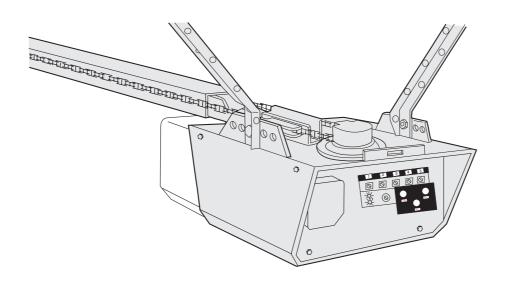
ENGLISH

Owner's Manual

1/2 HP

GARAGE DOOR OPENER

For Residential Use Only



CAUTION:

Read and follow all safety rules and operating instructions before first use of this product.

Fasten the manual near the garage door after installation.

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INTRODUCTION

Safety Symbol and Signal Word Review

This garage door opener has been designed and tested to offer safe service provided it is installed, operated, maintained and tested in strict accordance with the instructions and warnings contained in this manual.



Mechanical



Electrical

CAUTION

When you see these Safety Symbols and Signal Words on the following pages, they will alert you to the possibility of **serious** *injury or death* if you do not comply with the warnings that accompany them. The hazard may come from something mechanical or from electric shock. Read the warnings carefully.

When you see this Signal Word on the following pages, it will alert you to the possibility of damage to your garage door and/or the garage door opener if you do not comply with the cautionary statements that accompany it. Read them carefully.

Preparing your garage door

Before you begin:

- · Disable locks.
- · Remove any ropes connected to garage door.
- Complete the following test to make sure your garage door is balanced and is not sticking or binding:
 - 1. Lift the door about halfway as shown. Release the door. If balanced, it should stay in place supported entirely by its springs.
 - 2. Raise and lower the door to see if there is any binding or sticking.

If your door binds, sticks, or is out of balance, call a trained door systems technician.



Sectional Door

A WARNING

To prevent possible SERIOUS INJURY OR DEATH:

- ALWAYS call a trained door systems technician if garage door binds, sticks, or is out of balance. An unbalanced garage door may not reverse when required.
- NEVER try to loosen, move or adjust garage door, door springs, cables, pulleys, brackets or their hardware, all of which are under EXTREME tension.
- Disable ALL locks and remove ALL ropes connected to garage door BEFORE installing and operating garage door opener to avoid entanglement.

CAUTION

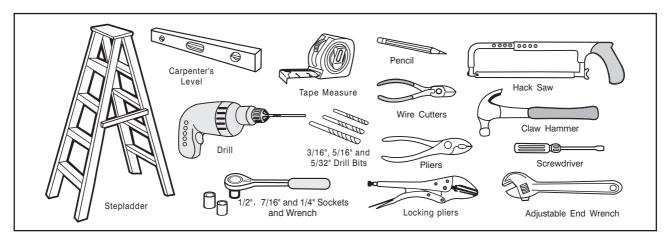
To prevent damage to garage door and opener:

ALWAYS disable locks before installing and operating the opener.

ONLY operate garage door opener at 110V, 60 Hz to avoid malfunction and damage.

Tools needed

During assembly, installation and adjustment of the opener, instructions will call for hand tools as illustrated below.



Planning

Identify the type and height of your garage door. Survey your garage area to see if any of the conditions below apply to your installation. Additional materials may be required. You may find it helpful to refer back to this page and the accompanying illustrations as you proceed with the installation of your opener.

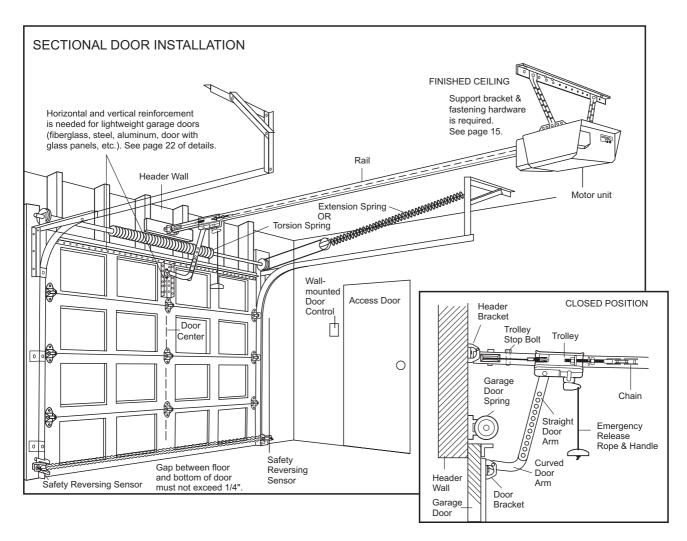
Depending on your requirements, there are several installation steps which may call for materials or hardware not included in the carton.

- Installation Step 1 Look at the wall or ceiling above the garage door. The header bracket must be securely fastened to structural supports.
- Installation Step 5 Do you have a finished ceiling in your garage? If so, a support bracket and additional fastening hardware may be required.
- Installation Step 10 Depending upon garage construction, extension brackets or wood blocks may be needed to install sensors.
- Installation Step 10 -Alternate floor mounting of the safety reversing sensor will require hardware not provided.

 Look at the garage door where it meets the floor. Any gap between the floor and the bottom of the door must not exceed 1/4". Otherwise, the safety reversal system may not work properly. See Adjustment Step 3. Floor or door should be repaired.

SECTIONAL DOOR INSTALLATIONS

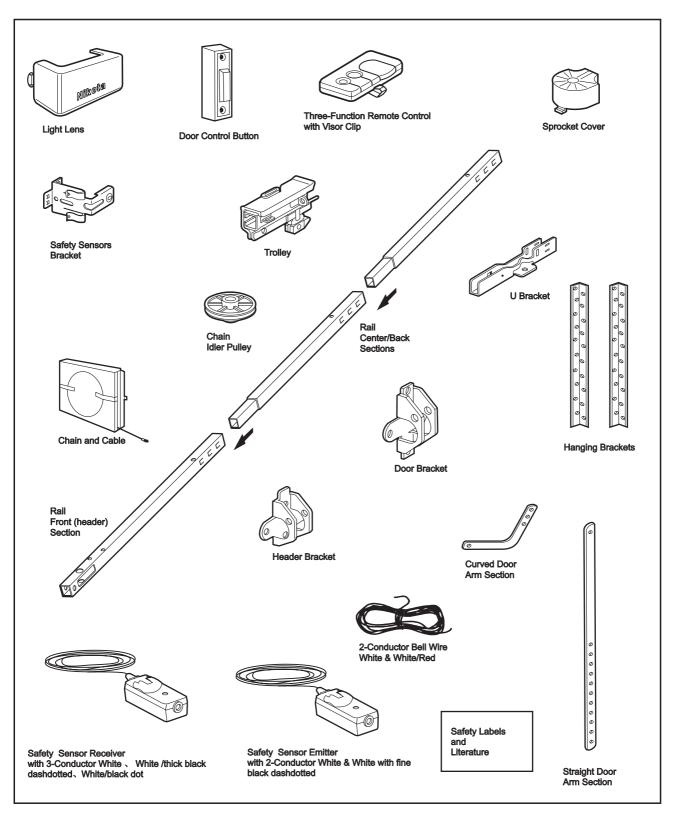
- Do you have a steel, aluminum, fiberglass or glass panel door? If so, horizontal and vertical reinforcement is required (Installation Step 11).
- The opener should be installed above the center of the door. If there is a torsion spring or center bearing plate in the way of the header bracket, it may be installed within 4 feet to the left or right of the door center. See Installation Steps 1 and 11.



Carton Inventory

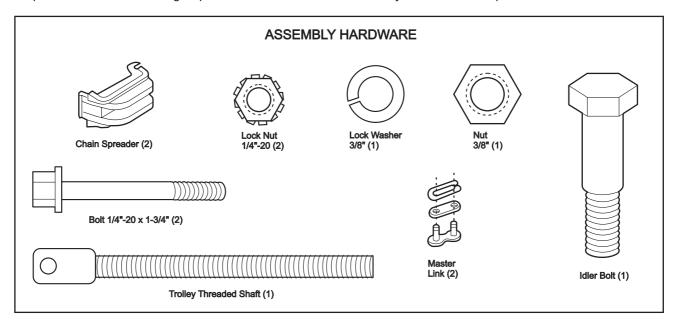
Your garage door opener is packaged in one carton which contains the motor unit and the parts illustrated below. Note that accessories will depend on the model purchased. If anything is missing, carefully check the packing material. Parts may be stuck in the

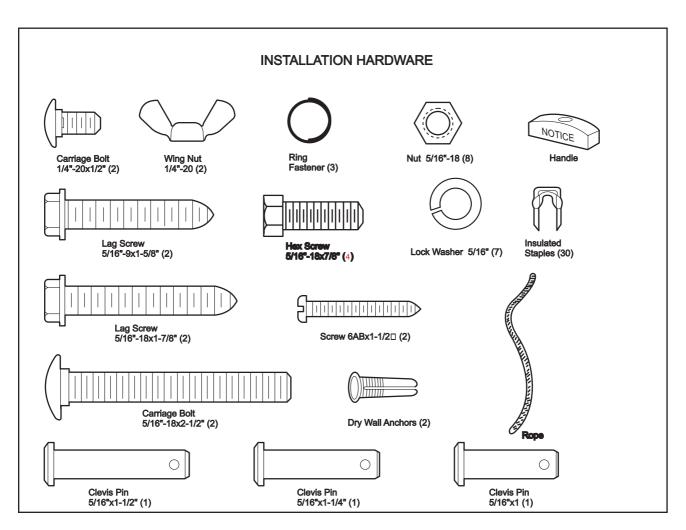
foam. Hardware for assembly and installation is shown on the next page. Save the carton and packing material until installation and adjustment is complete.



Hardware Inventory

Separate all hardware and group as shown below for the assembly and installation procedures.



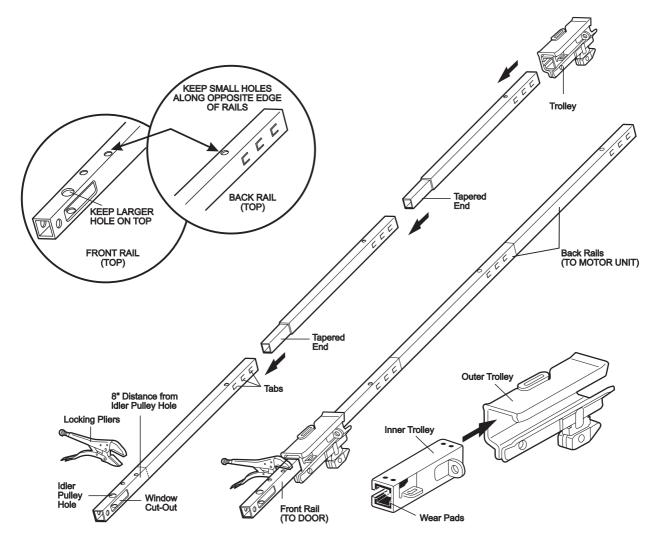


Assemble the Rail & Install the Trolley

To avoid installation difficulties, do not run the garage door opener until instructed to do so.

The front rail has a cut out window at the door end (see Illustration). The hole Above This Window is larger on the top of the rail than on the bottom. A smaller hole 3-1/2" away is close to the rail edge. Rotate the back rail so it has a similar hole close to the opposite edge, about 4-3/4" from the far end. A 3-piece rail uses two back rails.

- Remove the straight door arm and clevis pin packaged inside the front rail and set aside for Installation Step 12.
- 2. Align the rail sections on a flat surface exactly as shown and slide the tapered ends into the larger ones. Tabs along the side will lock into place.
- Place the motor unit on packing material to protect the cover, and rest the back end of the rail on top.
 For convenience, put a support under the front end of the rail.
- 4. As a temporary trolley stop, clamp a locking pliers onto the rail, 8" from the center of the idler pulley hole, as shown.
- 5. Check to be sure there are 4 white plastic wear pads inside the inner trolley. If they became loose during shipping, check all packing material. Snap them back into position as shown.
- 6. Connect the inner and outer trolleys as shown.
- 7. Slide the trolley assembly along the rail from the back end to the locked pliers.



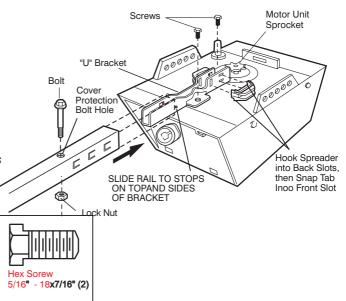
Fasten the Rail to the Motor Unit

- •Insert a 1/4"-20x1-3/4 bolt into the cover protection Bolt hole on the back end of the rail as shown. Tighten securely with a 1/4"-20 lock nut.
- Remove the two screws from the top of the motor unit
- •Attach spreaders to the U bracket by snapping them into place.
- Place the U bracket, flat side down, on the motor Unit and align the bracket boles with the screw holes. Fasten with the previously removed screws.
- Align the rail assembly with the top of the motor unit. Slide the rail end onto the U-bracket, all the way to the stops that protrude on the top and sides of the bracket.

Lock Nut



To avoid serious damage to garage door opener, use only those screws mounted in the top of the opener.



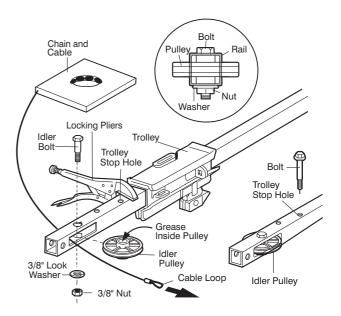
ASSEMBLY STEP 3

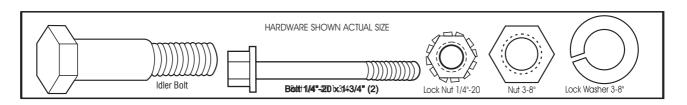
Install the Idler Pulley

HARDWARE SHOWN ACTUAL SIZE

Bolt 1/4"-20 1-3/4

- Lay the chain/cable beside the rail, as shown. grasp the end with the cable loop and pass approximately 12" of cable through the window. Allow it to hang until Assembly Step 5.
- •Remove the tape from the idler pullty. The inside center should be pre-greased. If dry, regrease to ensure proper operation.
- •Place the idler pulley into the window as shown.
- Insert the idler bolt from the top through the rail and pulley. Tighten with a 3/8" lock washer and nut underneath the rail until the lock washer is compressed.
- •Rotate the pulley to be sure it spins freely.
- •Insert a 1/4"-20 1-3/4 bolt into the trolley stop hole in the front of the rail as shown. Tighten securely with a 1/4"-20 lock nut.





Install the Chain/Cable and Attach the Sprocket Cover

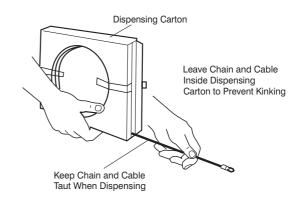
- 1. Pull the cable around the idler pulley and toward the trolley.
- 2. Connect the cable loop to the retaining slot on the trolley, as shown:
 - From below, push pins of master link bar up through cable loop and trolley slot.
 - Push master link cap over pins and past pin notches.
 - Slide clip-on spring over cap and onto pin notches until both pins are securely locked in place.
- 3. With the trolley against the pliers, dispense the remainder of the cable/chain along the rail toward the motor unit and around the sprocket. The sprocket teeth must engage the chain.
- Check to make sure the chain is not twisted, then connect it to the threaded shaft with the remaining master link.
- Thread the inner nut and lock washer onto the the trolley shaft.
- 6. Insert the trolley threaded shaft through the hole in the trolley. Be sure the chain is not twisted.
- 7. Loosely thread the outer nut onto the trolley shaft.
- 8. Remove the locking pliers.

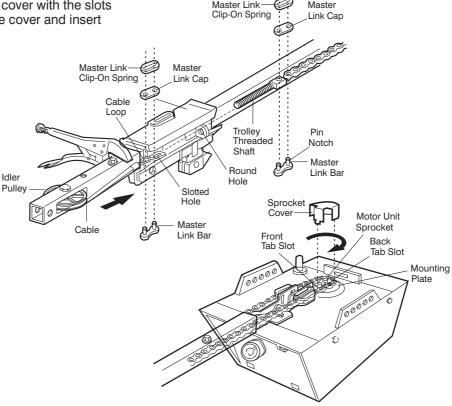
9. Align the tabs on the sprocket cover with the slots in the mounting plate. Squeeze cover and insert tabs in slots.



To avoid possible serious injury to fingers from moving garage door opener:

- ALWAYS keep hand clear of sprocket while operating opener.
- · Securely attach sprocket cover BEFORE operating.





Tighten the Chain

- Spin the inner nut and lock washer down the threaded shaft, away from the trolley.
- To tighten the chain, turn outer nut in the direction shown (Figure 1).
- When the chain is approximately 1/2" above the base of the rail at its midpoint, re-tighten the inner nut to secure the adjustment.

Sprocket noise can result if chain is too loose.

When installation is complete, you may notice some chain droop with the door closed. This is normal. If the chain returns to the position shown in Figure 2 when the door is open, do not re-adjust the chain.

NOTE: During future maintenance, ALWAYS pull the emergency release handle to disconnect trolley before adjusting chain.

NOTE: You may notice loosening of chain after Adjustment Step 2 (Test the Safety Reversal System). Check for proper tension and readjust chain if necessary. Then repeat Adjustment Step 2.

You have now finished assembling your garage door opener. Please read the following warnings before proceeding to the installation section:

Figure 1

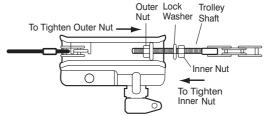
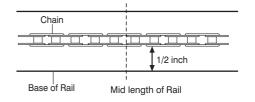


Figure 2



INSTALLATION

IMPORTANT INSTALLATION INSTRUCTIONS

A WARNING

To reduce the risk of severe injury or death:

- 1. READ AND FOLLOW ALL INSTALLATION WARNINGS AND INSTRUCTIONS.
- Install garage door opener only on properly balanced and lubricated garage door. An improperly balanced door may not reverse when required and could result in severe injury or death.
- 3. All repairs to cables, spring assemblies and other hardware MUST be made by a trained door systems technician before installing opener.
- 4. Disable all locks and remove all ropes connected to garage door before installing opener to avoid entanglement.
- 5. Install garage door opener 7 feet or more above floor.
- 6. Mount emergency release handle 6 feet above floor.
- NEVER connect garage door opener to power source until instructed to do so.

- 8. NEVER wear watches, rings or loose clothing while installing or servicing opener. They could be caught in garage door or opener mechanisms.
- 9. Install wall-mounted garage door control:
 - within sight of the garage door
 - out of reach of children at minimum height of 5 feet
 - away from all moving parts of the door.
- Place entrapment warning label on wall next to garage door control.
- 11. Place manual release/safety reverse test label in plain view on inside of garage door.
- 12. Upon completion of installation, test safety reversal system. Door MUST reverse on contact with a one-inch high object (or a 2x4 laid flat) on the floor.

Determine the Header Bracket Location

A WARNING

To prevent possible SERIOUS INJURY or DEATH:

- Header bracket MUST be RIGIDLY fastened to structural support on header wall or ceiling, otherwise garage door might not reverse when required. DO NOT install header bracket over drywall.
- Concrete anchors MUST be used if mounting header bracket or 2x4 into masonry.
- NEVER try to loosen, move or adjust garage door, springs, cables, pulleys, brackets, or their hardware, all of which are under EXTREME tension.
- ALWAYS call a trained door systems technician if garage door binds, sticks, or is out of balance. An unbalanced garage door might not reverse when required.

Installation procedures vary according to garage door types. Follow the instructions which apply to your door.

SECTIONAL DOOR

- 1. Close the door and mark the inside vertical centerline of the garage door.
- 2. Extend the line onto the header wall above the

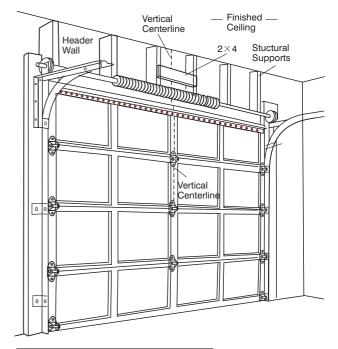
You can fasten the header bracket within 4 feet of the left or right of the door center only if a torsion spring or center bearing plate is in the way; or you can attach it to the ceiling(see page 12)when clearance is minimal.(It may be mounted on the wall upside down if necessary, to gain approximately 1/2 inch.)

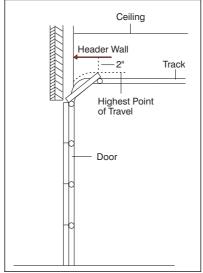
If you need to install the header bracket on a 2x4 (on wall or ceiling), use lag screws (not provided) to securely fasten the 2x4 to structural supports as show here.

3. Open your door to the highest point of travel as shown. Draw an intersecting horizontal line on the header wall 2 inch above the high point. This height will provide travel clearance for the top edge of the door.

NOTE: Door clearance brackets are available for sectional doors when headroom clearance is less than 2 inch.

Proceed to step 2, page 12.





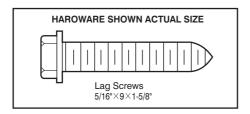
Sectonal door with curved track

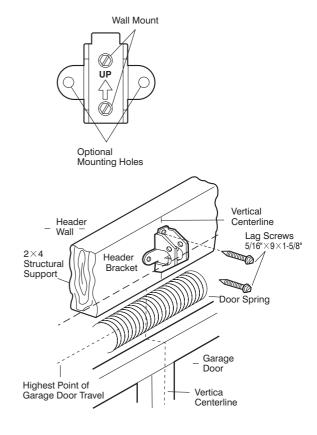
Install the Header Bracket

You can attach the header bracket either to the wall above the garage door, or to the ceiling. Follow the instructions which will work best for your particular requirements. Do not install the header bracket over drywall. If installing into masonry, use concrete anchors (not provided).

WALL HEADER BRACKET INSTALLATION

- Center the bracket on the vertical centerline with the bottom edge of the bracket on the horizontal line as shown (with the arrow pointing toward the ceiling).
- Mark the vertical set of bracket holes. Drill 3/16" pilot holes and fasten the bracket securely to a structural support with the hardware provided.

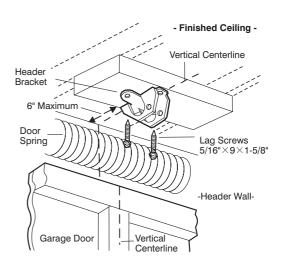




CEILING HEADER BRACKET INSTALLATION

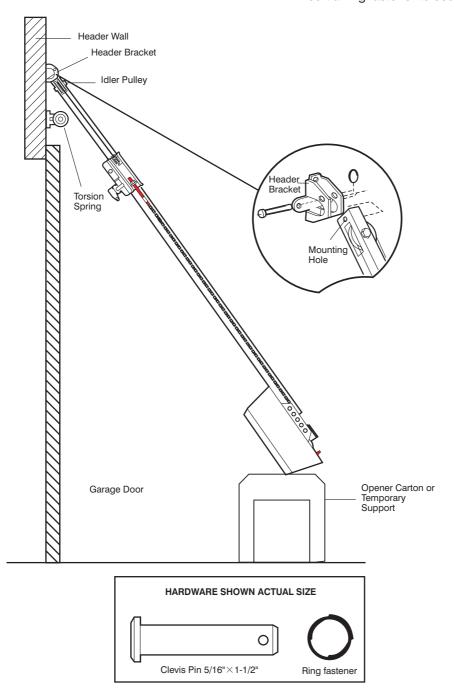
- Extend the vertical centerline onto the ceiling as shown.
- Center the bracket on the vertical mark, no more than 6" from the wall. Make sure the arrow is pointing away from the wall. The bracket can be mounted flush against the ceiling when clearance is minimal.
- Mark the side holes. Drill 3/16" pilot holes and fasten bracket securely to a structural support with the hardware provided.





Attach the Rail to the Header Bracket

- Position the opener on the garage floor below the header bracket. Use packing material as a protective base. NOTE: Ifthe door spring is in the way you'll need help. Have someone hold the opener securely on a temporary support to allow the rail to clear the spring.
- Position the front rail end within the header bracket and join with a 5/16"x1-1/2" clevis pin as shown.
- Insert a ring fastener to secure.



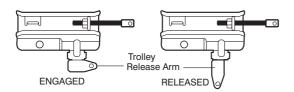
Position the Opener

Follow instructions which apply to your door type as illustrated.

SECTIONAL DOOR

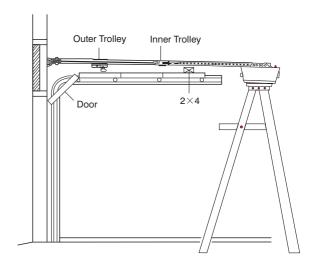
A 2x4 laid flat is convenient for setting an ideal door-to-rail distance.

- Raise the opener onto a stepladder. You will need help at this point if the ladder is not tall enough.
- Open the door all the way and place a 2x4 laid flat on the top section beneath the rail.
- If the top section or panel hits the trolley when you raise the door, pull down on the trolley release arm to disconnect inner and outer sections. Slide the outer trolley toward the motor unit. The trolley can remain disconnected until installation Step 12 is completed.



CAUTION

To prevent damage to garage door, rest garage door opener rail on 2x4 placed on top section of door.

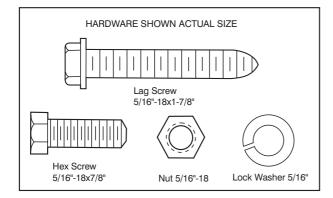


Hang the Opener

Two representative installations are shown. Yours may be different. Hanging brackets should be angled (Figure 1) to provide rigid support. On finished ceilings (Figure 2), attach a sturdy metal bracket to structural supports before installing the opener. This bracket and fastening hardware are not provided.

- 1. Measure the distance from each side of the motor unit to the structural support.
- 2. Cut both pieces of the hanging bracket to required lengths.
- 3. Drill 3/16" pilot holes in the structural supports.
- 4. Attach one end of each bracket to a support with 5/16"-18x1-7/8" lag screws.
- 5. Fasten the opener to the hanging brackets with 5/16"-18x7/8" hex screws, lock washers and nuts.
- Check to make sure the rail is centered over the door (or in line with the header bracket if the bracket is not centered above the door).
- 7. Remove the 2x4. Operate the door manually. If the door hits the rail, raise the header bracket.

NOTE: Do NOT connect power to opener at this time.



A WARNING

To avoid possible SERIOUS INJURY from a falling garage door opener, fasten it SECURELY to structural supports of the garage. Concrete anchors MUST be used if installing any brackets into masonry.

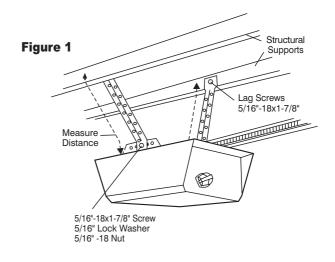
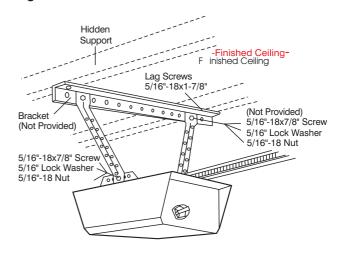


Figure 2



Install the Door Control

Locate door control within sight of door, at a minimum height of 5 feet where small children cannot reach, away from moving parts of door and door hardware. If installing into drywall, drill 5/32" holes and use the anchors provided.

- Strip 1/4" of insulation from one end of bell wire and connect to the two terminal screws on back of door control by color: white to 2 and white/red to 1.
- 2. **Door Control Button:** Fasten securely with 6ABx 1-1/2" screws.
 - Install bottom screw, allowing 1/8" to protrude above wall surface.
 - Position bottom of door control on screw head and slide down to secure. Adjust screw for snug fit.
 - Drill and install top screw with care to avoid cracking plastic housing. Do not over tighten.
 - · Insert top tabs and snap on cover.
- (For standard installation only) Run bell wire up wall and across ceiling to motor unit. Use insulated staples to secure wire in several places. Be careful not to pierce wire with a staple, creating a short or open circuit.
- 4. Connect the bell wire to the terminal screws on the motor unit panel: white to 5; white/red to 3.
- 5. Position the antenna wire as shown.
- 6. Use tacks or staples to permanently attach entrapment warning label to wall near door control, and manual release/safety reverse test label in a prominent location on inside of garage door.

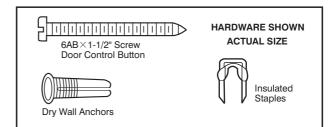
DO NOT connect power and operate opener at this time. The trolley will travel to the full *open* position but will not return to the close position until the sensor beam is connected and properly aligned.

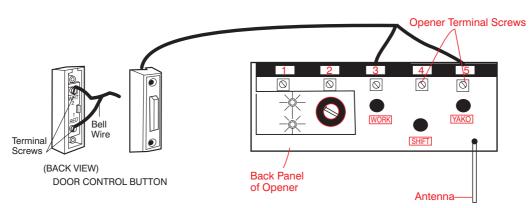
MARNING

To prevent possible SERIOUS INJURY or DEATH from electrocution:

- Be sure power is not connected BEFORE installing door control.
- Connect ONLY to 24 VOLT low voltage wires. To prevent possible SERIOUS INJURY or DEATH from a closing garage door:
- Install door control within sight of garage door, out of reach of children at a minimum height of 5 feet, and away from all moving parts of door.
- NEVER permit children to operate or play with door control push buttons or remote control transmitters,
- Activate door ONLY when it can be seen clearly, is properly adjusted, and there are no obstructions to door travel.
- ALWAYS keep garage door in sight until completely closed.
 NEVER permit anyone to cross path of closing garage door.

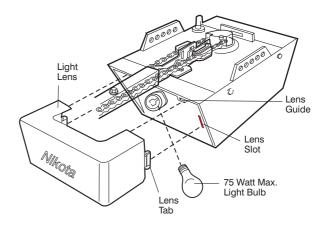
Outside Keylock Accessory Connections
To opener terminal screws: white to 4; white/red to 3





Install the Light and Lens

- Install a 75 watt maximum light bulb in the socket.
 The light will turn ON and remain lit for approximately 4-1/2 minutes when power is connected. Then the light will turn OFF.
- Apply slight pressure on the sides of the lens and slide the tabs into the slots in the end panel. (See illustration.)
- For convenience, the lens may be installed after Adjustment Step 3 on page 25.
- To remove, reverse the procedure. Use care to avoid snapping off lens tabs.
- Use standard neck Garage Door Opener bulbs for replacement.



INSTALLATION STEP 8

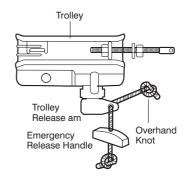
Attach the Emergency Release Rope and Handle

- Thread one end of the rope through the hole in the top of the red handle so "NOTICE" reads right side up as shown. Secure with an overhand knot at least 1" from the end of the rope to prevent slipping.
- Thread the other end of the rope through the hole in the release arm of the outer trolley.
- Adjust rope length so the handle is 6 feet above the floor. Secure with an overhand knot.

NOTE: If it is necessary to cut the rope, heat seal the cut end with a match or lighter to prevent unraveling.

A WARNING

- To prevent possible SERIOUS INJURY or DEATH from a falling garage door:
 - If possible, use emergency release handle to disengage trolley ONLY when garage door is CLOSED. Weak or broken springs or unbalanced door could result in an open door falling rapidly and/or unexpectedly.
- NEVER use emergency release handle unless garage doorway is clear of persons and obstructions.
- NEVER use handle to pull door open or closed. If rope knot becomes untied, you could fall.



Electrical Requirements

To avoid installation difficulties, do not run the opener at this time.

To reduce the risk of electric shock, your garage door opener has a grounding type plug with a third grounding pin. This plug will only fit into a grounding type outlet. If the plug doesn't fit into the outlet you have, contact a qualified electrician to install the proper outlet.



If permanent wiring is required by your local code, refer to the following procedure.

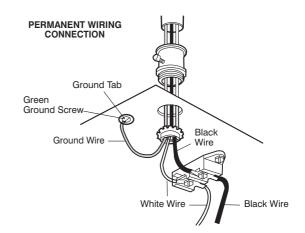
To make a permanent connection through the 7/8" hole in the top of the motor unit:

- Remove the motor unit cover screws and set the cover aside.
- · Remove the attached 3-prong cord.
- Connect the black (line) wire to the screw on the brass terminal; the white (neutral) wire to the screw on the silver terminal; and the ground wire to the green ground screw. The opener must be grounded.
- · Reinstall the cover.

A WARNING

To prevent possible SERIOUS INJURY or DEATH from electrocution or fire:

- Be sure power is not connected to the opener, and disconnect power to circuit BEFORE removing cover to establish permanent wiring connection.
- Garage door installation and wiring MUST be in compliance with all local electrical and building codes.
- NEVER use an extension cord, 2-wire adapter, or change plug in any way to make it fit outlet. Be sure the opener is grounded.



Install The Safety Reversing Sensor

The safety reversing sensor must be connected and aligned correctly before the garage door opener will move in the down direction.

IMPORTANT INFORMATION ABOUT THE SAFETY REVERSING SENSOR

When properly connected and aligned, the sensor will detect an obstacle in the path of its electronic beam. The sending eye (with an green indicator light) transmits an invisible light beam to the receiving eye (with a green indicator light). If an obstruction breaks the light beam while the door is closing, the door will stop and reverse to full open position, and the opener lights will flash 10 times.

The units must be installed inside the garage so that the sending and receiving eyes face each other across the door, no higher than 6" above the floor. Either can be installed on the left or right of the door as long as the sun never shines directly into the receiving eye lens.

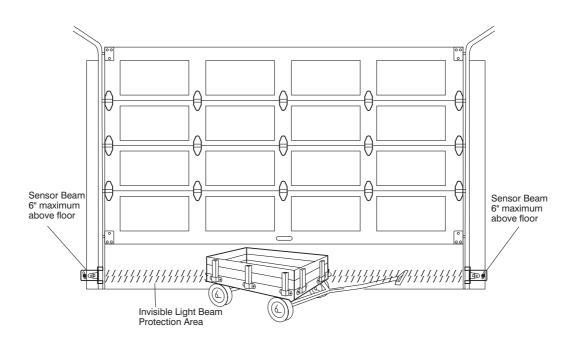
The mounting brackets are designed to clip onto the track of sectional garage doors without additional hardware.

A WARNING

- Be sure power is not connected to the garage door opener BEFORE installing the safety reversing sensor.
- To prevent SERIOUS INJURY or DEATH from a closing garage door:
 - Correctly connect and align the safety reversing sensor. This required safety device MUST NOT be disabled.
- Install the safety reversing sensor so beam is NO HIGHER than 6" above garage floor.

If it is necessary to mount the units on the wall, the brackets must be securely fastened to a solid surface such as the wall framing. If installing in masonry construction, add a piece of wood at each location to avoid drilling extra holes in masonry if repositioning is necessary.

The invisible light beam path must be unobstructed. No part of the garage door (or door tracks, springs, hinges, rollers or other hardware) may interrupt the beam while the door is closing.



Facing the door from inside the garage

INSTALLING THE BRACKETS

Be sure power to the opener is disconnected.

Install and align the brackets so the sensors will face each other across the garage door, with the beam no higher than 6" above the floor. They may be installed in one of three ways, as follows.

Garage door track installation (preferred):

 Slip the curved arms over the rounded edge of each door track, with the curved arms facing the door. Snap into place against the side of the track. It should lie flush, with the lip hugging the back edge of the track, as shown in Figure 1.

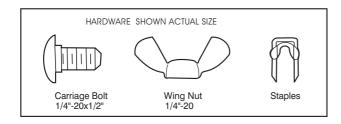
If your door track will not support the bracket securely, wall installation is recommended.

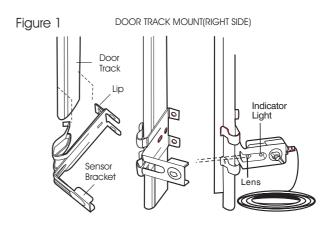
Wall installation:

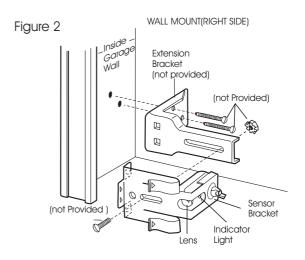
- Place the bracket against the wall with curved arms facing the door. Be sure there is enough clearance for the sensor beam to be unobstructed.
- If additional depth is needed, an extension bracket (not provided) or wood blocks can be used.
- Use bracket mounting holes as a template to locate and drill (2) 3/16" diameter pilot holes on the wall at each side of the door, no higher than 6" above the floor.
- Attach brackets to wall with lag screws (not provided).
- If using extension brackets or wood blocks, adjust right and left assemblies to the same distance out from the mounting surface. Make sure all door hardware obstructions are cleared.

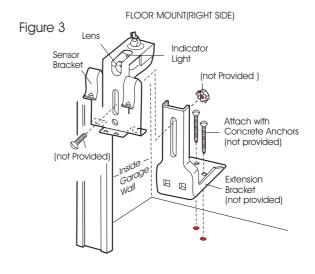
Floor installation:

- Use wood blocks or extension brackets (not provided) to elevate sensor brackets so the lenses will be no higher than 6" above the floor.
- Carefully measure and place right and left assemblies at the same distance out from the wall.
 Be sure all door hardware obstructions are cleared.
- Fasten to the floor with concrete anchors as shown.









MOUNTING AND WIRING THE SAFETY SENSORS

- Slide a 1/4"-20x1/2" carriage bolt head into the slot on each sensor. Use wing nuts to fasten sensors to brackets, with lenses pointing toward each other across the door. Be sure the lens is not obstructed by a bracket extension. See Figure 4.
- · Finger tighten the wing nuts.
- Run the wires from both sensors to the opener. Use insulated staples to secure wire to wall and ceiling.
- Strip 1/4" of insulation from each set of wires.
 Separate wires sufficiently to connect to the opener terminal screws: The Sensor Emitter's white to 5 and white with fine black dashdotted to 1;the Sensor Receiver's white to 5 and white/thick black dashdotted to 2 and white/black dot to 1...

NOTE: The Sensor Emitter had 2 wire (white white with fine black dashdotted) and the Sensor Receiver had 3 wire(white white/thick black dashdotted white/black dot)

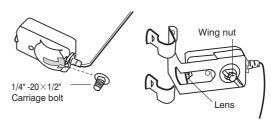
ALIGNING THE SAFETY SENSORS

 Plug in the opener. The indicator lights in both the sending and receiving eyes will glow steadily if wiring connections and alignment are correct.

The sending eye green indicator light will glow regardless of alignment or obstruction. If the green indicator light in the receiving eye is off, dim, or flickering (and the invisible light beam path is not obstructed), alignment is required.

- Loosen the sending eye wing nut and readjust, aiming directly at the receiving eye. Lock in place.
- Loosen the receiving eye wing nut and adjust sensor until it receives the sender's beam. When the green indicator light glows steadily, tighten the wing nut.

Figure 4

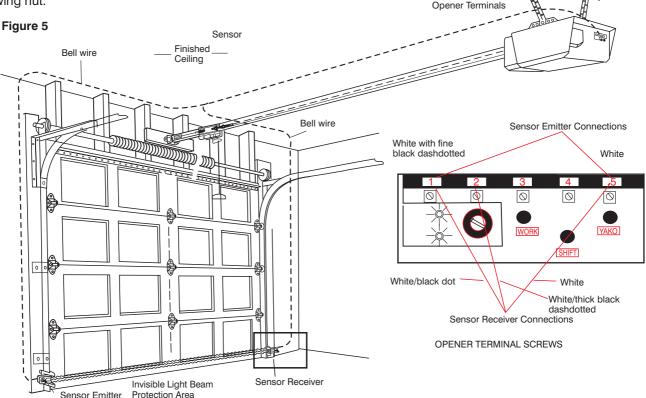


TROUBLESHOOTING THE SAFETY SENSORS

- 1. If the sending eye indicator light does not *glow* steadily after installation, check for:
 - · Electric power to the opener.
 - A short in the wires. These can occur at staples, or at screw terminal connections.
 - Incorrect wiring between sensors and opener.
 - · A broken wire.
- 2. If the sending eye indicator light glows steadily but the receiving eye indicator light doesn't:
 - · Check alignment.
 - · Check for an open wire to the receiving eye.
- 3. If the receiving eye indicator light is dim, realign either sensor.

NOTE: When the invisible beam path is obstructed or misaligned while the door is closing, the door will reverse. If the door is already open, it will not close. The opener lights will flash 10 times. See page 19.

Connect Wire to



Fasten the Door Bracket

Follow instructions which apply to your door type as illustrated below or on the following page.

A horizontal reinforcement brace should be long enough to be secured to two vertical supports. A vertical reinforcement brace should cover the height of the top panel.

The illustration shows one piece of angle iron as the horizontal brace. For the vertical brace, two pieces of angle iron are used to create a "U"-shaped support (Figure 1). The best solution is to check with your garage door manufacturer for an opener installation door reinforcement kit.

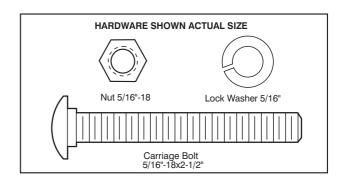
NOTE: Many vertical brace installations provide for direct attachment of the clevis pin and door arm. In this case you will not need the door bracket; proceed to Installation Step 12.

SECTIONAL DOORS

- Center the door bracket on the previously marked vertical centerline used for the header bracket installation. Note correct UP placement, as stamped inside the bracket (Figure 2).
- Position the bracket on the face of the door within the following limits:
 - A) The top edge of the bracket 2"-4" below the top edge of the door.
 - B) The top edge of the bracket directly below any structural support across the top of the door.

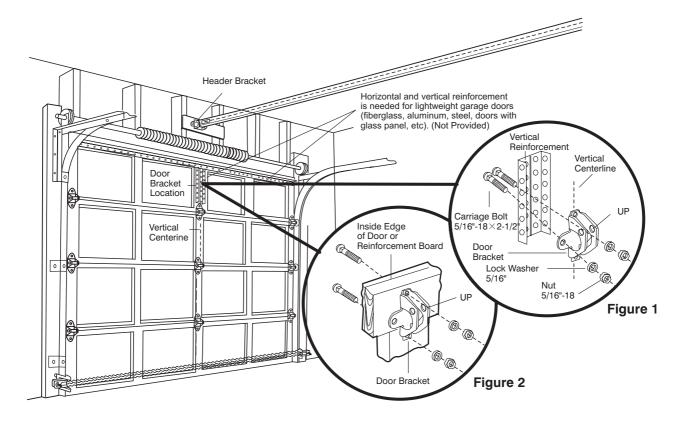
CAUTION

To prevent damage to garage door, reinforce inside of door with angle iron both vertically and horizontally.



Mark and drill15/16" left and right fastening holes.
 Secure the bracket as shown in Figure 1 if there is vertical reinforcement.

If your installation doesn't require vertical reinforcement but does need top and bottom fastening holes for the door bracket, fasten as shown in Figure 2.



Connect Door Arm to Trolley

Follow instructions which apply to your door type as illustrated below and on the following page.

SECTIONAL DOORS ONLY

 Make sure garage door is fully closed. Pull the emergency release handle to disconnect the outer trolley from the inner trolley. Slide the outer trolley back (away from the pulley) for 8" minimum as shown in Figures 1, 2 and 3.

• Figure 1:

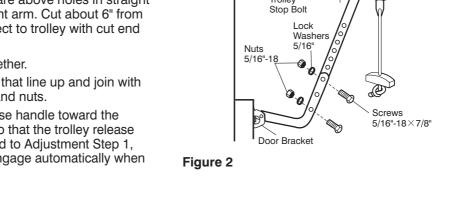
- Fasten straight door arm section to outer trolley with the 5/16"x1" clevis pin. Secure the connection with a ring fastener.
- Fasten curved section to the door bracket in the same way, using the 5/16"x1-1/4" clevis pin.

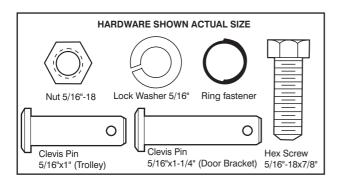
• Figure 2:

- Bring arm sections together. Find two pairs of holes that line up and join sections. Select holes as far apart as possible to increase door arm

• Figure 3, Hole alignment alternative:

- If holes in curved arm are above holes in straight arm, disconnect straight arm. Cut about 6" from the solid end. Reconnect to trolley with cut end down as shown.
- Bring arm sections together.
- Find two pairs of holes that line up and join with screws, lock washers and nuts.
- Pull the emergency release handle toward the opener at a 45° angle so that the trolley release arm is horizontal. Proceed to Adjustment Step 1, page 24. Trolley will re-engage automatically when opener is operated.





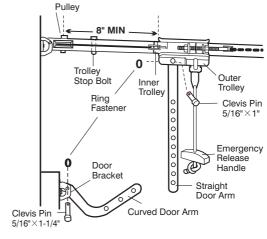
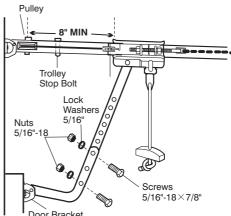


Figure 1



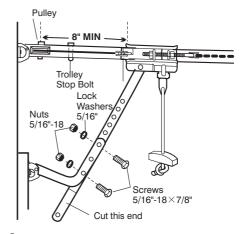


Figure 3

ADJUSTMENT STEP 1

Adjust limits and force

Limit adjustment settings regulate the points at which the door will stop when moving up or down. Force adjustment settings regulate the amount of power required to open and close the door. If the force are set too light, door travel may be interrupted by nuisance reversals in the down direction and stops in the up direction. Weather conditions can affect the door movement, so occasional adjustment may be needed.

- 1.Adjust limit and force:
- Press and hold down the "shift" push button, then press the "work" push button. Hold down both push buttons simultaneosuly until LED(green) flashes quickly. Release both push buttons.
- Wait a short moment until LED(red) and LED(green) flash finish simultaneously.
 Press and hold the "work" push button and move
- Press and hold the "work" push button and move the door until the door is fully closed. LED(green) light up.
- Press the "shift" push button. The door DOWN travel limits position is stored, LED(red) light up.
- Press and hold the "work" push button and move the door until the door is fully opened. LED(green) light up.
- Press the "shift" push button. The door OPEN travel limits position is stored, LED(red) light up.
- Press the "work" push button brevity. LED(red) and LED(green) flash. With a time delay the door close fully x 1 and opens fully x 1. The lights go out. LED(red) flashes. Programming is complete.

To operate the opener, press the Door Control push button. Run the opener through a complete travel cycle.

- Does the door open and close completely?
- Does the door stay closed and not reverse unintentionally when fully closed?

NOTE: Repeated operation of the opener during adjustment procedures may cause the motor to overheat and shut off. Simply wait 15 minutes and try again.

NOTE: If anything interferes with the door's upward travel, it will stop. If anything interferes with the door's downward travel (including binding or unbalanced doors), it will reverse.

NOTE: To prevent the trolley from hitting the cover Protection bolt, keep a minimum distance of **2-4**" Between the trolley and the bolt.

2. Setting tractive force:

Force adjustment controls are located on the back panel of the motor unit, the tractive force is set by a small screwdriver on the control, it must be set to that a counter-pressure of 150N(approx.15kg) leads to a reversal of the closing door and a stop of the opening door. The counter-pressure may be simulated by simulated by pressing ones hand lightly against the closing garage door.

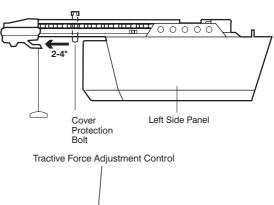
MARNING

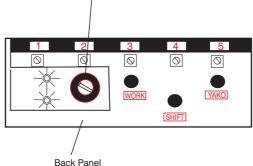
Without a properly installed safety reversal system, persons (particularly small children) could be SERIOUSLY INJURED or KILLED by a closing garage door.

- Incorrect adjustment of garage door travel limits will interfere with proper operation of safety reversal system.
- If one control (force or travel limits) is adjusted, the other control may also need adjustment.
- After any adjustments are made, the safety reversal system MUST be tested. Door MUST reverse on contact with one-inch high object (or 2x4 laid flat) on floor.

CAUTION

To prevent damage to vehicles, be sure fully open door provides adequate clearance.





ADJUSTMENT STEP 2

Test the Safety Reversal System

TEST

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

ADJUST

- · If the door stops on the obstruction, it is not traveling far enough in the down direction. Remove the board, repeat the "Adjust limit and force" Step.
- · Repeat the test.
- · When the door reverses on the one-inch board. remove the obstruction and run the opener through 3 or 4 complete travel cycles to test adjustment.

IMPORTANT SAFETY CHECK:

Repeat Adjustment Steps 1, 2 and 3 after:

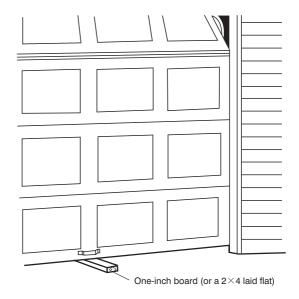
- · Each adjustment of door arm length, limits, or force controls.
- · Any repair to or adjustment of the garage door (including springs and hardware).
- · Any repair to or buckling of the garage floor.
- · Any repair to or adjustment of the opener.



A WARNING

Without a properly installed safety reversal system, persons (particularly small children) could be SERIOUSLY INJURED or KILLED by a closing garage door.

- Safety reversal system MUST be tested every month.
- · After ANY adjustments are made, the safety reversal system MUST be tested. Door MUST reverse on contact with one-inch high object (or 2x4 laid flat) on



ADJUSTMENT STEP 3

Test the Safety Reversing Sensor

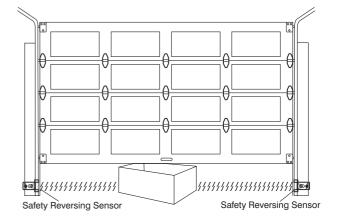
- · Press the remote control push button to open the door.
- Place the opener carton in the path of the door.
- Press the remote control push button to close the door. The door will not move more than an inch, and the opener light will flash.

The garage door opener will not close from a remote if the indicator light in either sensor is off (alerting you to the fact that the sensor is misaligned or obstructed).

If the opener closes the door when the safety reversing sensor is obstructed (and the sensors are no more than 6" above the floor), call for a trained door systems technician.

WARNING

Without a properly installed safety reversing sensor. persons (particularly small children) could be SERIOUSLY INJURED or KILLED by a closing garage door.



IMPORTANT SAFETY INSTRUCTIONS

A WARNING

To reduce the risk of severe iniury or death:

- 1. READ AND FOLLOW ALL WARNINGS AND INSTRUCTIONS.
- 2. ALWAYS keep remote controls out of reach of children. NEVER permit children to operate or play with garage door control push buttons or remote controls.
- ONLY activate garage door when it can be seen clearly, it is properly adjusted, and there are no obstructions to door travel.
- ALWAYS keep garage door in sight until completely closed. NO ONE SHOULD CROSS THE PATH OF THE MOVING DOOR.
- If possible, use emergency release handle to disengage trolley ONLY when garage door is CLOSED. Weak or broken springs or unbalanced door could result in an open door falling rapidly and/or unexpectedly.
- 6. NEVER use emergency release handle unless garage doorway is clear of persons and obstructions.
- 7. NEVER use handle to pull garage door open or closed. If rope knot becomes untied, you could fall.

- 8. After any adjustments are made, the safety reversal system MUST be tested.
- 9. Safety reversal system MUST be tested every month. Garage door MUST reverse on contact with one-inch high object (or a 2x4 laid flat) on the floor.
- ALWAYS KEEP GARAGE DOOR PROPERLY BALANCED (see page 3). An improperly balanced door may not reverse when required and could result in severe injury or death.
- 11. All repairs to cables, spring assemblies and other hardware, all of which are under EXTREME tension, MUST be made by a trained door systems technician.
- 12. ALWAYS disconnect electric power to garage door opener before making any repairs or removing covers.
- 13. SAVE THESE INSTRUCTIONS.

Using Your Garage Door Opener

Your opener and hand-held remote control have been factory-set to a matching code to operate with the large push button. Your opener will operate with as many as four "SRT" (Smart Receiver/Transmitter) hand-held remote controls, However, you can use either of the two small buttons, if you prefer. And, the 3-function remote control can also activate additional garage door openers and/or light controls. If you purchase a new remote, or if you wish to deactivate any remote, follow the instructions in the Programming section.

Activate your opener with any of the following:

- The hand-held Remote Control: Hold the large push button down until the door starts to move.
- The wall-mounted Door Control: Hold the push button down until the door starts to move.

When the opener is activated (with the safety reversing sensor correctly installed and aligned)

- 1. If open, the door will close. If closed, it will open.
- 2. If closing, the door will reverse.

- 3. If opening, the door will stop.
- 4. If the door has been stopped in a partially open position, it will close.
- 5. If obstructed while closing, the door wilt reverse. If the obstruction interrupts the sensor beam, the opener light will blink for five seconds.
- 6. If obstructed while opening, the door will stop.
- If fully open, the door will not close when the beam is broken. The sensor has no effect in the opening cycle.

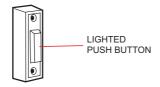
If the sensor is not installed, or is misaligned, the door won't close from a hand-held remote. However, you can close the door with the Door Control, *if you activate them until down travel is complete*. If you release them too soon, the door will reverse.

The opener light will turn on under the following conditions: when the opener is initially plugged in; when power is restored after interruption; when the opener is activated.

It will turn off automatically after 4-1/2 minutes . Bulb size is 75 watts maximum.

Using the Wall-Mounted Door Control

Press the lighted push button to open or close the door. Press again to reverse the door during the closing cycle or to stop the door white it's opening.



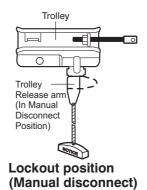
To Open the Door Manually

WARNING

- To prevent possible SERIOUS INJURY or DEATH from a falling garage door:
 - If possible, use emergency release handle to disengage trolley ONLY when garage door is CLOSED. Weak or broken springs or unbalanced door could result in an open door falling rapidly and/or unexpectedly.
 - NEVER use emergency release handle unless garage doorway is clear of persons and obstructions.
- NEVER use handle to pull door open or closed. If rope knot becomes untied, you could fall.

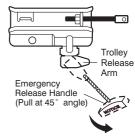
DISCONNECT THE TROLLEY:

The door should be fully closed if possible. Pull down on the emergency release handle (so that the trolley release arm snaps into a vertical position) and lift the door manually. The lockout feature prevents the trolley from reconnecting automatically, and the door can be raised and lowered manually as often as necessary.



TO RE-CONNECT THE TROLLEY:

Pull the emergency release handle toward the opener at a 45° degree angle so that the trolley release arm is horizontal. The trollev will reconnect on the next UP or DOWN operation, either manually or by using the door control or remote.



To reconnect

Care of Your Opener

LIMIT AND FORCE ADJUSTMENTS:

Weather conditions may cause some minor changes in door operation requiring some re-adjustments, particularly during the first year of operation.



Pages 24 refer to the limit and force adjustments. Follow the instructions carefully.

Repeat the safety reverse test (page 25) after any adjustment of limits or force.

MAINTENANCE SCHEDULE

Once a Month

- · Manually operate door. If it is unbalanced or binding, call a trained door systems technician.
- · Check to be sure door opens & closes fully. Adjust limits and/or force if necessary. (See pages 24.)
- Repeat the safety reverse test. Make any necessary adjustments. (See Adjustment Step 2.)

Twice a Year

· Check chain tension. Disconnect trolley first. Adjust if necessary (See page 10).

Once a Year

• Oil door rollers, bearings and hinges. The opener does not require additional lubrication. Do not grease the door tracks.

THE REMOTE CONTROL BATTERY



A WARNING

To prevent possible SERIOUS INJURY or DEATH:

- NEVER allow small children near batteries.
- If battery swallowed, immediately notify doctor.

The lithium battery should produce power for up to 5 years. To replace battery, use the visor clip or screwdriver blade to pry open the case as shown. Insert battery positive side down. Dispose of old battery properly.



NOTICE: To comply with FCC and/or Industry Canada rules, adjustment or modifications of this receiver and/or transmitter are prohibited, except for changing the code setting or replacing the battery. THERE ARE NO OTHER USER SERVICEABLE PARTS.

Having a Problem?

1. The opener doesn't operate from either the Door Control or the remote control:

- Does the opener have electric power? Plug a lamp into the outlet. If it doesn't light, check the fuse box or the circuit breaker. (Some outlets are controlled by a wall switch.)
- Have you disabled all door locks? Review installation instruction warnings on page 10.
- Is there a build-up of ice or snow under the door? The door may be frozen to the ground. Remove any restriction.
- The garage door spring may be broken. Have it replaced.
- Repeated operation may have tripped the overload protector in the motor. Wait 15 minutes and try again.

2. Opener operates from the remote, but not from the Door Control:

- Is the door control lit? If not, remove the bell wire from the
 motor unit terminals. Short the red and white terminals by
 touching both terminals at the same time with a piece of
 wire. If the opener runs, check for a faulty wire connection
 at the door control, a short under the staples, or a broken
 wire.
- Are the wiring connections correct? Review Installation Step 6, page 16.

3. The door operates from the Door Control, but not from the remote control:

- · Is the door push button flashing?
- Program the opener to match the remote control code. (Refer to instructions on the motor unit panel.) Repeat with all remotes.

4. The remote control has short range:

- · Change the location of the remote control in your car.
- Check to be sure the antenna on the side or back panel of motor unit extends fully downward.
- Some installations may have shorter range due to a metal door, foil backed insulation, or metal garage siding.

5. The garage door opens and closes by itself:

- · Be sure that all remote control push buttons are off.
- Remove the bell wire from the door control terminals and operate from the remote only. If this solves the problem, the door control is faulty (replace), or there is an intermittent short on the wire between the door control and the motor unit.
- · Clear memory and re-program all remote controls.

6. The door doesn't open completely:

- Is something obstructing the door? Is it out of balance, or are the springs broken? Remove the obstruction or repair the door.
- If the door is in good working order but now doesn't open all the way, increase the up force. See Adjustment Step 1.
- If the door opens at least 5 feet, the travel limits may need to be increased. One turn equals 2 inches of travel. See Adjustment Step 1.

Repeat the safety reverse test after the adjustment is complete.

7. The door stops but doesn't close completely:

· Review the Adjustment Step1.

Repeat the safety reverse test after any adjustment of door arm length, close force or down limit.

8. The door opens but won't close:

- If the opener light blinks, check the safety reversing sensor.
 See Installation Step 10.
- If the opener light doesn't blink and it is a new installation, check the down force. See Adjustment Step 1, page 24.
 For an existing installation, see below.

Repeat the safety reverse test after the adjustment is complete.

9. The door reverses for no apparent reason and opener light doesn't blink:

- Is something obstructing the door? Pull the emergency release handle. Operate the door manually. If it is unbalanced or binding, call a trained door systems technician.
- Clear any ice or snow from the garage floor area where the door closes.
- Review Adjustment Step 1 on page 24.
- If door reverses in the fully closed position, see Adjustment Step 1.

Repeat safety reverse test after adjustments to force and travel limits. The need for occasional adjustment of the force and limit settings is normal. Weather conditions in particular can affect door travel.

10. The door reverses for no apparent reason and opener light blinks for 5 seconds after reversing:

 Check the safety reversing sensor. Remove any obstruction or align the receiving eye. See Installation Step 10.

11, The opener light doesn't turn on:

 Replace the light bulb (75 watts maximum). Use a standard neck garage door opener bulb if regular bulb burns out.

12. The opener strains or maximum force is needed to operate door:

 The door may be out of balance or the springs may be broken. Close the door and use the emergency release handle to disconnect the trolley. Open and close the door manually. A properly balanced door will stay in any point of travel while being supported entirely by its springs. If it does not, disconnect the opener and call a trained door systems technician. Do not increase the force to operate the opener.

13. The opener motor hums briefly, then won't work:

- The garage door springs may be broken. See above.
- If the problem occurs on the first operation of the opener, door may be locked. Disable the door lock. If the chain was removed and reinstalled, the motor may be out of phase.
 Remove the chain; cycle the motor to the down position.
 Observe the drive sprocket. When it turns in a clockwise direction and stops in the down position, reinstall the chain.

Repeat the safety reverse test after the adjustment is complete.

14. The opener won't operate due to power failure:

- Use the emergency release handle to disconnect the trolley. The door can be opened and closed manually.
 When power is restored, press the Door Control push button and trolley will automatically reconnect (unless trolley is in lockout position.) See page 24.
- The Emergency Key Release accessory (for use on garages with no service door) disconnects the trolley from outside the garage in case of power failure.

15. The chain droops or sags:

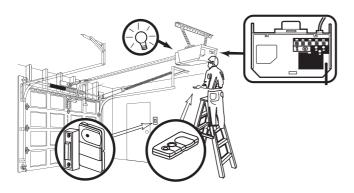
 It is normal for the chain to droop slightly in the closed door position. Use the emergency release to disconnect the trolley. If the chain returns to normal height when the trolley is disengaged and the door reverses on a one-inch board, no adjustments are needed (see page 10).

PROGRAMMING

Your garage door opener has already been programmed at the factory to operate with your hand-held remote control. The door will open and close when you press the large push button.

Below are instructions for programming your opener to operate with additional "SRT" remote controls.

To Add an Additional Hand-held Remote Control



CAUTION

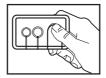
Modifying the device in any way other than approved by the person responsible may void the users authority to operate the equipment.

 Press and hold down the "Shift" push button, then press the "Yako" push button and hold down both push buttons until LED (green) flashes, then release the push buttons



Wait until LED(green) flash finished .

2. Press the "Yako" push button briefly. LED(green) lights up .



3. Press the handheld transmitter push button until LED(green) lights flashes.

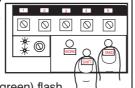


- Release the handheld transmitter push button and after a brief interval(2 sec.) Press again until LED(green) flashes quickly.
- Release the transmitter push button. LED(red) flashes

Programing is complete.

To Erase All Codes From Motor Unit Memory____

Press and hold down the "Shift" push button, then press the "Yako" push button and hold down both push buttons until LED(green)flashes, then release

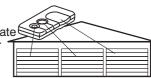


the push buttons. Wail until LED(green) flash \ finished, all previous codes are now erased, reprogram each remote you wish to use.

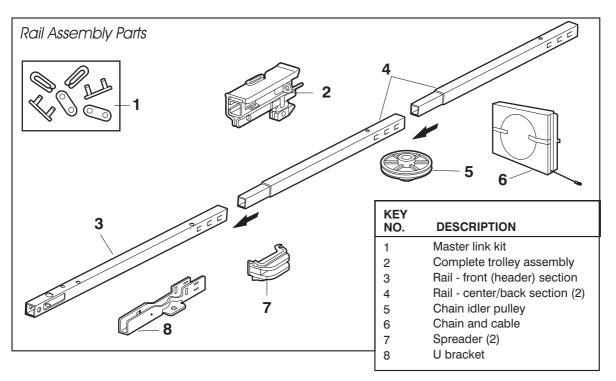
*3-Function Remotes

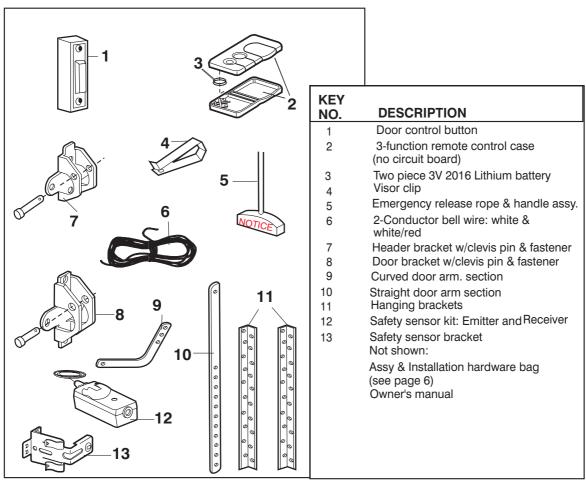
If supplied with your garage door opener, the large button is factory programmed to operate it. Additional buttons on any "SRT"

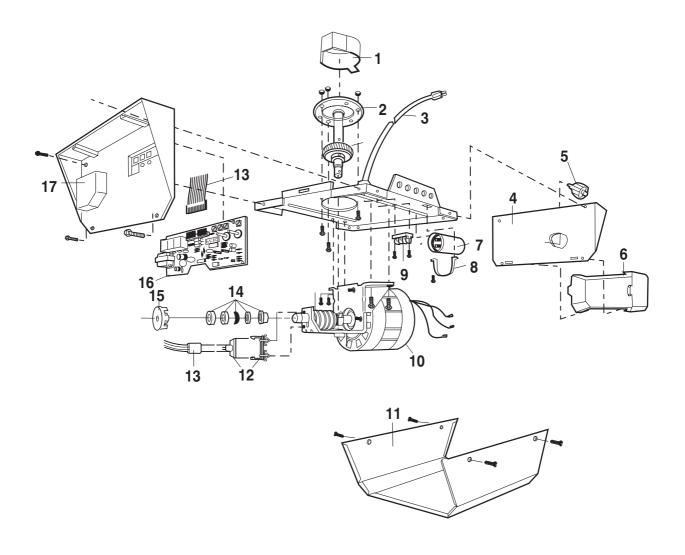
3-function remote can be programmed to operate other "SRT" garage door openers.



REPAIR PARTS







KEY NO.	DESCRIPTION	KEY NO.	DESCRIPTION		
1 2	Sprocket cover, Gear and sprocket assembly Complete with: Spring washer, Thrust washer, Retaining ring, Bearing plate, Roll pins (2),	10	Universal replacement motor & bracket assembly Complete with: Motor, worm, bracket, bearing assembly, RPM sensor		
Drive gear and worm gear,	11	Cover			
	Helical gear w/retainer and	12	RPM sensor assembly		
grease Drive/worm gear kit w/grease Roll pins (2)	13	Wire harness assembly w/plug			
	14	Shaft bearing ASM			
3	Line cord	15	Interrupter cup assembly		
4	End panel w/all labels	16	Receiver logic board assembly		
5	Light socket	17	End panel		
6	Light Lens		NOT SHOWN		
7	Capacitor		Opener assembly hardware kit		
8	Capacitor bracket		(includes screws not designated by a number in illustration).		
9	Terminal block w/screws		by a number in illustration).		

WARRANTY

NIKOTA WARRANTY

FULL 90-DAY WARRANTY ON GARAGE DOOR OPENER

For 90 days from the date of purchase, Nikota will repair this Garage DoorOpener, free of charge, if defective in material or workmanship.

LIMITED WARRANTY

From the 91st day until one year from the date of purchase, Nikota will furnish replacement parts for any defective parts, free of charge you pay for labor.

LIMITED WARRANTY ON MOTOR

1/2HP MOTOR: After 1 year and through 5 years, if the motor on this Garage Door Opener is defective, Nikota will furnish a replacement motor, free of charge. You pay for labor.

LIMITATION ON LIABILITY

NIKOTA WILL NOT BE LIABLE FOR LOSS OR DAMAGE TO PROPERTY OR ANY INCIDENTAL OR CONSEQUENTIAL LOSS OR EXPENSE FROM PROPERTY DAMAGE DUE DIRECTLY OR INDIRECTLY TO THE USE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty does not cover light bulbs or repair parts necessary because of operator abuse or negligence, including the failure to install, adjust and operate this garage door opener according to instructions contained in the owner's manual.

WARRANTY SERVICE IS AVAILABLE BY CONTACTING THE NEAREST NIKOTA SERVICE CENTER IN THE UNITED STATES.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

NIKOTA Tools Company, P. O. BOX 7340 ALHAMBRA, C A91802

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