding with troubleshooting, there are two things to check first. Make sure the battery in the remote is good. Second, make sure your lock feature is not activated. If the LED light inside of the wall-mounted push button is flashing, hold the lock button for two seconds to deactivate this feature.

There are two different types of remote controls. The older technology which has dip-switches, and the “Smart”remotes without switches. Determine what type of remote control you have before proceeding.

If your remote control has dip-switches, the first thing to check are the settings of the switches. Compare the settings in the non-working remote to another working remote, or to the switch settings on the overhead motor unit. These must match identically. If you do not have another working remote, and you have a yellow, white, gray or green learn button on your overhead motor unit instead of code switches, simply hold down the button on the non-working dip-switch remote and at the same time push and release the learn button.

If your remote control has no switches, locate the learn button on the back or side panel of the overhead motor unit. This button may be red or green in color. Push and hold down the button on the non-working remote and at the same time push and release the learn button. Then let go of the button on the remote.(This can vary depending on age and brand of opener.)

How to save hundreds of dollars in garage door repairs.

Scenario 25 – You opened the door with the electric opener while the door was locked.

First of all, I recommend that you disengage any key lock on the door so that this scenario cannot happen. This can be a very expensive fix. To the point that the whole door would need to be replaced. Thus costing you hundreds of dollars in repair or replacements.

If it is to late, this could cause various problems at one time.

- The door will tilt and the rollers will come off track.
- The cables on one or both sides will come off
- The panels will bend and tear
- The hinges can break and screws strip out
- This can leave the door unusable
- It can cause damage to the opener by stripping a gear inside or damage the carriage assembly or traveler.
- This could be a minor or major repair depending on the age of the door and the strength of the opener.

I would recommend that you call a professional to repair and put this back together again properly or if the door is over seven years old, have it replaced.
Do not have an outside lock placed on new door, just and inside slide lock.

Scenario 26 - Opener stop working after repeated use.

Some electric garage door openers can overheat with repeated use. For example, You open and close the door over and over again without any breaks in between. In most cases, you need to let it rest for 20 minutes and it will reset itself. Unless you burned out the capacitor inside the unit it should work as normal.

If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

I could save you lots of money.

Scenario 27. Do you have gaps around your door?

If you can see light on the sides, bottom, or top of your door, then your door is not tightly sealed to protect against rain, snow, dirt, leaves, or rodents from getting in your garage.
Doors can be installed with a complete weatherseal around the perimeter of the door. For the jambs and header, you can have climate seal that matches the color of the door. Along the bottom of the door, it should come with a factory-installed vinyl weatherseal. This system provides an attractive trim and helps seal out wind, rain, dirt and snow.

Scenario 28 - How important is insulation in a garage door?

Insulation is a good idea for many reasons. It helps control the temperature of your garage and may ultimately help with climate control in your home if the garage is attached. If you heat or cool your garage, insulation will help reduce those costs as well. Insulation also adds strength to your door while reducing noise.

This along with weather seal on the outside perimeter of the door keeps everything to it's most efficient.

If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

Scenario 29 - When buying a new garage door, do I need to buy track if the old one seems to be in good condition?

A: It is possible to put a new door on an old track, but we don't recommend it.

Track and sections work together as a system. Depending on the thickness and weight of the sections, your new door may not fit your existing track. Other considerations such as headroom limits or the location of the garage door opener may cause additional problems. If you end up replacing the track later, it will cost much more to buy the track separately and pay for another service call.

To ensure a longer life for your door, you should use the track that is designed for your specific garage door. In the long run, you'll save money and avoid headaches.

If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

Scenario 30 - How do I know if my door is properly balanced?

A: Your door is out of balance if it feels heavy or requires two hands to open it. If the door does not stay open by itself, it may be out of balance. The door should stay open by itself about three or four feet above the floor.

A variety of problems can cause an imbalance. If you try to fix it yourself, you could get hurt. We strongly recommend that you call your local dealer to check the problem and offer a solution.

If you have any questions concerning this example. Please email me at consultant@garagedoortrouble.com

Scenario 31 – How to Buy a Garage door opener

Introduction

Sure you could operate a garage door manually, but why would you? Each year 3 million of us buy a remote opener. Beyond dependability, compare cost, safety, security and noise--important for garages that contain workshops or have bedrooms or offices overhead.

Instructions

Difficulty: Moderately Easy

Steps

Step One

Compare mechanisms. * Chain drives ($130 to $180) are noisy because they use a metal chain along a metal trolley. * Screw drives ($150 to $250) lift the door with a threaded steel rod. Look for the latest models that use a plastic-lined track to reduce noisy metal-to-metal contact and to increase opening speed. * Belt drives ($170 to $350) are the quietest. Their flexible rubber belts dampen vibrations and eliminate the noisy metal-to-metal contact of chain or screw drives.

Step Two

Evaluate the openers' motors. * Some high-quality, efficient openers use a direct current (DC) motor instead of standard alternating current (AC) motor. A DC motor uses less electricity and its speed can easily be controlled, allowing a simpler drive mechanism to be used for reliability and less noise. It also allows for a soft start and stop cycle to eliminate loud clank sounds. The door starts closing slowly, reaches full speed and then slows down again just before it touches the floor. * Select a 1/2- or 3/4-horsepower opener instead of the basic 1/3 if you have a large or heavy door. * Compare models' lift speed, typically 7 inches (18 cm) per second.

Step Three

Take safety concerns into account. An automatic reverse feature stops and reverses the door if it touches something--a child playing underneath, for example. For heightened security, get a remote control that uses rolling codes to transmit a different opening signal each time. Models with multifunctional controls may have one button for opening the door, another that switches on just the garage light, and a third that can switch on lights or appliances inside the house. Some wall panels let you turn the opener off if you're going to be gone for an extended period of time.

Step Four

Buy an opener at a store or from a dealer and put it in yourself, or pay $125 to $175 plus for the unit for professional installation. Most openers include two remotes; a third adds about $30. A wireless outdoor keypad comes in handy if you forget the remote or its battery is dead. An indoor keypad adds convenience.

Scenario 32 – A Broken Spring Is not a Do-It-Yourself job

If you do try to do it yourself, I recommend that you watch a professional do it the first time. Then if you feel that you can do it yourself, that is up to you. Here is a testimony from a consumer.

Broken Garage Door Spring

Is there an article on replacing a broken spring on a garage door. I wish to do the job myself but lack the directions.

G.Y.

There are only two things that scare me. One of them is nuclear warfare. The other one... is garage door springs.

There are 2 kinds of garage door springs: **extension** springs, which get longer when the door is lowered, and **torsion** springs, which "wind up" as the door is closed.

I have a degree in Mechanical Engineering. I know a little about springs and mechanisms. Garage door torsion springs are EXTREMELY POWERFUL. There is literally enough stored energy in a garage door torsion spring to kill a person. Really. They are dangerous.

I will do anything on a house: plumbing, electrical, gas piping, furnaces, roofing, windows, etc... but I will NOT touch a garage door torsion spring. Every torsion spring I have ever seen has a stern warning label about needing qualified persons to service them. In this case the warnings are to be taken VERY seriously.

Extension springs **may** be removable by a do-it-yourselfer.

Maybe.

When the door is UP, the spring is relaxed, and it could be removed and replaced. But if the door were to move downward just a bit, it could come crashing down on someone. I'm not even sure I would tackle an extension spring replacement. I would want to hold the door from moving, by clamping at least one big "C" clamp on **each track**.

Personally, as much as I hate paying someone to do jobs around the house, garage door springs are ONE THING that I am willing to hire out. I strongly recommend that you pursue that option. Garage doors are the largest and heaviest moving objects in a typical home. They

must be treated with respect. One false move could result in serious injuries, and it could also result in damage to the door.

I suggest that you call around and see what various garage door installers or service companies charge to just come out and look at the project, and hire one whose basic service fee sounds reasonable. Some may examine the problem for free and give you a quote. I prefer to give them an idea of what the problem is so they can come prepared with parts and maybe do the repair on the spot.

Make a few calls and see what you find.

Concerned Consumer

Scenario 33 - Troubleshooting An Extension Spring Garage Door For Smooth Operation

There is nothing broken on my sectional garage door... you know, no parts laying on the floor... but it doesn't open and close smoothly any more. How do I figure out what is wrong?

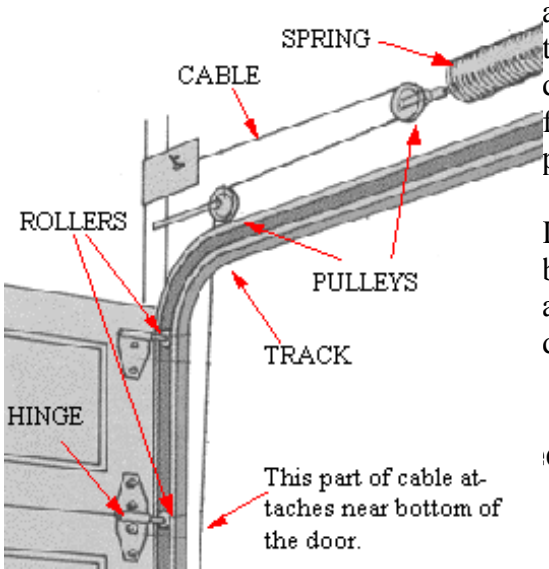
If you follow this procedure, you will definitely find the source of your problem. Or, more likely, problems. Rarely does a malfunctioning garage door have a single problem. Just a more obvious one. Let's go!

LOOK FOR THE OBVIOUS!!

Before you get too involved with hard-core Natural Handyman-style troubleshooting, look for simple but easily overlooked problems, such as a garden tool leaning against or interfering with the door, or something hanging on the wall hitting the door. Nothing, huh? Okay, let's delve more deeply into handyman heaven!

TIGHTEN EVERYTHING DOWN!!

Over years of use, garage door bolts loosen. Vibration and shrinkage in the door itself can cause this. So get out a wrench and tighten everything down. **Do this with the door in the down position with the garage door opened disconnected**, so that all door panels meet properly. Odds are you will even find a few nuts missing. Replace them. If you have a very loose hinge, and it can be repositioned, try to center the hinge over the joint between door panels. Be sure that the line of the hinge follows the line of the seam between the panels.



Look at the door tracks... are they still securely bolted at the wall and ceiling? There should be at least an inch of clearance total between the door and the track. I say total because the door

moves slightly left and right as it travels. It may be very close to or even lightly touch the track at some points. This is normal and not a problem *unless the door actually binds on the track*. If it does, then a spring tension adjustment may be needed to even the door's movement. Read on!!

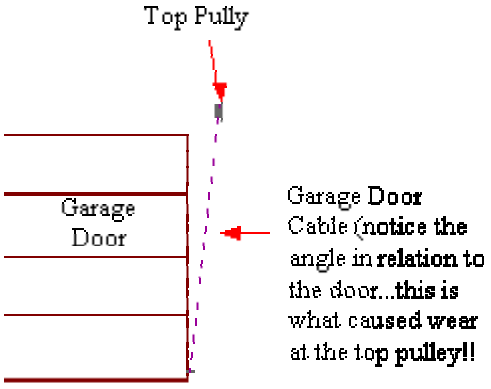
LOOK FOR RUST!!

If any part is extremely rusty, especially cables or springs, you may want to forestall the disaster of a snapped cable or spring and replace it now! Always replace springs in matched pairs, never separately. You will almost definitely imbalance the door and cause binding if you replace only one spring.

CHECK PULLEYS AND ROLLERS!!

One of the most common garage door hardware problems is worn out pulleys!

There are four pulleys on a garage door frame, two mounted in a stationary position on the frame above either side of the garage door frame, and two moveable pulleys attached to the springs on either side of the door. To detect wear, you should take the spring tension off the pulleys. You do this by opening the door fully until the spring begins to droop down. Put a clamp on the track to hold the door up. **If you have a garage door opener, use it to open the door and then unplug it to prevent accidental activation!!**

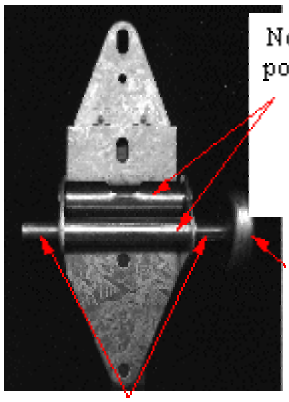


There should be very little movement in the pulleys except their rotation. If they do not turn smoothly or wobble, replace them. **The stationary pulleys get the most wear, because the cable exerts sideways force on them**. If one has become excessively worn, I always replace both. The moveable pulleys attached to the springs, believe it or don't, can last twice as long!!

Rollers are a little harder to check than pulleys.

Make a visual inspection of the rollers. The rollers consist of a wheel mounted to spin easily on a metal shaft. The metal shaft should move freely within the hinges. Often the lowermost roller shafts tend to seize up because of accumulations of rust and other glop. Spray on a little White lithium grease and work them loose. Replace the rollers if this procedure is ineffective

GARAGE DOOR HINGE WITH ROLLER



Roller shaft should slide freely from side to side in hinge body

ls of dollars in garage door repairs.

Excessive bearing wear, as with the pulleys, cause the rollers to bind against themselves and against the garage door track. Do any seem to be twisted or off-center? Do they wobble? Move the door up and down and try to observe if any rollers seem to bind. Do it with the garage door opener disconnected, since the strength of the opener can mask a bad roller. Does the door move smoothly? At what point does it start to hang up?

More often than not, if it is a roller problem, it will occur when the bad roller is in the curved part of the track, sometimes even binding on the seam between the parts of the track. Replace the defective roller(s). See the next question on this page for more detail on roller and hinge replacement.

Scenario 34 - How do I replace a broken hinge or roller on my garage door?

Replacing a defective roller requires you to unbolt the affected hinge, tip the hinge outward from the door to disengage the roller from the track, and reverse this procedure to reinstall with the new roller. You will probably have to tap the hinge bolts out with a hammer before the hinge will release from the door. **If you do this, thread the nut back on a few turns before tapping, or you may damage the threads on the bolt.** As an additional safeguard, you can also use a small block of wood as an intermediary between the hammer and the bolt if space allows. The door should be in the down position if possible, unless you are working on the lower rollers. Read on!

When reattaching the hinge, tip the roller back into the track, and position the hinge. Tap the bolts back through from the outside, if possible. Garage doors use a bolt known as a carriage bolt. There is no gripping surface on the bolt to hold while you tighten the nut. Rather, it has a square lip below the smooth head that presses and locks into the wood of the door. If you try to tighten the nut without tapping the carriage bolt in first, it may not engage into the same square hole it made in the door originally, and could strip out the wood and begin to turn. Then, you will have to hold the end of the threaded part of the bolt with pliers while you tighten the nut with a wrench. It's good for you to know this trick because older garage doors often show some rot around the bolt openings, especially near the ground, and the carriage bolts may turn no matter how careful you may be!!

Murphy's Law dictates that fate will occasionally trash a garage door roller, or force it out of the track, when the door is in the raised position. And, to compound our misery, the bottom rollers are attached to the same assembly that the garage door cable is attached to,

so these rollers **must** be replaced with the door up! The repair procedure is the same for all hinges... just be sure to remove the tension from the garage door cable if doing the bottom rollers!

1. Use any creative method at your disposal... ladder, 2x4, significant other... to brace up the door panel before you unbolt the hinge. Without this reinforcement, the door will at best sag and at worst break.
2. If you are dealing with a bottom hinge, remove all tension from the cable or disconnect it from the bracket. Remember that the weight of the spring itself exerts a good amount of force, so, if disconnecting the cable is too difficult (some cables are permanently attached to the lower bracket, making replacement an art form), clamp the cable to the track, leaving a little slack on the roller bracket side!
3. Do the roller replacement routine described at the beginning of this section.
4. Once all bolts are fastened down, remove all clamps, braces, etc., and test door manually a few times. Then, reengage the garage door opener, if you have one, and make sure it works smoothly. The end

Scenario 35 - What are safety cables and why do I need them?

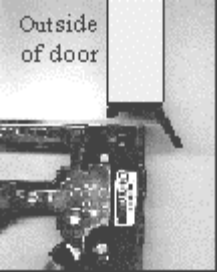
Safety cables keep a broken garage door spring from sailing around the garage! They are similar to the garage door cables, though usually lighter weight. They are attached to the garage door track or wall near the stationary pulleys, lace through the garage door springs, and connect to the same support that the spring does. Once again this is for extension springs and not torsion.

Safety cables are easy to install (less than an hour for a pair) and come in a kit form with all necessary fasteners. To be sure, look at your garage door track setup before you shop, you can make a list of what parts you may need... eyebolts, s-hooks, etc. Then, see what the kit offers, and buy separately what the kit doesn't have. As with most kits, the manufacturer can't take every possible circumstance into account... **that's your job!!**

Why do you need them?

Do you have any idea how much is costs to replace an auto windshield... $400 dollars and up! If a garage door spring breaks (and they do... Murphy's Law again), it can fly across the garage with such force that it can penetrate a double layer of 5/8" wallboard! Or put a serious hurt on you if you're unlucky enough to be nearby!

About the only difficult thing about this installation, next to being steady on a ladder, is lacing them through the garage door spring. Be sure to check the free movement of all door parts and proper function on one side before installing the second side. And don't pull the cable too tight... that in and of itself may cause problems... just slightly slack is fine.



How to save hundreds of dollars in garage door repairs.

Scenario 36 - I've tried to install a garage door bottom weather-strip on a wood door, but it is so unmanageable that it always comes out crooked. Is there an easier way to install it than just nailing it?

This is the nonpareil of tips... the "crème de la crème"! Do this and you will not only have the weather-strip up in record time, but have it as straight as possible!

TOOLS NEEDED: Garage door bottom weather-stripping kit (including nails), maybe a half-pound of 1" or longer galvanized roofing nails, heavy duty staple gun with minimum ½" staples, hammer, patience. Optional: Sandpaper and wood preservative

1. **Remove old weatherstrip completely**, including old nails if possible. Any old nails or staples that are not removeable should be hammered flush to bottom of door so they don't tear the new weatherstrip.
2. **Sand bottom of door and coat with a clear wood preservative.** Since the weatherstrip is non-breathable solid rubber, moisture can accumulate between it and the bottom of the door, promoting rot.
3. **Position the door so that it is about chest height.** Not my chest height, yours. This will give you a view of your finished product as you work. You can use your garage door opener to do this (most modern ones reverse on the down cycle and stop on the up cycle), or disconnect the opener and use clamps on the track(s). You can use one, or two for extra security!!
4. **Unroll the weatherstrip completely, and make sure it is long enough.** You want to avoid stretching it excessively now or during installation. If there is a ratty end (sometimes the ends are a little beaten up because of staples or other rude behavior), and you have extra length to work with, do a little trimming.
5. **Position the weatherstrip so that the overhang extends to the inside.** This is important! If the overhang extends to the outside, the weather-strip will hit the garage door frame and force you to trim it to compensate. Only install the weatherstrip with the overhang outside if the outside level is significantly lower than the area under the door.
6. **Usually, the bottom roller bracket (to which the garage door cable attaches) inconveniently obstructs or limits your fastening options on the first 3" or so on either side of the garage door bottom.** Sometimes, there is a single hole for you to nail into. Sometimes not. In either case, you will not do any fastening through the bracket until you get the rest of the weatherstrip secured
7. **Line up the weatherstrip so it lines up with or is slightly past the end of the door, and with the outside edge where you want it. Put a staple through the weatherstrip and into the bottom of the door near to the bottom roller bracket.** Continue across the bottom of the garage door, stapling every 3 or so inches.
8. **When you are within a foot of the other end of the door, measure and trim the weatherstrip so it will just meet the end of the door.** Finish stapling.
9. **Raise the door to a comfortable hammering position, and hammer in the nails that came with the kit.** Place them between the staples. Attach the weatherstrip to the two bottom roller brackets via the holes we looked for earlier.

If there is a nail in it already, remove the nail and then renail the weatherstrip to it. If there is no hole (hello, Mr. Murphy), get out your drill and make one!

Many of the kits I have used come with painfully short ½" nails. Have a bunch of minimum 1" long galvanized roofing nails handy, and throw the short nails into the "circular file"!!

That's about it. The staples cannot be relied on to hold the weatherstrip permanently, but they eliminate the snake-wrestling match that installing a garage door bottom weatherstrip can turn into!! Enjoy.

Scenario 37 - Our garage door rubs against the beams in our garage ceiling when we open it. We would like to install a garage door opener, but the track would make it almost impossible! My husband says we have to cut sections into our floor joists or cut into the door itself. This is a terrifying prospect! Is there another way?

You are not alone. Many older homes have very low ceiling clearance in the garages. Rather than cutting into your structural members, notching the top of the door (which can dangerously weaken it) or destroying your concrete floor, there is an easier and less destructive solution.

There is a garage door accessory called a **low clearance bracket kit or low-headroom kit**. It can be used on any sectional garage door that has clearance problems due to low ceilings or obstructions, allowing the garage door opener track to be mounted much closer to the top of the garage door than is usually possible.

The top guides (which hold the uppermost garage door rollers) are replaced with these specially designed brackets that cause the top of the top panel of the door to move inward rather than upward as the door rises. The result is that the top panel does not rise very much as the door opens, giving quite a few inches of additional ceiling clearance.

Scenario 38 - When the power goes out, I can't get into my garage because the garage door opener is dead, too. Is there some device I can install to allow me access in an emergency?

You are not alone. Many homes have limited access to their garage, especially if the garage is detached and/or doesn't have a regular door installed. Many people use the garage as their primary access to the home, too. When the electricity goes out or the garage door opener decides to fail, the garage door is as secure as a bank vault!

There is a garage door accessory called an emergency release kit. It can be used on virtually any garage door opener. The lock mechanism is installed into a hole on the garage door. The cable is unrolled and attached to the emergency release lever on the garage door opener's trolley.

When the key is turned, the body of the lock can be pulled through the door, bringing the cable with it. A sharp pull of the cable will release the trolley from the opener's drive chain or belt, allowing you to lift the door manually.

As you can see in the graphic to the left, the end of the emergency release cable can be attached to the emergency release rope for easier installation. In fact, the most difficult part of the installation is drilling a hole through the door!

If the cable hangs down annoyingly when not in use, make a loop of it and then twist-tie it loosely to the garage door opener's arm (the heavy, usually two-piece bent steel bar that connects the opener mechanism to the garage door). Don't use anything more sturdy than twist-ties so the emergency cable will release easily when it is pulled from outside.

Last but not least... TEST YOUR INSTALLATION to be sure it works!

Scenario 39 – Damaged panels on the door

- Cracked sections need to be replaced. There is no repairing this problem. If the door is five years old or newer, you can usually buy "sections only" to repair your door. If they are over five years old, it may be better to replace all four sections or entire door.
- Bent sections can be repaired if it has not been twisted or torque to where it cannot be straightened with a Strut or brace sometimes called a stiffener. It does not fix the cosmetic look if there are dings and dents.
- If the stiles (or metal horizontal braces glued inside the door) has come unglued or the ribets or screws have ripped out. It can be prevented with an operator support bracket for it is common to happen where the opener connects to the door. Other wise you will need to replace the panel.

Scenario 40 - What kind of maintenance does my garage door require?

A: All new doors (one year old) are virtually maintenance-free. Here are a few tips to keep your door looking great and operating dependably for years to come.

1. Twice a year, lubricate the torsion springs with a silicone or Teflon-based spray (white lithium is what I use). Do not use WD-40. No lubrication is needed if your door has extension springs.
2. Lubricate the hardware, rollers, springs and hinges twice a year using a silicone or Teflon-based spray (white lithium is what I use). Do not use WD-40 or grease. Then open and close the door to distribute the lubricant.
3. Wash the door's exterior with a mild soap and water. Rinse thoroughly.

B: All old doors (over two years old) need maintenance because parts of your door will eventually wear out.

For you Do-It-Yourselfers, I am including information that is really detailed on how to maintain your door but it is not a repair manual. I am offering this portion for free.

THE GARAGE DOOR & OPENER BOOK

Volume I

KEEP YOUR GARAGE DOOR & OPENER RUNNING LIKE NEW
Save $100s in Repair Costs

By V. Oden

Introduction

This book is a culmination of years of servicing thousands of residential garage doors and garage door openers. Most people don't think twice about their garage door or opener until they fail to open or close. Then they have to, in most cases, look in the phone book and decide whom to call. Which company won't rip me off, who knows how to fix my problem, will my door keep working once they're done, and how much will it cost? Just to have a basic service call in most parts of the country will cost between $65 and $85 and is usually just the beginning of what the repairs will totally cost. From what I have seen, from my experience, is that even when a door is repaired there is seldom, if ever any maintenance done to the door. Every door that my company services, whether a major or minor repair, the door and the opener receives maintenance. This has allowed our customer's doors and openers that would have failed earlier to last longer and run smoother and quieter. Included in this book are all the techniques that we use to service and maintain each one of our customer's garage doors. All of these techniques can be done by anyone with or without experience with a minimum of tools and supplies and done quickly.

Remote controls, parts, and supplies for garage door and opener repairs can be found at:

http://www.garagedoortrouble.com/

A note on using this book:

It is suggested that you read the entire book through one time before attempting to do the procedures in
the book. This will allow you a more complete understanding of what you are trying to accomplish. Also,
you may want to print a page and take it out to your garage to follow the steps outlined. You are allowed
to print out one copy of this book for your own personal use. There are many full color photos in this
book to give you a more complete understanding of what is to be done. However, if you print out the
pages, you can change your printer properties color setting to grayscale and set print quality to econofast
to reduce the amount of ink used and the time taken to print each page. This diminishes the picture
quality, but the pictures are still good enough quality for you to see what you are to do.

DISCLAIMER: This ebook is intended as informational only. No representations are made by the author.
This is NOT a repair manual for your garage door or garage door opener. See the manufacturer's
instructions for detailed repair information. These are ideas from the author's own personal experience
and are not considered to be all inclusive of every possible situation. By reading and following the ideas
in this book you are taking upon yourself full responsibility for any damage to your person and/or your
property. The author of this book takes no responsibility for actions or omissions.

Basic Information

WARNING:

This is not a repair manual. Repairs are not covered in this book.

There are parts on a garage door that are under extreme tension and should not be adjusted or tampered
with in any way except with proper instructions.

This manual covers procedures that the average homeowner can do. It is suggested that you read this
entire book all the way through at least once before beginning the procedures outlined here. You can
print out this book and take it to the garage with you for use as you do the procedures, but it will be easier
if you have first familiarized yourself with all the necessary tools, garage door and opener part names,
locations of these parts, and the procedures to be done.

Do not attempt to make cable, drum, or spring adjustments. Under normal circumstances these
procedures will NOT need to be done. Check our website at
http://www.garagedoortrouble.com/ for our latest offerings.

Garage Doors

Garage doors are a moving wall made of wood, plastic, steel, or fiberglass. Most garage doors sold today are constructed out of steel sections and hinged between the sections. They move up and down on a track and are generally counterbalanced with one of two types of lift systems: a torsion spring lift system or an extension spring lift system. These spring lift systems are what actually allow you to lift your garage door. In this book we will cover both these types of systems on a standard lift residential garage door. Many manufacturers today are coming out with specialized lift systems and hinge systems. Most of these techniques will also work with these new and innovative systems.

When the garage door is in the down position the Torsion Spring System is visible directly above the garage door on the header.

Extension Springs are mounted along the horizontal garage door track and expand and contract as the garage door goes up and down.

Garage Door Openers

Garage door openers come in three basic configurations:

· chain drive
· belt drive
· screw drive

Chain and belt drive openers have a chain or belt that travels around a steel rail moving a carriage and a lift-arm back and forth on that rail. For example purposes in this book a chain drive opener will be featured in the photos, but the same techniques apply to belt drive openers.

Screw drive openers have an aluminum rail that has a long screw mounted inside of the rail and the carriage and lift-arm attached to the rail move back and forth as the screw turns at high speed.

These types of garage door opener systems are mounted at the header and hung from the ceiling. These systems have a power head with a light and controls mounted on the wall. Garage door openers manufactured since 1993 have mandatory obstruction sensors built-in, an infrared safety sensor mounted on both sides of the door opening down by the floor.

Many manufacturers today are coming out with specialized drive systems. Most of these techniques will also work with these new and innovative systems.

Let's get going.

Getting Started

The procedures you are about to do take an experienced garage door professional about 15 minutes to
do. It may take you a little longer, but the results will be astounding and you won't think you have the
same old door.

We will methodically work through the garage door and opener systems as follows:

· Cleaning the track system
· Adjusting and securing garage door components
· Lubrication of the garage door components
· Maintenance and service of the garage door opener
Remember: When we refer to "left" and "right" in the garage door business we are always inside
the garage looking out the door.

Before you start:

1. If you have a garage door opener, open the garage door to the full open position with the door
opener.
2. Unplug the garage door opener, pull the manual door release and close the door by hand.

Required Tools & Supplies

Most professional garage door technicians have power tools to do the necessary repairs and
maintenance, but they can be done with the following basic hand tools and supplies.

Tools

• Opened end wrenches – 3/8", 7/16", ½",
9/16" and/or an adjustable crescent
wrench
• Deep socket wrenches – 3/8" and 7'16"
• Medium sized flat-tipped screwdriver
• Phillips head screwdriver
• Stepladder
• Adjustable pliers
• Paper towels or clean rags
Supplies

• Paraffin wax or a white paraffin candle
• Oil squirt can with 30 wt. Motor oil or
chain saw bar lube (spray can oils are
unsatisfactory)
• Lubriplate low temperature white grease
(axle grease is unsatisfactory)
• Mineral spirits or paint thinner
This is all you need to get the best performance
out of your garage door and opener when these
are applied to the proper areas.

Cleaning the Track System

Sometimes the garage door track is dirty from years of use, caked dirt and grease. To get the best
performance out of your garage door the door track should be cleaned. This is easy to do with just a rag
and some mineral spirits or paint thinner. While you are cleaning the track be careful of sharp edges on
the track and not to cut yourself.

1. With the door in the closed position, moisten a rag with mineral sprits or paint thinner.
2. Begin at the top roller on the left side of the door. Place the rag inside the track and wipe the whole
horizontal track from the top roller of the door to the rear hang. Wiping back and forth inside the
horizontal track will loosen and break up the dirt and grime.
3. Once the dirt and grime are loosened take a clean dry rag and wipe the horizontal track clean and dry.
4. When the top track is finished open the door to the full open position.
5. Start at the bottom of the vertical track on the left side of the door. Place the rag inside the track and
wipe the whole vertical track from the floor up to the bottom roller of the door. This should overlap
where you cleaned the horizontal track. Wiping back and forth inside the vertical track will loosen and
break up the dirt and grime.
6. Once the dirt and grime are loosened take a clean, dry rag and wipe the vertical track clean and dry.
7. When the left track is complete repeat the above process on the right side door track.

Adjusting & Securing Garage Door Components

Over time a garage door's nuts, bolts, and screws may work loose causing the door to run rough and the
track to go out of alignment.

This section will cover tightening of all lag bolts, nuts, and bolts on the entire door and track system.

Garage Door Hinges & Brackets

WARNING

Never loosen the screws or bolts on the bottom fixture where the roller and the cable are attached! This
fixture is under extreme tension. This is where the garage door is actually attached to the spring lift
system.

Most hinges have at least 4 bolts or screws and over time they may vibrate loose. Do not over-tighten
nuts, bolts, and screws.

1. Determine the size of the hinge bolts or screws on your garage door sections and select the proper
size open-end wrench or deep socket wrench (3/8" or 7/16").
2. Move to the left side of the garage door and begin at the bottom cable bracket, tightening all nuts and
bolts on each fixture and hinge as you move up the garage door sections.
Tightening bottom cable bracket
Tightening Top Adjustable
Bracket
Tightening Hinge with Roller
3. When all the brackets and hinges on the left side of the door are tightened move to the next row of
hinges to you're right and start at the bottom hinge. Repeat the process until all the garage door
hinges and fixtures have been tightened.
Tightening Hinge

Next, we will work on the garage door track.

Vertical Track

The track is generally of two-piece construction, a vertical track and a radius, or curved, horizontal track.
It is attached to the garage wall with jamb brackets and a flag bracket, these are angled pieces of slotted
steel bolted to the side of the track.

Generally, there are two jamb brackets on each vertical track on each side of the garage door and one
flag bracket at the top of the track on each side of the door.

There are large lag bolts that go through the jamb and flag brackets and are secured either directly to wall
studs or through the sheetrock into the studs. Sometimes, if these brackets are mounted on top of
sheetrock, the lag bolts will come loose.

1. Determine the size of the lag bolts and track bolts on your garage door track and select the proper
size open-end wrench or deep socket wrench (7/16" or ½").
2. Start on the left side of your garage door at the bottom jamb bracket. Check to see if the jamb bracket
lag bolts are tight against the wall and the track bolts going into the track through the jamb brackets
are tight. If they are loose tighten them with your 7/16" or ½" open-end wrench of socket wrench.
3. Move up to the next jamb bracket and repeat step 2.
Tightening Jamb Bracket Lag Bolt Tightening Jamb Bracket Track Bolt

Tip: Sometimes in tightening the track nut you will need to use a flat tipped screwdriver on the
head of the bolt to keep it from turning.

4. Moving up to the flag bracket, tighten the lag bolts there. There should be at least two lag bolts
securing the flag bracket to the wall.
5. Once all these lag bolts are tight against the wall, check the track bolts at the joint where the
horizontal and vertical track come together. In most cases, there will be two to four bolts joining the
two pieces of track together.
6. Check to see if they are tight, if not tighten them using your 7/16" or ½" open-end or socket wrench.

Tightening Flag Bracket Lag Bolts Tightening Flag Bracket Track Bolts

7. At the track joint, make sure that the tracks are aligned with each other on the inside and the outside
of the track. We want this to be as smooth a transition as possible. If the vertical and horizontal track
is not aligned with each other, loosen the track bolts on the vertical (lower) track and line up the lower
track with the upper track.
8. Retighten the track bolts.
9. If the track is still not perfectly aligned, use your adjustable pliers and bend the track making the
inside and the outside line up properly. This will give the roller a smooth path to roll on as it goes up
and down.
Misaligned Track Joint Aligned Track Joint

Horizontal Track

There are three parts to the horizontal track:

- horizontal track
- horizontal track extension
- rear hang

The horizontal track extension attaches to the flag bracket and extends over to the horizontal track.
Depending on the type of door that you have, there may be several different fixtures attached to this
extension, either end bearing plates or cable pulleys. The rear hang is usually made up of punched angle
iron that mounts to the ceiling and hangs down and bolts to the horizontal track. There will be lag bolts,
and nuts, and bolts here.

WARNING

Do not loosen ANY nuts or bolts on the horizontal track extension!
The weight of the door sits on this track extension.

1. Tighten all ½" or 9/16" nuts & bolts on the horizontal track extension.
2. Move to the rear hangs and tighten all lag bolts, and nuts and bolts.
3. Move to the right side track and repeat this entire procedure.

Horizontal Track Extension with Horizontal Track attached to Rear Hang
Extension Spring Cable Pulley

Tightening Horizontal Track Extension to Flag Bracket Tightening End Bearing Plate to Horizontal Track Extension

When this track adjustment is done the garage door should freely move up and down by hand.

Garage Door Lubrication

Determine which type of spring lift system you have and use the instructions for your type of spring lift
system.

• Torsion lift systems have the springs mounted on the header directly above the center of the
garage door.
• Extension lift systems have the springs mounted alongside or above the horizontal tracks.

Torsion Spring System

Extension Spring System

Forward to the information on your type of lift system.

Torsion Lift Systems

There is only ONE thing we will do with this system. Lubricate the parts.

WARNING

DO NOT attempt any type of adjustment or bolt tightening to this system.

If you have a torsion lift system you will see a center wall bracket mounted to the header directly above the center of the garage door with one or two large springs bolted to it. Mounted through the center of the springs you will see a long torsion tube that extends out through an end bearing plate on each side of the door. Just inside this bearing plate is a cable drum. The cable drum is attached to a cable that attaches to the bottom cable brackets.

1. Get your squirt oil can
2. Start on the left side with the end bearing plate and place the nozzle of the oilcan at the top of the bearing where the torsion tube protrudes through the bearing plate. Give the top of the bearing a shot of oil on the moving part of the bearing. Allow the oil to run around and into the bearing race. Two shots are sufficient. The oil will run into the bearing race and around the tube. The excess will run off so don't worry about it.
3. Next to the end bearing plate is the cable drum that the torsion tube runs through. Place a line of oil along the top of the cable drum allowing the oil to run down both sides of the drum.
4. Move to the right side of the door and repeat this procedure.
5. Once the right side is done move to the center wall bracket where the torsion springs are mounted.
6. Place one or two shots of oil at the top of the race allowing it to run into the bearing and onto the torsion tube. If you have two torsion springs, you will not be able to access the bearing. DO NOT attempt to access the bearing in this situation.
7. Wipe off excess oil that runs down to the bottom of the center wall bracket. The excess may drip onto the door making a mess.

Some torsion systems have one spring and others have two. For those that have one spring, it will be mounted either on the left or the right of the center wall bracket. The other side will not have a spring, but you will see a plastic bushing or a steel bearing.

Single Torsion Spring

8. Along the top of each torsion spring squirt a thin line of oil from one end of the spring to the other.
This does not need to be an excessive amount. Allow the oil to run down both sides and between the coils.
9. Wipe off excess drops of oil that form on the bottom of the spring. Over time the oil will cover and lubricate the entire spring.
10. Repeat on the other spring if you have a two-spring system.
11. To spread the oil throughout the system, open your garage door by hand about half way. Close the door.
Torsion Spring Lube

Extension Lift Systems

If you have an extension lift system you will see a spring mounted alongside or directly above the horizontal track on each side of the door. Each spring is attached to the rear hang on one end and to a cable and pulley system on the other end.

Extension Spring Pulley System

1. Get your squirt oil can
2. Start on the left side of the garage door at the cable pulley attached to the spring. Place a shot of oil at the top of the bearing, allowing the oil to flow into the bearing.

3. Place a shot of oil on the pulley where the cable runs around it.
4. Directly above the horizontal curve of the track you will notice another pulley with a cable running through it. Place a shot of oil at the top of the bearing on this pulley, allowing the oil to flow into the bearing.
5. Place a shot of oil on the pulley where the cable runs through it.
6. Repeat this procedure on the right side of your garage door.
7. To spread the oil throughout the system, open your garage door by hand about half way. Close the door. Pulley Bearing Lube

Track

1. Start on the left side of the door at the top of the curve of the horizontal track. Put two shots of oil on the side of the track. Let it run down into the trough of the track. Allow it to flow down into the vertical track.
2. If the rollers rub any of the track or track bolt heads there will be a black smudge mark at this friction point. Put a shot of oil on any points that need it.
3. Move to the right side of the garage door and repeat this procedure on the track.
Horizontal Radius Track Lube
Horizontal Track Lube Vertical Track Lube

Brackets, Hinges, & Rollers

Now lubricate both the rollers and the hinges.

1. Start on the left side of your garage door at the bottom cable bracket. Put a shot of oil on the top of the roller wheel so that it will spread over the surface of the wheel.
2. Put a shot of oil where the roller and shaft meet, allowing the oil to flow into the bearing or bushing.
Some rollers are made of neoprene plastic and don't have a bearing, but have a bushing instead.
Place a shot of oil at that intersection.
3. After you lube the roller, move to the bracket that holds the roller. The shaft or stem of the roller

should spin or turn inside the bracket. Place a shot of oil on the shaft where it goes through the
bottom cable bracket
4. Move up to the first hinge and roller. Repeat the roller lubrication procedure (Steps1-2)
5. In the center of every hinge is a flared hollow tube. Put a shot of oil where the upper and lower hinge parts overlap around this tube. Do this on both sides of the hinge, allowing the oil to flow into the hinge
6. Push the roller by the shaft against the track and put a shot of oil along the exposed top of the shaft.
7. Pull the roller back towards the center of the door giving the exposed top of the shaft another shot of oil.
8. Moving the shaft back and forth and spinning or turning it you should notice a nice smooth motion in the roller and shaft movement.
9. Once this roller and hinge is done move up to the next and repeat. When the top roller on the left side of the door is done move to the right to the next row of hinges.
10. Repeat the hinge lubrication procedure (step 5) until all the hinges on the door are done. When you reach the right side track of the garage door repeat the bottom cable bracket, roller and hinge lubrication steps (Steps 1-7).
11. Wipe off any excess oil that collects at the base of the hinges.
12. Open your garage door all the way by hand. Close it. Now you should notice a big difference in the way your door operates.

Door Jamb & Sections

1. Open the garage door completely.
2. Rub your paraffin wax or wax candle up and down on the inside of the door frame around the entire garage door opening. This will cut out any friction between the door and the opening.
3. Go outside of the garage and pull the garage door down by hand until you can see the gap in between the sections. Look along the entire length of your door at the gap area between the sections for any black rub marks. If you find any rub marks apply paraffin wax at these points. DO NOT get the wax on the outside face of the door.

The door should not be tight or bind against the frame when it is in a closed position. Now that the garage door maintenance is complete the door should move smooth and quiet. This maintenance should be repeated every year or as needed.

Garage Door Openers

Determine which type of garage door opener you have and skip to that section to find the instructions for
your type of opener.

• Chain & belt drive openers have a chain or belt that travels around a steel rail moving a carriage
and a lift arm back and forth on that rail. The rail on this type of opener is a solid or multi-piece
rail. The garage door is attached to the rail by way of a lift arm.
• Screw drive openers operate by way of a long steel screw mounted inside an aluminum rail. The
screw is usually attached directly to the motor in the power head. The carriage slides on the rail
and couples to the screw and moves back and forth attached to the door with the lift arm.

Chain & Belt Drive Openers

Tightening & Lubrication

1. Close your garage door
2. Unplug your garage door opener.
3. The lift arm is a one or two-piece assembly that attaches your door to the opener. Check the nut and bolts that hold it together and tighten with 7\16" or ½" wrenches.
4. Make sure that the opener is mounted to the header and ceiling securely. The lag bolts going into the header need to be checked for tightness, if they are loose tighten them with your 7/6", ½" open-end wrench. These bolts are usually hidden by the rail pulley or sprocket, but you can access them through a space at the end of the rail through the top or the bottom.
5. Next look at the rail. If it is a multi-piece rail, make sure that it is straight. Sometimes the flanges that hold the rail together come loose and the rail will sag or bow downward. Loosen the bolts one flange at a time, but don't take them out. Push the rail up till it is straight and re-tighten the bolts. Do this until the whole rail is straight. While this is being done make sure the pieces of the rail are still flush and line up correctly.
TIP: Some openers have a multi-piece pipe rail that sags. If this is the case, nothing can be done to straighten this pipe.

6. After this is completed the chain may hang down from the rail. Most chain drive openers have the chain tensioner attached to the carriage. The carriage is the assembly that moves back and forth on the rail. To adjust the chain on this type of opener take two ½" open end wrenches and loosen the two nuts on each side of the adjustment flange attached to the carriage.
7. One nut will back away from the flange freely, move it about halfway down the

threaded bolt. Turn the nut that holds the chain onto the flange until the chain is about halfway up the side of the rail in the middle of the rail. Tighten both nuts back together on the flange. This completes service to the rail assembly.

8. Some chain drive openers do not have the chain tensioner mounted to the carriage. These other chain tensioner systems are a nut-bolt assembly usually mounted at the end of the rail at the header mount bracket or on the power head where the rail attaches to it. Tighten this nut/bolt assembly until the chain is about halfway up the side of the rail in the middle of the rail.
9. Belt drive openers have a self-tensioner, a nut-spring assembly, mounted to the rail carriage. This tensioner may still need to be tightened if the belt sags below the rail. With the door in the closed position, tighten the nut by turning it clockwise until the belt hangs halfway up the middle of the rail.
10. Move to the opener power head. Tighten all lag bolts, nuts, and bolts to the rear hang of the garage door opener.
11. There will be a sprocket sticking out of the top of the power head with a chain wrapped around it. Sometimes there is a small plastic cover. Remove this cover to expose the sprocket.
12. Once you see this sprocket take your oil can and give the underside of the sprocket a shot of oil and allow the oil to run down into the bushing at the shaft.
13. Put the plastic cover back onto the sprocket.
14. Return to the rail end at the header and give the pulley or sprocket a shot of oil where the shaft goes through it.
15. Put a bead of lubriplate grease along the bottom side of the rail in which the carriage rides. Over time your opener carriage will spread this grease out across the rail.
This is all the exterior maintenance normally done on a chain or belt drive opener.

TIP: To quiet vibration noise coming from your garage door opener's power head slide in a small piece of cardboard between the housing cover and the power head at the point where the mounting screws go into the body and tighten the screws. To prevent the light cover from vibrating or shaking take black electrical tape and wrap around the whole body and over the light cover. It adds a racing stripe look and quiets the light cover.

Optional

There is some lubrication that can be done on the inside of the power head. Unless there is a lot of internal noise coming from the opener power head this does not need to be done.

1. Make sure your opener is unplugged.
2. Remove the power head housing cover.
Use a flat-tip or Phillips head screwdriver.
In most cases you will see an electronic control board, electric motor, gears, and stop switches.
DO NOT lubricate the motor drive shaft coming out of the motor. These bearings are permanently lubricated and sealed.

3. Put a small shot of oil on any other shaft/bushing intersection.
4. Put a small amount of lubriplate grease on the plastic drive gears. DO NOT lubricate any of the small mini-gears that move the stop switches back and forth.
5. Replace the power head housing cover.
Vertical Shaft Bushing Lube
Large Drive Gear Greased

Open & Close Stop Adjustments

Most modern chain and belt drive garage door openers have small gear driven stop switches mounted inside the power head. These switches are adjusted by way of slotted knobs externally located on the power head. Open & close stop adjustment knobs are not to be confused with the open & close force adjustments knobs. The open & close stop adjustment knobs should be positioned next to each other. Be sure that you can distinguish between the two different types of settings before you make any type of adjustments.

When all the maintenance has been completed to the door and opener its time to check where your garage door stops in open and close positions.

1. Plug your garage door opener in to power and reattach the door to the opener.
2. Activate the opener to close the door. The door should stop at the point of contact with the floor and go no farther. No close adjustment is needed if this is the case.
3. If the door opener tries to force the door down tighter it could damage the top section of the door or damage the opener itself. Find the close adjustment knob and turn in the direction indicated on the opener to back the door off of its overly tight condition. When adjustment is completed open and close door to check its close stop position. Adjust again if needed.
4. If the door stops before it is totally closed, find the close adjustment knob and turn in the direction indicated on the opener to move the door to the proper closed position as indicated in step 2.
5. Activate the door to move to its full open position. The door should stop just above the top of the opening. No open adjustment is needed if this is the case.
6. If the door pulls to high out of the opening, find the open adjustment knob and turn in the direction indicated on the opener to move the door lower to the proper open position as indicted in step 5. Adjust again if needed.
7. If the door does not pull high enough to clear the opening, find the open adjustment knob and turn in

the direction indicated on the opener to move the door higher to the proper open position as indicated
in step 5. When adjustment is completed open and close door to check its open stop position. Adjust
again if needed.
When the open & close settings are complete move on to the safety sensor section.

Safety Sensors Settings

There are two types of safety sensors built into modern garage door openers:

• obstruction safety sensors

• infrared safety sensors
Openers built before 1993 may not have infrared safety sensors, but do have obstruction safety sensors.

Obstruction safety sensors

Openers have either of the following:

• a spring-loaded nut-bolt assembly marked “open force -close force” mounted on the power head
• an electronically set open and close force safety setting
Adjust these safety settings with just enough force for the door to open and close fully without setting off the sensors, but with enough sensitivity to stop going up or down if the door was to meet an obstruction.

1. To determine that the closing force is not excessive grasp the door handle or bottom edge during downward travel. The opener should reverse due to this force.
2. If the garage door opener does not reverse, adjust the closing force by turning the closing force adjustment knob or bolt counter clockwise to decrease force.
3. Retest by repeating steps 1 & 2 until the opener reverses properly.

4. To determine that the opening force is not excessive grasp the door handle or bottom edge during upward travel. The opener should stop due to this force.
5. If the garage door opener does not stop, adjust the opening force by turning the opening force adjustment knob or bolt counter clockwise.
6. Retest by repeating steps 4 & 5 until the opener stops properly.
Infrared Safety Sensors

Spring-loaded Nut-bolt Assembly
Electronically Set Open and Close Force
On some garage door openers the light on the opener power head will flash when it senses an obstruction and begins to reverse. This is normal.

Infrared safety sensors

Infrared safety sensors are mounted six inches above the floor on either side of the garage door opening.

1. Check to see if mounting brackets screws or lag bolts are tight. If not, tighten them with appropriate screwdriver or wrench.
2. Sensors need to be aimed at each other. If sensors are properly aligned an indicator light on the sensor itself will be lit. If they are not aligned the indicator light will be flashing or off. If the sensors are not aligned loosen the adjustment nuts or bolts on the mounting brackets, move the sensor back and forth, up and down until the indicator light comes on and retighten the nuts or bolts to the new position.
3. To check proper operation of these sensors, stand inside your garage with your garage door in the open position. Start the door in a downward direction and as it moves downward block the sensor beams from seeing each other by using your foot or some object. Upon the blocking of this

beam your garage door opener should reverse and the garage door should go back up.
On some garage door openers the light on the opener power head will flash when it senses an obstruction and begins to reverse. This is normal.

Screw Drive Openers

Tightening & Lubrication

1. Close your garage door.
2. Unplug power from your garage door opener.
3. Some rails come in pieces and are bolted together with metal flanges. Make sure all these flange nuts and bolts are secure and tight.
4. Mounted to the header is a mount bracket. Tighten lag bolt that go into the header with a ½" or 7/16" wrench.
5. Move to the rear hang at the power head and check lag bolts going into the ceiling and tighten any lag bolts and nuts and bolts.
6. Once all the opener nuts and bolts have been checked and tightened apply the white lubriplate grease in a bead directly onto the length of the screw.
7. Make sure all motor covers and light cover screws are tight and you are finished servicing your screw drive opener.

TIP: To quiet vibration noise coming from your garage door opener's power head slide in a small piece of cardboard between the housing cover and the power head at the point where the mounting screws go into the body and tighten the screws.

To prevent the light cover from vibrating or shaking take black electrical tape and wrap around the whole body and over the light cover. It adds a racing stripe look and quiets the light cover.

This is all the exterior maintenance normally done on a screw drive opener.

Open & Close Stop Adjustments

Most modern screw drive garage door openers have either rail mounted external stop switches or small gear driven stop switches mounted inside the power head. The external rail mounted stop switches are located directly on the rail at both ends of the rail. The internal stop switches are adjusted by way of slotted knobs located on the power head. Open & close stop adjustment knobs are not to be confused with the open & close force adjustments knobs. The open & close stop adjustment knobs should be positioned next to each other. Be sure that you can distinguish between the two different types of settings before you make any type of adjustments.

When all maintenance has been completed to the door and opener its time to check where your door stops in the proper open and close positions.

Screw drive openers that have rail mounted stop switches will follow the same basic instructions as noted below. With the exception, that instead of turning adjustment knobs the external stop switch setscrew will be loosened and the stop switch moved to the proper stop position. When this is accomplished retighten the setscrew.

1. Plug your garage door opener in to power and reattach the door to the opener.
2. Activate the opener to close the door. The door should stop at the point of contact with the floor and
go no farther. No close adjustment is needed if this is the case.
3. If the door opener tries to force the door down tighter it could damage the top section of the door or
damage the opener itself. Find the close adjustment knob and turn in the direction indicated on the
opener to back the door off of its overly tight condition. When adjustment is completed open and
close door to check its close stop position. Adjust again if needed.
4. If the door stops before it is totally closed, find the close adjustment knob and turn in the direction
indicated on the opener to move the door to the proper closed position as indicated in step 2.
5. Activate the door to move to its full open position. The door should stop just above the top of the
opening. No open adjustment is needed if this is the case.
6. If the door pulls to high out of the opening, find the open adjustment knob and turn in the direction
indicated on the opener to move the door lower to the proper open position as indicted in step 5.
Adjust again if needed.
7. If the door does not pull high enough to clear the opening, find the open adjustment knob and turn in
the direction indicated on the opener to move the door higher to the proper open position as indicated
in step 5. When adjustment is completed open and close door to check its close stop position. Adjust
again if needed.
When the open & close settings are complete move on to the safety sensor section.

Safety Sensors Settings

There are two types of safety sensors built into modern garage door openers:

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How to save hundreds of dollars in garage door repairs.

Obstruction safety sensors

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marked “open force -close force”
mounted on the power head
Spring-loaded Nut-bolt Assembly

• an electronically set open and close
force safety setting
Adjust these safety settings with just enough
force for the door to open and close fully without
setting off the sensors, but with enough
sensitivity to stop going up or down if the door
was to meet an obstruction.

Electronically Set Open and Close Force

1. To determine that the closing force is not excessive grasp the door handle or bottom edge during
downward travel. The opener should reverse due to this force.
2. If the garage door opener does not reverse, adjust the closing force by turning the closing force
adjustment knob or bolt counter clockwise to decrease force.
3. Retest by repeating steps 1 & 2 until the opener reverses properly.
4. To determine that the opening force is not excessive grasp the door handle or bottom edge during
upward travel. The opener should stop due to this force.
5. If the garage door opener does not stop, adjust the opening force by turning the opening force
adjustment knob or bolt counter clockwise.
6. Retest by repeating steps 4 & 5 until the opener stops properly.
On some garage door openers the light on the opener power head will flash when it senses an
obstruction and begins to reverse, this is normal.

Infrared safety sensors

Infrared safety sensors are mounted six inches above the floor on either side of the garage door opening.

1. Check to see if mounting brackets screws or lag bolts are tight. If not, tighten them with appropriate screwdriver or wrench.
Infrared Safety Sensors
2. Sensors need to be aimed at each other. If sensors are properly aligned an indicator light on the sensor itself will be lit. If they are not aligned the indicator light will be off. If the sensors are not aligned loosen the adjustment nuts or bolts on the mounting brackets, move the sensor back and forth, up and down until the indicator light comes on and retighten the nuts or bolts to the new position.

3. To check proper operation of these sensors, stand inside your garage with your garage door in the open position. Start the door in a downward direction and as it moves downward block the sensor beams from seeing each other by using your foot or some object. Upon the blocking of this beam your garage door opener should reverse and the garage door should go back Obstructed Infrared Safety Beam up.
On some garage door openers the light on the opener power head will flash when it senses an obstruction and begins to reverse. This is normal.

Conclusion

Once these procedures are completed plug your garage door opener back in. Reconnect your opener to

your garage door at the carriage and test to see how it works. Use your remote control to open and close
your garage door while standing next to it. If you hear any creaks or groans, locate the source and give it
a shot of oil. With this kind of care your door and opener will run smoothly and reliably for years to come.
These procedures should be repeated every year or as needed.

For remote controls, replacement parts and instructions for garage doors and openers, visit
http://www.garagedoortrouble.com/.

For comments or questions on the ebook, email
mailto:consultant@garagedoortrouble.com

Scenario 41 – When purchasing a new garage door and electric opener, what should I know?

|t used to be a very simple decision, but with technological advances, your model selections, colour selections, and material construction vary. Ensure that the company you choose can offer you the varied designs and makes.

Model selection:-This really means the design available. Steel garage doors come in embossed, ribbed and flush (flat) designs. They come with a smooth finish, or a wood grained finish. Wood garage doors come in embossed designs, or flush designs. Any garage door can be purchased with optional windows. Both for practical reasons, (to let natural light into the garage or purely for esthetic reasons).

Colour selections:- Wood garage doors can be painted in any colour, and therefore there are no limitations to your decorating ideas. Steel garage doors come pre-finished with baked enamel finishes in white, brown, almond or sand tone. Aluminum insulated garage doors come in a full selection of baked finishes (10) colours. Construction: Wood, Steel, Steel Insulated or Aluminum Insulated are you basic choices.

Wood:- Ensure that the door you are buying is constructed of solid wood, no fingerjoints or laminates.

Steel:- Ensure that you inquire about the gauge of steel used, and whether the paint is baked on, or simply sprayed. Also check for manufacturers warranty.

Steel Insulated:- Insulated doors are purchased q To enhance the strength of the door to eliminate the ease in which they dent or r To provide an R factor to

enhance heat retention. Basically, the thickness of the door and the type of insulating material will determine what you are purchasing. Styrofoam gives you approx.R4 for every inch of thickness, where polyurethane injected doors will give you approx. R 8.5 for every inch of thickness.

Aluminum Insulated Doors:- These garage doors are leading the industry in both colour selection and R ratings. They are polyurethane injected foam doors giving R 16.04 values and they offer a most complete colour selection.

Where should I buy my garage door?

When making your buying decision, many factors should figure in to your choice.

1. Ensure that the company you deal with is reputable. You can check this by having the company supply you references, or to supply you addresses where work has been completed.

2. A showroom location with fully functioning displays should be at your disposal. This will give you a clear look at both product selection, and variety. It will also give you a better
perception than a hand sample or photo.

3. The following items should be part of you garage door purchase
a) The removal and disposal of your old door
b) All new parts including all hardware
c) Torsion spring counter balancing
d) Matching exterior weatherstripping for the sides and top.
e) Installation of, or re-installation of your automatic garage door opener.

4. Free shop at home service is also something you should look for.

GARAGE DOOR OPENERS

Shut the door on sloppy slushy weather by installing a garage door opener. After all, who wants to get out of the car in freezing weather just to lift a heavy door? Day, after day, after day. If that's not reason enough, consider safety. Homes, Without automatic openers are more than six times as likely to have garage door accidents than homes with openers.

As of January 1993, a federal law requires that automatic openers be equipped with infrared beam and/or sensing edge. All residential opener models come with one or the other. The harmless infrared beam projects across the garage door opening. If the beam is

interrupted while the door is closing, the door automatically reverses. The instant reverse feature senses any contact with an object and automatically reverses. These safety features protect children and pets.

What to look for
Most garage door openers come with a built in light time delay, a light on the opener comes on when it is activated, and automatically shuts itself off in approximately 5 minutes. Some openers also have a manual light switch, which allows you to use the opener as a permanent light fixture if required. Additional accessories such as exterior entry systems and emergency key releases may cost more.

Horsepower:
Openers come with l/3-, or 1/2 horsepower (hp) motors. Garage door openers will open most garage doors up to 18 feet wide, and 7 feet high. However it is strongly suggested that 1/2 hp models be purchased, because the warranty and features easily outweigh the small cost differential.

Drive Type::
There are 3 basic types of drive systems available for garage door openers, chain drive, belt drive and screw drive. See your dealer for advice on which system best suits your needs.

Emergency Disconnect:
This allows you to disengage the garage door opener from outside the garage door in case of a power failure. This is necessary for garages with no access door.

NOTE: It is strongly recommended that you use a professional door company to supply and install your garage door opener. The opener must work in concert with a properly functioning garage door. To balance and adjust a garage door is dangerous for the non-expert, and is key to proper operation and longevity of the garage door opener.

Look for companies who does free garage door and opener inspection.

- You need to ask a company before they come out if the company charges a trip charge. Normally, even if they do not fix anything, they expect you to pay this fee that ranges from $34.95 and up. They figure that if you have to pay this that you will go ahead and let them do the job.

Watch out for companies who talk fast and will not listen to you as a customer.

- Normally this tactic will be used to take advantage of those that have no knowledge concerning the maintenance of a garage door and opener. The elderly and unknowledgeable will go along with what they say. The negative about this

approach is that they can say you need things fixed that are not broken and say you need upgrades that may not be necessarily true. A lot of door repairmen work on commission and the more they sale, the more money they make.

Watch out for companies with the large yellow page ads.

- Yellow page ads our very expensive and they have to pass that expense to the consumer. Make sense right. Smaller companies can be more personal and friendly. They can charge more reasonably because they do not have the overhead to pay for.

I hope you enjoyed the E-book and that you find it to have saved you hundreds of dollars in garage door repair or replacements.

If you have any questions or a scenario that was not mentioned in this ebook, please email me at consultant@garagedoortrouble.com. I will answer you personally.

I will add it to the ebook and update frequently to create the most comprehensive garage door and opener money saver on the market.

Thank you for your purchase.

http://www.garagedoortrouble.com/