Linear PRO ACCESS™ LDCO852

Smart WI-FI Garage Door Opener
DC motor with LED lighting and belt- or chain-drive rail

Installation instructions

For Sectional Type Doors
IMPORTANT SAFETY NOTES

Please read the instructions carefully! This garage door operator is designed to provide safe and reliable service if installed and tested as described in these instructions. A garage door is the largest mechanical appliance in a residence. Care must be taken to prevent injury or death during installation and operation of the garage door and garage door operator.

THE FOLLOWING FORMATS ARE USED FOR SAFETY NOTES IN THESE INSTRUCTIONS.

⚠ **WARNING** ⚠
This type of warning note is used to indicate possible mechanical hazards that may cause serious injuries or death.

⚠ **WARNING** ⚠
This type of warning note is used to indicate possible electrical shock hazards that may cause serious injuries or death.

⚠ **CAUTION** ⚠
This type of warning note is used to indicate the possibility of damage to the garage door or garage door operator.

IMPORTANT INSTALLATION INSTRUCTIONS
⚠ **WARNING** ⚠

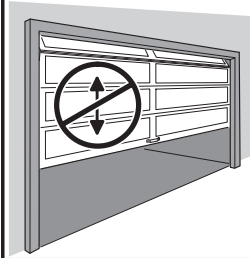### TO REDUCE THE RISK OF SEVERE INJURY OR DEATH TO PERSONS, REVIEW THESE INSTALLATION SAFETY STEPS BEFORE PROCEEDING

1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.
2. Install only on a properly balanced sectional garage door. An improperly balanced door could result in severe injury or death. Repairs to cables, spring assemblies, and other hardware must be made by a qualified service person before installing the opener.
3. Disable all locks and remove all ropes connected to the garage door before installing the opener. Ropes connected to a garage door can cause entanglement and death.
4. If possible, install door opener 7 feet or more above the floor with the manual release handle mounted 6 feet above the floor.
5. Do not connect the opener to the power source until instructed to do so.
6. Locate the wall station or push button within sight of the door at a minimum height of 5 feet so that small children cannot reach it. Locate the wall station or push button away from all moving parts of the door.
7. Install the User Safety Label on the wall adjacent to the wall station or push button.
8. Upon completion of the installation, the door must reverse when it comes in contact with a 1-1/2" high object (or a 2x4 laid flat at the center of the door) on the floor and when the infrared safety beam is blocked.
9. Do not wear watches, rings or loose clothing while installing or servicing an opener. Jewelry or loose clothing can be caught in the mechanism of the garage door or the opener.
10. DISCONNECT THE ELECTRIC POWER FROM THE GARAGE DOOR Opener BEFORE MAKING ANY REPAIRS OR REMOVING THE COVER.
11. Disconnecting the Door from the Opener: With the door in any position (preferably closed), carefully pull the red release handle. USE CAUTION IF THE DOOR IS OPEN. An open or partially open door may fall rapidly if disconnected from the opener. Do not allow anyone in the path of the door.
12. Use this operator only with sectional overhead doors no more than 10FT tall.

1   Check the Door Balance

1. From outside the garage, slowly open the door all the way, and then close it all the way. Notice if there is any binding, sticking or rubbing. The door should move smoothly in both directions.
2. Raise the garage door about halfway up. Carefully release the door and see if the door balances. It should stay in place. Close the door.

IMPORTANT: If the garage door is unbalanced or the door travel isn't smooth, have a qualified garage door professional adjust or repair the door.
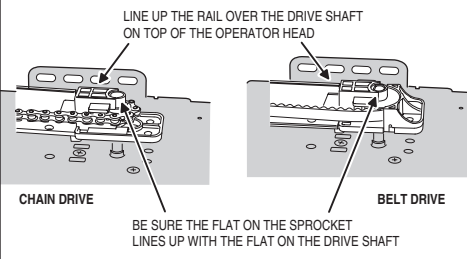

CHECKING THE DOOR BALANCE
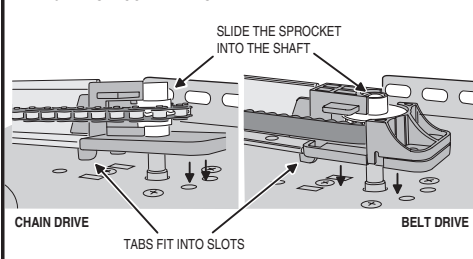THE DOOR SHOULD BALANCE WITHOUT GOING UP OR DOWN

2   Attach the Rail to the Operator

1. Place the operator head on the garage floor with cardboard underneath it to protect the finish.
2. Align the rail over the center of the operator head.
3. Be sure the flat on the sprocket lines up with the flat on the drive shaft.
4. Slide the sprocket onto the shaft.
5. Attach the rail to the operator head by installing four ¼-20 x ¾" bolts.
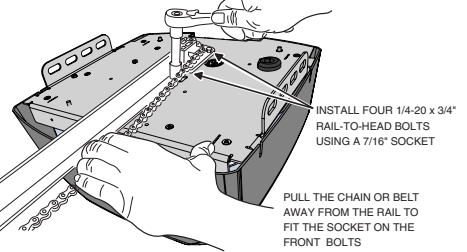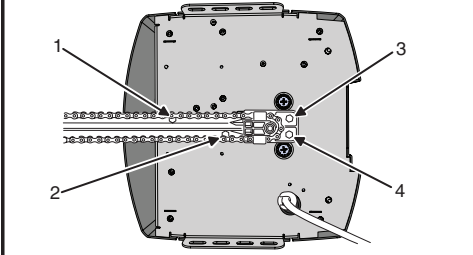6. Tighten the four bolts in the order shown with a 7/16" socket.

ALIGNING THE RAIL
LINE UP THE RAIL OVER THE DRIVE SHAFT ON TOP OF THE OPERATOR HEAD
CHAIN DRIVE   BELT DRIVE
BE SURE THE FLAT ON THE SPROCKET LINES UP WITH THE FLAT ON THE DRIVE SHAFT

MATING THE SPROCKET AND SHAFT
SLIDE THE SPROCKET INTO THE SHAFT
CHAIN DRIVE   BELT DRIVE
TABS FIT INTO SLOTS

ATTACHING THE RAIL
INSTALL FOUR 1/4-20 x 3/4" RAIL-TO-HEAD BOLTS USING A 7/16" SOCKET
PULL THE CHAIN OR BELT AWAY FROM THE RAIL TO FIT THE SOCKET ON THE FRONT BOLTS

TIGHTEN THE RAIL-TO-HEAD BOLTS IN THIS ORDER

3   Locate the Header Bracket Position

1. Close the door.
2. From inside the garage, use a pencil to mark the vertical centerline of the door on the header wall and on the top panel of the door.
3. Examine the area above the center of the door on the door header wall for a header bracket mounting location.
4. Open the door to the high-rise point (the point where the top edge of the door is highest above the floor) and measure the distance to the floor.
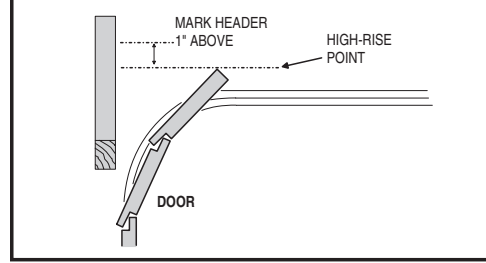5. Close the door and use a pencil to mark the header wall 1" above the measured high-rise point.
   NOTE: In some installations, the header bracket location will be higher than the door header. This will require adding a 2x4 (or larger) cross piece to the wall studs to provide a mounting location for the header bracket. Use lag screws (not supplied) to attach the 2x4 to the studs.
6. On doors with low headroom, the header bracket can be attached to the ceiling up to 6" back from the header wall (see next step).

MARKING THE CENTERLINE
MARK THE CENTERLINE OF THE DOOR ON THE HEADER AND THE TOP DOOR PANEL
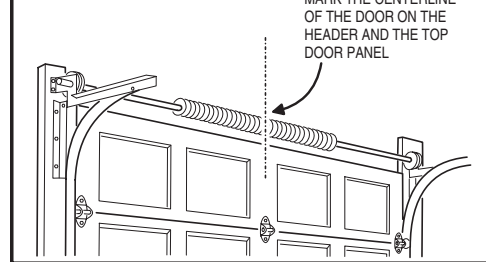
MARKING ABOVE THE HIGH-RISE POINT
MARK HEADER 1" ABOVE
HIGH-RISE POINT
DOOR

4   Install the Header Bracket
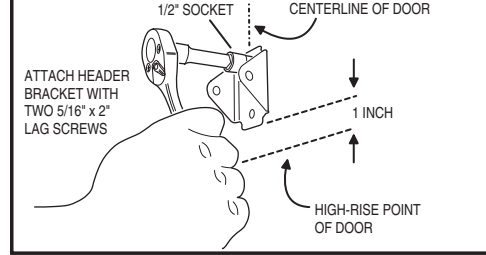### Attaching the Header Bracket to the Wall
1. Hold the header bracket on the center line drawn above the door with the bottom edge of the bracket on the line marked above the high-rise point.
2. Use a pencil to mark the two bracket holes.
3. Drill two 3/16" pilot holes about 2" deep.
4. Use a ½" socket to fasten the bracket with two 5/16" x 2" lag screws.
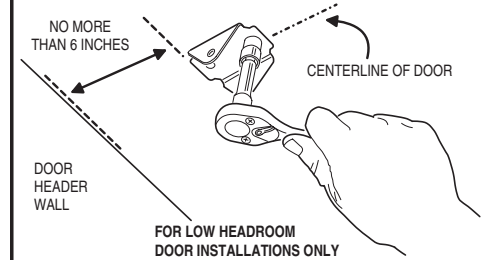
Attaching the Header Bracket to the Ceiling
NOTE: On a finished ceiling, be sure there is a joist to fasten to under the sheetrock where the header bracket will be located (use a stud finder). If there is none, install a 2x4 cross piece between the two closest joists to fasten the header bracket onto.
1. Extend the center line drawn on the header wall along the ceiling.
2. Hold the bracket on the center line with the edge of the bracket no further than 6" from the header wall.
3. Use a pencil to mark the two bracket holes.
4. Drill two 3/16" pilot holes about 2" deep.
5. Use a ½" socket to fasten the bracket with two 5/16" x 2" lag screws.

ATTACHING THE HEADER BRACKET
1/2" SOCKET   CENTERLINE OF DOOR
ATTACH HEADER BRACKET WITH TWO 5/16" x 2" LAG SCREWS
1 INCH
HIGH-RISE POINT OF DOOR

ATTACHING THE HEADER BRACKET TO THE CEILING
NO MORE THAN 6 INCHES
CENTERLINE OF DOOR
DOOR HEADER WALL
FOR LOW HEADROOM DOOR INSTALLATIONS ONLY

5   Connect the Rail to the Header Bracket
1. Place assembled operator on the empty carton on the floor with rail towards the door.
2. Insert the end of the rail into header bracket.
3. Insert the 5/16" x 2-3/8" clevis pin through header bracket and rail.
4. Secure the clevis pin with the hitch pin.

CONNECTING THE RAIL
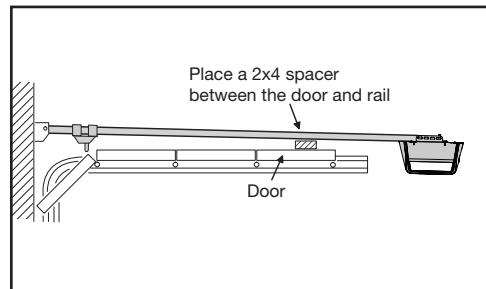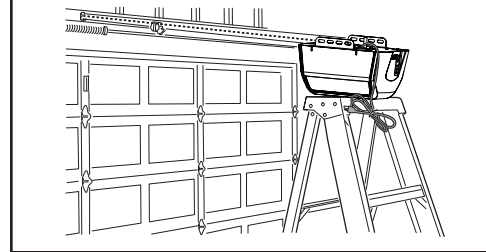INSERT HITCH PIN INTO CLEVIS PIN
2-3/8" LONG CLEVIS PIN
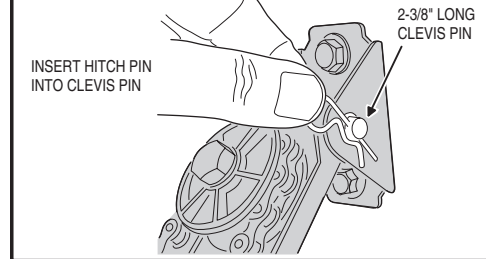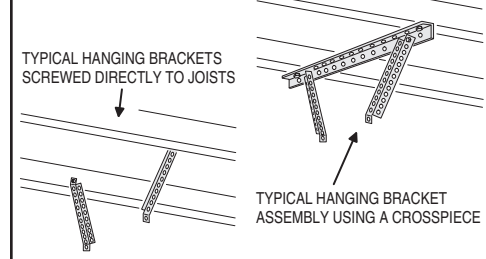
6   Hang the Operator
Installation requirements vary with garage construction. Hanging brackets should be angled to provide rigid support. Hanging material is not provided. Angle iron and lag screws are recommended. DO NOT USE NAILS. Following are typical operator hanging methods. Certain installations will require improvised methods.

1. Raise the operator head and set it on top of a stepladder (use extra spacers on top of ladder if it isn't tall enough).
2. Carefully open the door to the full up position. Lay a 2x4 across the top section of the door as a spacer. Adjust the operator height until the rail touches the spacer. The rail should be close to level.
3. Center the operator head and rail with the centerline mark on the top of the door.
4. For finished ceilings only: An angle iron cross piece between the two closest joists above the operator will be required. Mark mounting hole locations, drill pilot holes and attach the piece with two lag screws (not supplied).
5. Measure the distance from each of the operator's hanging tabs to the ceiling joists or angle iron cross piece.
6. Cut two angle iron pieces to the required lengths for hanging brackets. Bend brackets if required.
   • For unfinished ceilings: Hold each bracket in place and use a pencil to mark the locations where they will be attached to the joists, drill pilot holes and attach the pieces with two lag screws (not supplied).
   • For finished ceilings with an angle iron cross piece: Attach the two hanging brackets to the cross piece with two bolts and two keps nuts (not supplied).
7. Attach operator to hanging brackets using two 5/16-18 x 1" hex bolts and two 5/16-18 keps nuts (supplied). Insert bolts from the inside of hanger brackets with the nuts on the outside of the operator. Tighten nuts with a ½" socket.
8. Tighten all hanging hardware.
9. Open and close the door manually. The door should clear the rail by at least 1".
10. Attach the trolley's release lever to the red release handle with the cord supplied so the handle is at least 6 feet from the floor. Cut off any excess cord.
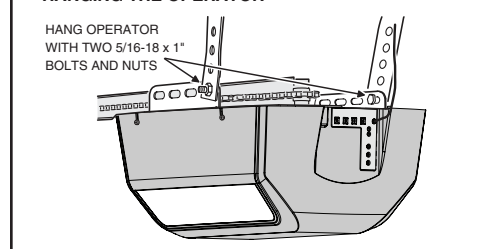

PREPARING TO HANG THE OPERATOR

Place a 2x4 spacer between the door and rail
Door

HANGING BRACKET OPTIONS
TYPICAL HANGING BRACKETS SCREWED DIRECTLY TO JOISTS
TYPICAL HANGING BRACKET ASSEMBLY USING A CROSSPIECE

HANGING THE OPERATOR
HANG OPERATOR WITH TWO 5/16-18 x 1" BOLTS AND NUTS

7 Install the Wall Station

NOTE: 22 AWG 2-conductor wall station and safety beam wire is supplied with the operator, Use this wire or the installation's pre-wiring. For additional wire, contact Linear PRO Access for information regarding the 24-pack Model HAE00009 wire and wire clip kit.

UL NOTE: All low voltage Class 2 cable used with this operator must be UL Listed Type CL2, CL2P, CL2R, or CL2X or other cable with equivalent or better electrical, mechanical, and flammability ratings.

1. It is paramount that the Smart Control Wall Station receives strong signal from your home's Wi-Fi router. Before you affix the Wall Station to the wall, survey your location to check the Wi-Fi signal. To do this, take a smart phone, connect it to your Wi-Fi network and then place your phone on the wall where you want to attach the Wall Station.

   If you have 2 or 3 bars on your phone for the Wi-Fi network, the signal is strong and you can proceed. If not, use one of these options to extend your Wi-Fi network's range.
   - Move your Wi-Fi router closer to the garage.
   - Purchase a Wi-Fi range extender.

2. Strip back ½" of insulation and connect a wire to each of the two terminals on the back of the wall station. **NOTE: Polarity is CRITICAL** (make note to connect Common to Common and Wall Station to Wall Station).

3. Use the screws provided to mount the wall station near an access door at a minimum height of five feet. **SEE IMPORTANT WARNING ABOVE!**
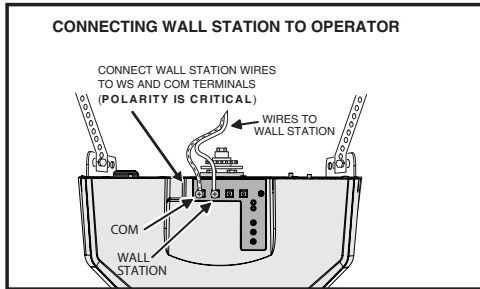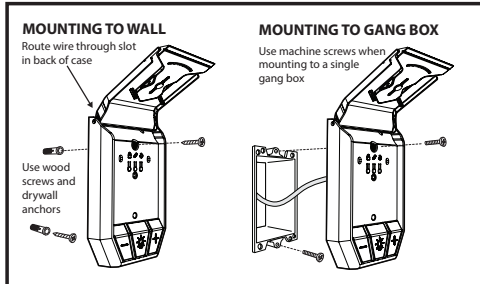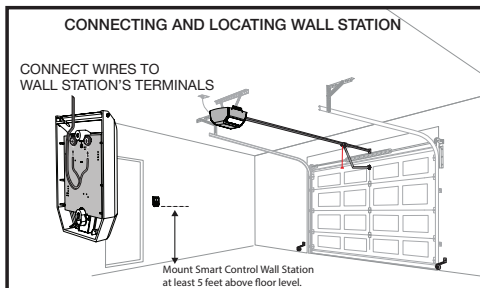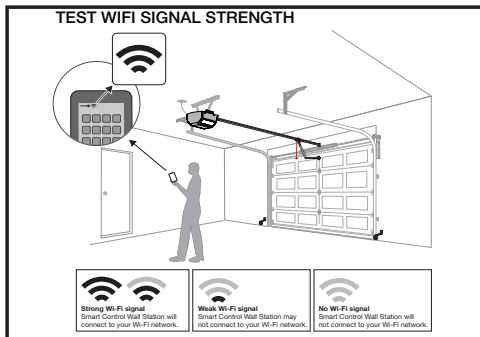
4. For non-prewired installations, route the wire to the back of the operator. Use insulated staples (not supplied) to secure the wire. Staples must straddle both wires to avoid electrical shorts.

5. Cut the wall station wire about 6" longer than needed to reach the operator terminals. Strip back ½" of insulation.

6. Connect wires to the operator's WALL STATION terminal COMMON terminal. **Polarity is CRITICAL.**

7. Apply the User Safety Instruction Label to the wall next to the wall station. Use staples or tacks to help the label remain in place over time.

   IMPORTANT! DO NOT PLUG THE OPERATOR IN AT THIS TIME! More installation is required.

TEST WIFI SIGNAL STRENGTH

Strong Wi-Fi signal — Smart Control Wall Station will connect to your Wi-Fi network.

Weak Wi-Fi signal — Smart Control Wall Station may not connect to your Wi-Fi network.

No Wi-Fi signal — Smart Control Wall Station will not connect to your Wi-Fi network.

CONNECTING AND LOCATING WALL STATION

CONNECT WIRES TO WALL STATION'S TERMINALS

Mount Smart Control Wall Station at least 5 feet above floor level.

MOUNTING TO WALL
Route wire through slot in back of case

Use wood screws and drywall anchors

MOUNTING TO GANG BOX
Use machine screws when mounting to a single gang box

CONNECTING WALL STATION TO OPERATOR

CONNECT WALL STATION WIRES TO WS AND COM TERMINALS (POLARITY IS CRITICAL)

WIRES TO WALL STATION

COM

WALL STATION

8 Install the Safety Beam

NOTE: The safety beam's infrared light beam must not be obstructed by the door, or by any part of the door hardware. Use wooden spacers between the beam brackets and wall

if necessary to create proper clearance.

1. Assemble the two safety beam brackets from the four L-shaped brackets using two ¼-20 x ¾" bolts and ¼-20 keps nuts (one nut & bolt for each bracket).

2. Position the assembled brackets on each side of the door **so the center line of the safety beam lenses will be 5-1/2" above the floor.** Use the index marks on the brackets to make the bracket assemblies equal lengths. Mark the locations for the bracket mounting screws.

   NOTE: The safety beam receiver (the unit with two indicators) should be located on the "shady" side of the door to prevent sunlight from shining directly into the receiver's lens.

3. Drill two 3/16" pilot holes for lag screws at marks. Mount the brackets with two ¼" x 1-¼" lag screws and tighten with a 7/16" socket.

4. Insert the sender and receiver into the bracket holes so the lenses of the units will face each other. Twist the units until the spring clips lock into a detent mark on the brackets. To protect the units from being bumped after installation, it is recommended to mount the sender and receiver inside the brackets as shown.
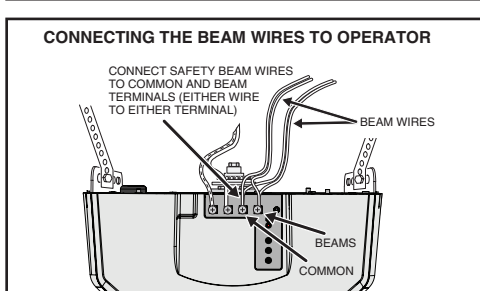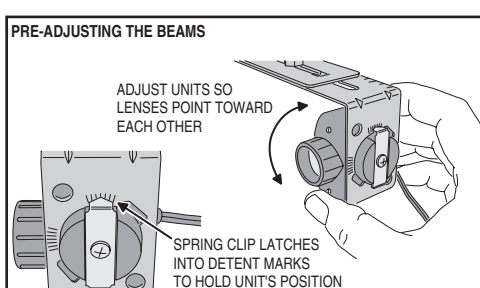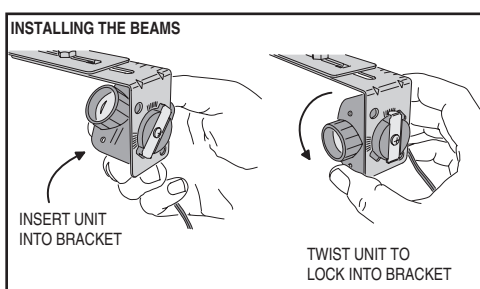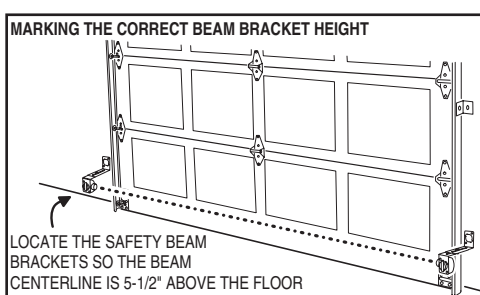
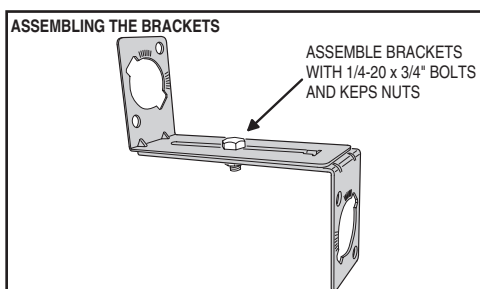- *IMPORTANT: Be careful to route the safety beam wiring away from any moving parts of the door or operator.*

5. For non-prewired installations, route the wires from the sender and receiver, up the wall above the door hardware, then over to the center of the door, then along the top of the rail (or ceiling), and back to the operator head. Cut the wires about 6" longer than needed to reach the operator terminals. Strip back ½" of insulation from the ends of the wires.

6. For non-prewired installations, secure all the wires to the wall and ceiling with insulated staples (not supplied). Staples must straddle both wires to prevent shorts. Secure the wire to the top of the rail with wire clips (supplied).

7. At the operator, twist one wire from each pair together, then twist the other wire from each pair together.

8. Attach either twisted connection to the operator's BEAM terminal. Connect the other twisted connection to the operator's COMMON terminal.

ASSEMBLING THE BRACKETS

ASSEMBLE BRACKETS WITH 1/4-20 x 3/4" BOLTS AND KEPS NUTS

MARKING THE CORRECT BEAM BRACKET HEIGHT

LOCATE THE SAFETY BEAM BRACKETS SO THE BEAM CENTERLINE IS 5-1/2" ABOVE THE FLOOR

INSTALLING THE BEAMS

INSERT UNIT INTO BRACKET

TWIST UNIT TO LOCK INTO BRACKET

PRE-ADJUSTING THE BEAMS

ADJUST UNITS SO LENSES POINT TOWARD EACH OTHER

SPRING CLIP LATCHES INTO DETENT MARKS TO HOLD UNIT'S POSITION

CONNECTING THE BEAM WIRES TO OPERATOR

CONNECT SAFETY BEAM WIRES TO COMMON AND BEAM TERMINALS (EITHER WIRE TO EITHER TERMINAL)

BEAM WIRES

BEAMS

COMMON

9 Install the Door Bracket and Door Arm

1. Fully close the door. Hold the door bracket against the inside of the door's top panel. Align the top edge of the bracket 2" to 4" below the top edge of the door; or, if there is a structural support across the top of the door, place the top edge of the bracket directly below the support. Align the vertical centerline drawn on the door with the center of the bracket. See the figure for details. Mark the left and right holes of the bracket.

2. Drill ¼" holes at marks and insert two ¼-20 x 2" carriage bolts (not supplied) from outside of door through the door bracket.

3. Secure door bracket with two ¼-20 keps nuts (not supplied). Tighten with a 7/16" socket.

4. Slide the 5/16" x 1-3/8" clevis pin through one hole on door bracket; then the single hole on the curved door arm; then through the other hole on the door bracket. Secure the clevis pin with the hitch pin.

5. Insert the single hole end of the straight door arm into the slot in the trolley. Slide the 1-1/8" clevis pin through the hole and secure it with a hitch pin.
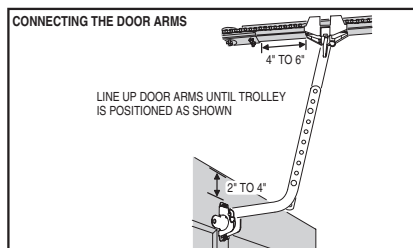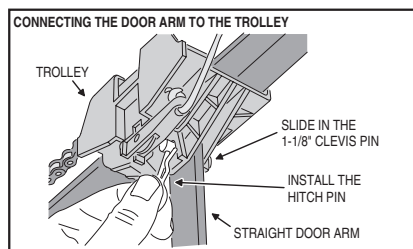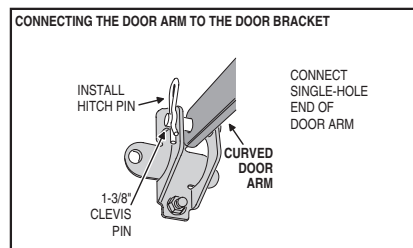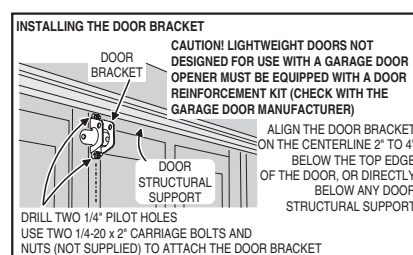
6. Flip the trolley release lever to disconnect the trolley.

7. Rotate the curved door arm upward to meet the straight door arm connected to the trolley. Align the two door arms so that the holes in both arms overlap.

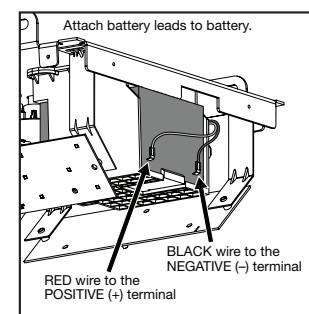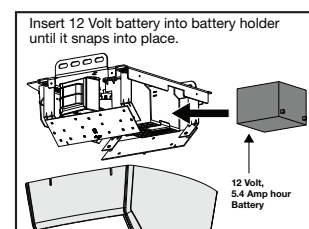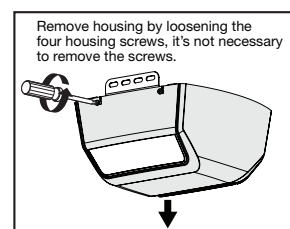   *NOTE: The straight door arm should be slightly angled toward the operator head.*

CONNECTING DOOR ARMS

1. Line up door arms until trolley is positioned as shown. Connect the arms together using two 5/16-18 x 1" bolts inserted in the highest and lowest matching holes, secure the bolts with two 5/16" keps nuts, tighten with a ½" socket.

INSTALLING THE DOOR BRACKET

DOOR BRACKET

CAUTION! LIGHTWEIGHT DOORS NOT DESIGNED FOR USE WITH A GARAGE DOOR OPENER MUST BE EQUIPPED WITH A DOOR REINFORCEMENT KIT (CHECK WITH THE GARAGE DOOR MANUFACTURER)

DOOR STRUCTURAL SUPPORT

ALIGN THE DOOR BRACKET ON THE CENTERLINE 2" TO 4" BELOW THE TOP EDGE OF THE DOOR, OR DIRECTLY BELOW ANY DOOR STRUCTURAL SUPPORT

DRILL TWO 1/4" PILOT HOLES USE TWO 1/4-20 x 2" CARRIAGE BOLTS AND NUTS (NOT SUPPLIED) TO ATTACH THE DOOR BRACKET

CONNECTING THE DOOR ARM TO THE DOOR BRACKET

INSTALL HITCH PIN

CONNECT SINGLE-HOLE END OF DOOR ARM

CURVED DOOR ARM

1-3/8" CLEVIS PIN

CONNECTING THE DOOR ARM TO THE TROLLEY

TROLLEY

SLIDE IN THE 1-1/8" CLEVIS PIN

INSTALL THE HITCH PIN

STRAIGHT DOOR ARM

CONNECTING THE DOOR ARMS

4" TO 6"

LINE UP DOOR ARMS UNTIL TROLLEY IS POSITIONED AS SHOWN

2" TO 4"

10 Installing the Battery Back-up

1. Loosening the four housing screws and remove the housing.
2. Insert the battery into the battery holder until it snaps into place.
3. Connect the battery terminal wires to the battery terminals. Make sure the RED wire is connected to the POSITIVE terminal and the BLACK wire is connected to the NEGATIVE terminal.
4. Replace the operator housing and tighten the four screws to secure the housing.

Remove housing by loosening the four housing screws, it's not necessary to remove the screws.

Insert 12 Volt battery into battery holder until it snaps into place.

12 Volt, 5.4 Amp hour Battery

Attach battery leads to battery.

BLACK wire to the NEGATIVE (–) terminal

RED wire to the POSITIVE (+) terminal

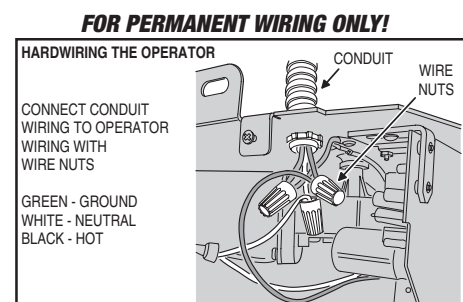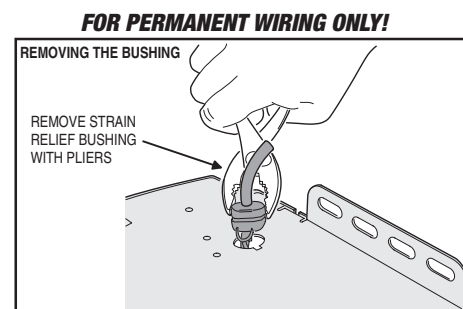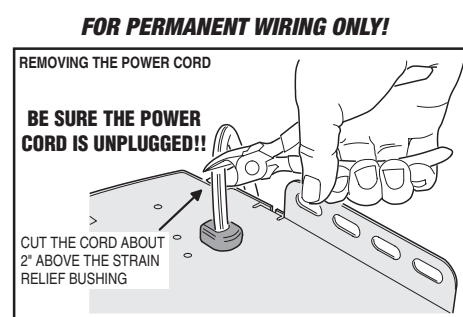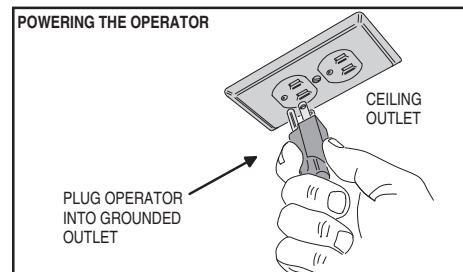## 11 Connect the Operator to Power Source

Cord and Outlet Connection

The operator should be connected to a grounded receptacle on the ceiling or near the operator head. If none is available which will accept the grounded operator plug, one should be installed by a qualified electrician. **Do not use an extension cord.**

1. Plug the operator into a grounded receptacle.
2. When the operator is plugged in, a click should sound in the operator and the light should turn on. If light does not turn on, check the power source and light bulb.

Permanent Wiring

SOME LOCAL ELECTRICAL CODES REQUIRE PERMANENT WIRING BETWEEN THE OPERATOR AND THE POWER SOURCE THROUGH A CONDUIT. IT IS RECOMMENDED THAT YOU HAVE A LICENSED ELECTRICAL CONTRACTOR FOLLOW THESE STEPS ONLY IF PERMANENT WIRING IS REQUIRED.

1. BE SURE POWER CORD IS UNPLUGGED.
2. Cut the power cord about 2" above the strain relief bushing on the operator.
3. Remove the four side screws and bottom cover of operator.
4. Use pliers to remove the strain relief bushing and discard the bushing.
5. Remove the outer insulation from the power cord and strip the white, black, and green wire insulation back about ½".
6. Pull white (neutral), black (hot) and green (ground) wires through conduit.
7. Connect the conduit to the operator with the appropriate termination.
8. Use wire nuts (not supplied) to connect the wires to the matching color wires inside operator head.
9. Secure the wires away from all moving parts with a zip-tie as shown in the figure.
10. Replace the operator cover and the four side screws.
11. Connect the conduit wires to the power source at junction box.
12. When power is applied to the operator, a click should sound and the light should turn on. If the light does not turn on, check the power source and wiring.

POWERING THE OPERATOR

CEILING OUTLET

PLUG OPERATOR INTO GROUNDED OUTLET

FOR PERMANENT WIRING ONLY!

REMOVING THE POWER CORD

BE SURE THE POWER CORD IS UNPLUGGED!!

CUT THE CORD ABOUT 2" ABOVE THE STRAIN RELIEF BUSHING

FOR PERMANENT WIRING ONLY!

REMOVING THE BUSHING

REMOVE STRAIN RELIEF BUSHING WITH PLIERS

FOR PERMANENT WIRING ONLY!

HARDWIRING THE OPERATOR

CONDUIT

WIRE NUTS

CONNECT CONDUIT WIRING TO OPERATOR WIRING WITH WIRE NUTS

GREEN - GROUND
WHITE - NEUTRAL
BLACK - HOT

12 Aligning the Infrared Safety Beam

The safety beam has two components, a sender and a receiver. The sender produces a narrow infrared beam that travels across the bottom of the door opening to the infrared receiver. If an object blocks the infrared beam while the door is closing, the door will stop, then reverse and fully open (the operator's light will flash three times). As a safety feature, the operator will ignore signals from all remote controls if the door is open and the infrared safety beam is blocked or out of alignment. In this case, the door can be forced closed by pressing and holding the wall station's up/down arrow pushbutton (be sure the door area is in clear view).

⚠ WARNING ⚠
With the door closed, disengage the trolley from the chain or belt during these alignment tests by pulling the red release handle.

⚠ WARNING ⚠
Serious injury or death from a closing garage door may result because of failure to test and adjust safety reverse system. Repeat this test monthly and adjust as needed.

Safety Beam Test

1 Check that the operator has power. The green lights on the sender and receiver should be lit.

2 If the receiver's green light is on, but the red light is off, the receiver has power but is not detecting the infrared beam from the sender. The red light might flash when the beam is partially detected. This can be caused by mis-alignment or something blocking the beam. Adjust the safety beam sender and receiver while watching the receiver's red light (stay out of the beam while aligning it). When the red light stays on, rotate the sender towards the ceiling and stop when the red light on the receiver begins to flicker. Rotate the sender back towards a horizontal position with the floor and stop as soon as the red light on the receiver lights solid. The beam is now properly aligned.

SAFETY BEAM INDICATORS

GREEN LIGHT
ON = POWER ON
OFF = POWER OFF

RED LIGHT
ON = BEAM ALIGNED, NO OBSTRUCTION
OFF = BEAM NOT ALIGNED, OR OBSTRUCTION
BLINKING = BEAM NEEDS BETTER ALIGNMENT

RED LIGHT
GREEN LIGHT

SAFETY BEAM INDICATOR TABLE	
GREEN ON	POWER ON
GREEN OFF	POWER OFF
RED ON	BEAM OK - NO BLOCKAGE
RED OFF	BEAM BLOCKED OR MIS-ALIGNED
RED FLASHING	BEAM ALIGNED POORLY

NOTE: If the receiver's red light remains off, check for: 1) Dirt on the receiver's lens, 2) Sunlight shining into the receiver's lens, 3) A short in the safety beam wiring (from staples or at the operator terminals).

3 With the door closed and the operator disengaged from the door, press the wall station's UP/DOWN ARROW button to move the traveler (the part on the belt or chain that the trolley engages with) to the up position (away from the door). **NOTE: Do not cycle the operator to full travel without the door connected.**

4 Push the wall station's UP/DOWN ARROW button again. While the traveler is moving to the down position (toward the door), block the safety beam. **THE TRAVELER MUST STOP, THEN REVERSE TO THE UP POSITION.** The operator's light and red light should flash three times.

5 Place an object in the path of the safety beam. Check that constant pressure is required on the wall station's UP/DOWN ARROW button to cause the traveler to move toward the down position. Release the pushbutton *before* the operator stops; check that the traveler returns to the up position.

NOTE: The garage door operator will not respond to a CLOSE command from a radio transmitter if the safety beam is blocked.

6 To reconnect the operator, flip the release lever up. Raise the door manually until the operator reconnects.

NOTE: If the door remains idle for 5 minutes, the beam light will turn off to save power. The beam power turns on for 5 minutes when door moves down to the fully closed position. The beam power can be restored for 5 minutes by pressing the light button.

ADJUSTING THE BEAM

1. ADJUST THE SENDER AND RECEIVER UNTIL THE RED INDICATOR LIGHTS SOLID

2. ADJUST SENDER UP UNTIL RECEIVER'S RED INDICATOR FLASHES

3. ADJUST SENDER DOWN JUST UNTIL RECEIVER'S RED INDICATOR LIGHTS SOLID

CHECKING FOR REVERSAL

THE TRAVELER MUST REVERSE WHEN THE BEAM IS INTERRUPTED

DOWN
UP

BLOCK THE BEAM WHILE THE TRAVELER IS MOVING DOWN

TOWARD DOOR
TOWARD OPERATOR
TRAVELER

CHECKING FORCED CLOSURE FEATURE

VERIFY THAT CONSTANT PRESSURE ON THE WALL STATION'S OPEN/CLOSE BUTTON WILL MAKE DOOR CLOSE

PLACE AN OBJECT IN BEAM'S PATH

RELEASE BUTTON BEFORE OPERATOR STOPS, THE DOORSHOULD RETURN TO THE OPEN POSITION

13 Remote Controls

The operator is supplied with a three-button remote control (the second and third buttons can be used to control an additional operators). Additional single and multi-button remote controls can be purchased. The short wire on the back of the operator serves as an antenna for the remote controls. Do not cut off the wire or the remote controls will not operate well.

To Add or Remove a Remote Control

⚠ WARNING ⚠
Children operating or playing with a garage door operator can injure themselves or others. The garage door could cause serious injury or death. Do not allow children to operate the remote control(s) or the wall station. A moving garage door could injure or kill someone under it. Activate the operator only when the door is clearly visible, free of obstructions and adjusted properly.

1 Press the opener's LEARN button until the opener's RED LED flashes once and the light turns on. **A remote must be added or removed while the light is still on (15 seconds).**

2 Press and hold the desired button on the remote. The opener's light and the RED LED will flash once if a remote was added.

3 Repeat Steps 1 & 2 for any additional remote controls.

To Remove A Remote Control

1 If a remote is already programmed to the opener and you want to delete it, follow the same procedure as ADDING REMOTES above. The opener will recognize the remote and delete it from memory. The RED LED and LIGHT will blink 4 times to show the REMOTE was successfully deleted.

To Remove All Remote Controls

1 Press and hold the operator's LEARN button for ten (10) seconds or more, then release the LEARN button.

2 The RED LED and the operator's light will flash 4 times indicating ALL remotes have been remove from memory.

Testing The Remote

1 Before testing the remote control, straighten out the operator's antenna wire so it points up.

2 **Stand clear of the door,** press the remote control's button and verify that the operator starts. **PRESS THE REMOTE CONTROL'S BUTTON AGAIN TO STOP THE DOOR MID-TRAVEL.**

Replacing a Remote Control's Battery

When the red light on the remote glows dimly, or fails to light at all when the remote is activated, the battery needs replacing.

1 Open the remote's case and remove the circuit board.

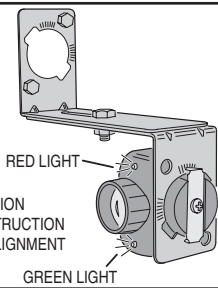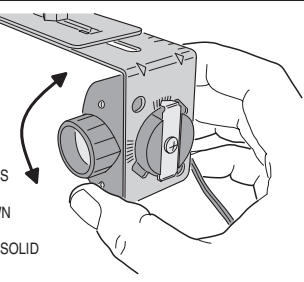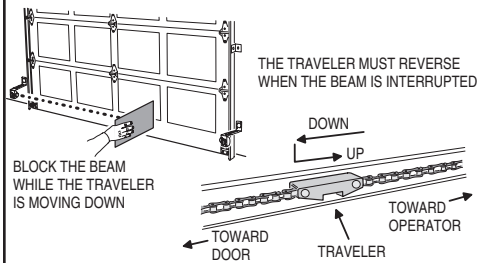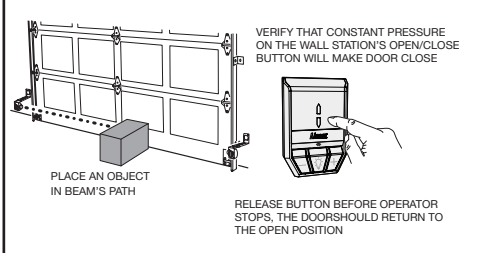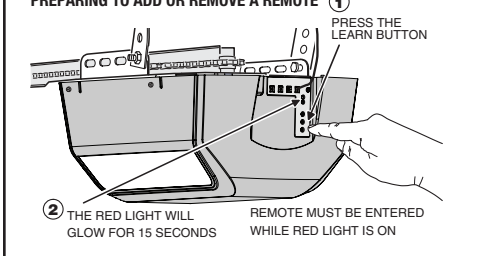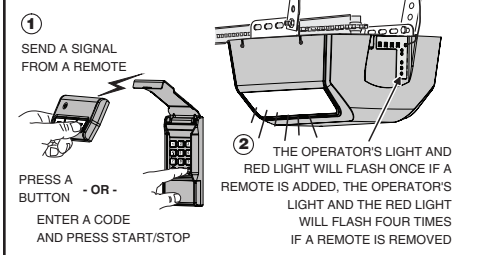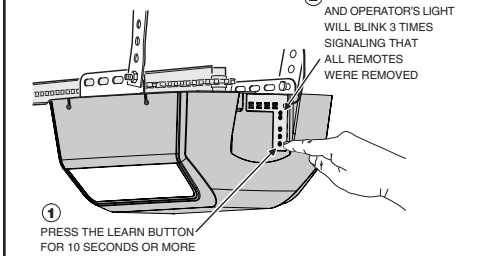2 Replace old battery with a Type CR2032 battery.

3 Re-assemble the remote.

PREPARING TO ADD OR REMOVE A REMOTE ①

PRESS THE LEARN BUTTON

② THE RED LIGHT WILL GLOW FOR 15 SECONDS

REMOTE MUST BE ENTERED WHILE RED LIGHT IS ON

ADDING OR REMOVING A REMOTE

① SEND A SIGNAL FROM A REMOTE

PRESS A BUTTON - OR -
ENTER A CODE AND PRESS START/STOP

② THE OPERATOR'S LIGHT AND RED LIGHT WILL FLASH ONCE IF A REMOTE IS ADDED, THE OPERATOR'S LIGHT AND THE RED LIGHT WILL FLASH FOUR TIMES IF A REMOTE IS REMOVED

REMOVING ALL REMOTES

② THE RED LIGHT AND OPERATOR'S LIGHT WILL BLINK 3 TIMES SIGNALING THAT ALL REMOTES WERE REMOVED

① PRESS THE LEARN BUTTON FOR 10 SECONDS OR MORE

REPLACING THE REMOTE CONTROL BATTERY

❶ USE COIN OR VISOR CLIP IN SLOT TO OPEN CASE
❷ LIFT OFF TOP OF CASE
❸ CARFULLY REMOVE THE BOARD

❹ REMOVE OLD BATTERY AND DISPOSE OF PROPERLY
❺ INSERT NEW CR2032 BATTERY PLUS SIDE UP
❻ RE-ASSEMBLE REMOTE CONTROL

14 Adjusting the Open and Close Limits

The limit settings control how far the door will open and close. Set the limits so the door opens just short of any door stops, and closes at the floor level. **Out of the box, the operator is preset on its close limit and the open limit is preset for a typical 7-foot high door.**

Use the wall station or a transmitter to test operate the door. If required, use the following steps to adjust the limits.

Adjusting the Open Limit

1. Press and hold the UP button and the LEARN button. for approximately 3 seconds.

2. Release both buttons. When the light blinks and the alarm beeps 2 times, the limit is ready to be set.

3. Press and hold the UP button as needed to move the door and release the UP button when the desired position is reached.

4. If necessary, use the UP or DOWN buttons to jog the door at slow speed to fine-tune the open limit position.

5. Press and release the LEARN button. The light blinks and the alarm beeps 2 times to confirm setting.
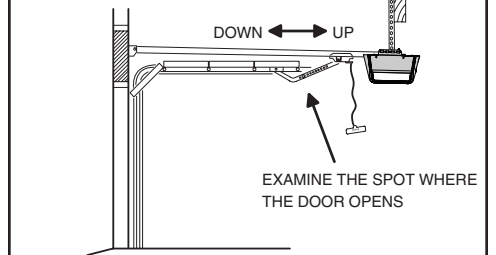
Adjusting the Close Limit

1. Press and hold the DOWN button and LEARN button for approximately 3 seconds.

2. Release both buttons. When the light blinks and the alarm beeps 2 times, the limit is ready to be set.

3. Press and hold the DOWN button as needed to move the door and release the UP button when the desired position is reached.

4. If necessary, use the UP and DOWN buttons to jog the door at slow speed to fine-tune the open limit position.

5. Press and release the LEARN button. The light blinks and the alarm beeps 2 times to confirm setting.

NOTE: If the operator is field reset per Section 19, both the open and close limits must be adjusted and the automatic door force setup must be completed for proper operation.
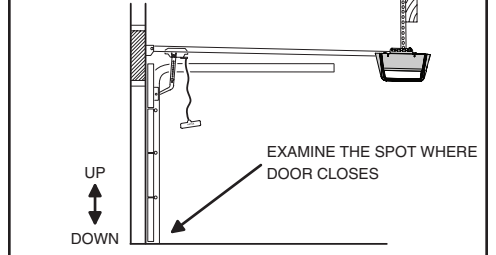
⚠ CAUTION ⚠
Set the open and close limits carefully. Setting the limits beyond the distance that the door can travel could cause damage to the door, the door hardware, or operator.

ADJUSTING THE OPEN LIMIT

DOWN ← → UP

EXAMINE THE SPOT WHERE THE DOOR OPENS

ADJUSTING THE CLOSE LIMIT

UP
DOWN

EXAMINE THE SPOT WHERE DOOR CLOSES

15 Automatic Door Force Setup

The operator automatically measures the door force throughout the entire travel of the door each time the operator cycles. The following steps are all that's required to setup the safety reversal system.

Automatic Door Force Setup

1 Be sure that the trolley latch is up and the door is connected to the operator.

⚠ CAUTION ⚠
Do not cycle the operator full travel without the door connected. The automatic door force setting will adjust to the unloaded condition and may trip the safety system when the door is reconnected.

2 Operate the door through four complete open and close cycles.

DOOR FORCE SETUP

4↑

4↓

OPERATE THE DOOR THROUGH **FOUR** FULL OPEN AND CLOSE CYCLES
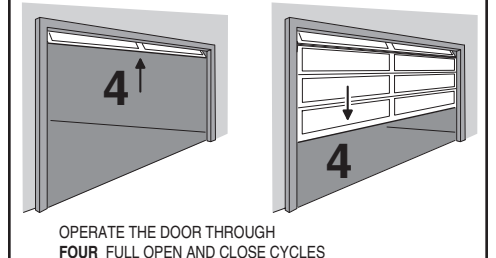
16 Safety Reversal System Test

The operator determines that there is an obstruction if a higher than expected amount of force is detected during a door cycle. If an obstruction is encountered during a closing cycle, the operator and door will stop then fully open. If an obstruction is encountered during an opening cycle, the operator and door will stop.
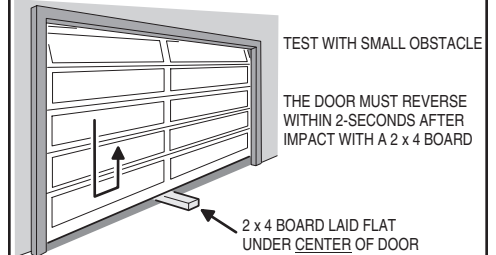
Safety Reversal System Test

1 Lay a 2 x 4 board flat on the floor where it will be struck by the **center** of the door as it closes.

⚠ WARNING ⚠
Always perform the Safety Reversal System Test after making any adjustments to the operator. PERFORM THE SAFETY REVERSAL SYSTEM TEST MONTHLY!

2 Verify that the door reverses when it strikes the board. The door **must** reverse within two seconds after striking the board.

TESTING THE SAFETY REVERSAL SYSTEM

TEST WITH SMALL OBSTACLE

THE DOOR MUST REVERSE WITHIN 2-SECONDS AFTER IMPACT WITH A 2 x 4 BOARD

2 x 4 BOARD LAID FLAT UNDER CENTER OF DOOR

17 Adjusting the Force Factor (Installation Option, Normally Not Used)

The operator uses the peak force measured during each of the last four complete cycles plus a "force factor" to calculate the maximum allowed force setting for the current door cycle. If the calculated maximum force setting is exceeded during the current door cycle, the operator reacts to the obstruction. As door hardware conditions change over time with weather and wear, the calculation of the maximum door force setting using the four cycle running average will compensate for the current conditions of the installation.

The door force is preset for the lowest amount of pressure on an obstacle to detect an obstruction. THE FACTORY SETTING IS OPTIMIZED FOR MOST INSTALLATIONS.

Changing the Force Factor Setting

As an installation option, the operator's "force factor" can be adjusted to change the amount of pressure exerted on an obstacle before the operator reacts to the obstruction.

1 Press both the UP and DOWN buttons for three seconds. The red and green indicators and operator's light will flash twice.

2 Use the UP or DOWN buttons to set the force factor. Pressing the UP button increases the force factor, pressing the DOWN button decreases the force factor.

FORCE FACTOR INDICATOR TABLE	
GREEN ON	LOW FORCE FACTOR
RED & GREEN ON	MEDIUM FORCE FACTOR
RED ON	HIGH FORCE FACTOR

3 After selecting the force factor, press the LEARN button to store the setting and exit setup. The red and green indicators and the operator's light will flash two times. (If the force factor is not set within one minute, the operator will return to normal operation at its previous force factor setting.)

4 After changing the force factor setting, perform the Safety System Reversal Test.

18 Using the Garage Door Operator

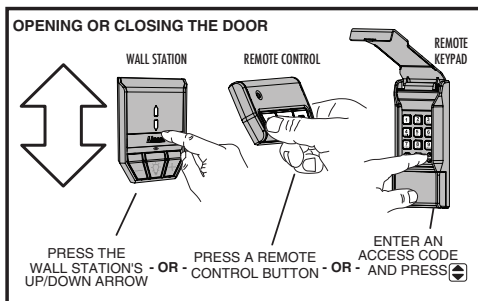### IMPORTANT USER SAFETY INSTRUCTIONS

⚠ **WARNING** ⚠

A MOVING GARAGE DOOR CAN CAUSE INJURY OR DEATH!
TO REDUCE THE RISK OF DEATH OR SEVERE INJURY:

1 READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.
2 NEVER LET CHILDREN OPERATE, OR PLAY WITH DOOR CONTROLS! KEEP REMOTE CONTROL AWAY FROM CHILDREN!
3 Always keep moving door in sight and away from people and objects until it is completely closed. NO ONE SHOULD CROSS THE PATH OF THE MOVING DOOR.
4 NEVER GO UNDER A STOPPED, PARTIALLY OPEN DOOR.
5 Test door operator monthly. The garage door MUST reverse on contact with a 1-1/2 inch object (or a 2x4 board laid flat at the center of the door) on the floor. If adjusting either the force or the limit of travel, re-test the door operator. Failure to adjust the operator properly may cause severe injury or death.
6 If possible, use the red emergency release handle only when the door is closed. Use caution when using this release with the door open. Weak or broken springs may cause the door to fall rapidly, causing injury or death.
7 KEEP GARAGE DOORS PROPERLY BALANCED. (See Garage Door Operator Maintenance) An improperly balanced door could cause severe injury or death. Have a qualified service person make repairs to cables, spring assembly and other hardware.
8 This operator system is equipped with an unattended operation feature. The door could move unexpectedly. NO ONE SHOULD CROSS THE PATH OF THE MOVING DOOR. Only use the Smart Control wall station for unattended operation when installed with a sectional residential overhead door.
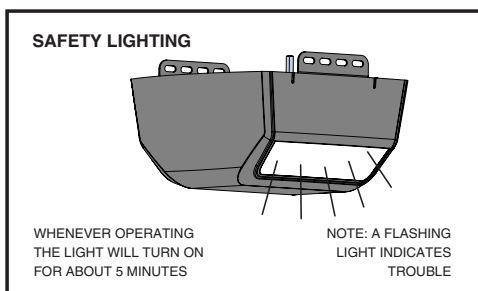9 **SAVE THESE INSTRUCTIONS.**

Opening the Door

1 With the door in view, press the wall station's UP/DOWN ARROW button or the button assigned to the operator on the remote control, or enter a valid access code and press START/STOP on a remote keypad.
2 When the operator is activated, the operator's light will turn on and the door will begin to open.
3 The door will open until the open limit is reached. If an obstacle is encountered (operator's light flashes four times and the alarm beeps four times) while the door is opening, the door will stop.
4 The operator's light will stay on for about five minutes after the door stops.

OPENING OR CLOSING THE DOOR

WALL STATION   REMOTE CONTROL   REMOTE KEYPAD

PRESS THE WALL STATION'S UP/DOWN ARROW - OR - PRESS A REMOTE CONTROL BUTTON - OR - ENTER AN ACCESS CODE AND PRESS ⬆⬇

Closing the Door

1 With the door in view, press the wall station's UP/DOWN ARROW button or the button assigned to the operator on the remote control, or enter a valid access code and press START/STOP on a remote keypad.
2 When the operator is activated, the operator's light will turn on and the door will begin to close.
3 The door will close until the close limit is reached. If an obstacle is encountered (operator's light flashes four times), or the safety beam is interrupted (operator's light flashes three times) during closing, the door will stop, then re-open.
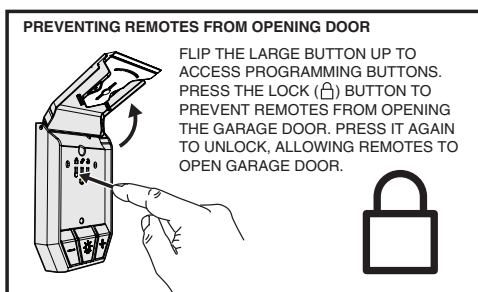4 The operator's light will stay on for about five minutes after the door stops.

SAFETY LIGHTING

WHENEVER OPERATING THE LIGHT WILL TURN ON FOR ABOUT 5 MINUTES

NOTE: A FLASHING LIGHT INDICATES TROUBLE

Stopping the Door Mid-travel

1 The door can be stopped immediately at any time by pressing the wall station's UP/DOWN ARROW button, the remote control's pushbutton, or press the START/STOP button on a remote keypad (if the remote keypad was used to start the door).
2 The next time the operator is activated, the door will move in the opposite direction.

STOPPING THE DOOR

WALL STATION   REMOTE KEYPAD   REMOTE CONTROL

THE DOOR CAN BE STOPPED AT ANY POSITION USING THE WALL STATION, REMOTE CONTROL, OR A REMOTE KEYPAD
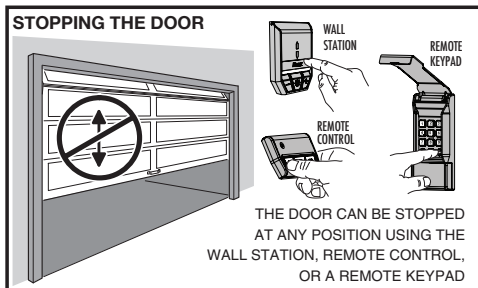
Vacation Lock for Additional Security

1 Flip the large button up to access the wall station's programming buttons. Press the LOCK button to prevent remote controls from opening the door after the door is completely closed. The blue LED on the wall station will flash while the Vacation Lock is active. The remotes can close the door, but not open it. The door can still be opened or closed by using the wall station's UP/DOWN ARROW pushbutton.

NOTE: To signal that the vacation switch is locked, the operator's light and red light will flash five times if a remote is activated in an attempt to open the door.

2 Press the wall station's LOCK button again to return the operator to normal operation.

PREVENTING REMOTES FROM OPENING DOOR

FLIP THE LARGE BUTTON UP TO ACCESS PROGRAMMING BUTTONS. PRESS THE LOCK (🔒) BUTTON TO PREVENT REMOTES FROM OPENING THE GARAGE DOOR. PRESS IT AGAIN TO UNLOCK, ALLOWING REMOTES TO OPEN GARAGE DOOR.
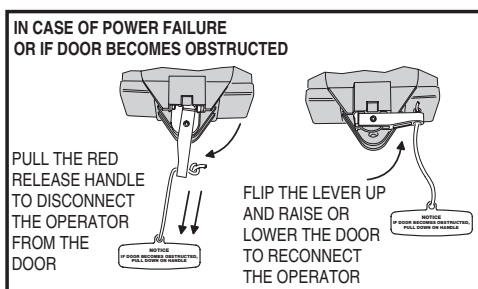
Controlling the Operator's Light

1 The operator's light can be lit by pushing the wall station's LIGHT button. The light will remain on until the LIGHT button is pressed again or the operator is cycled.
2 If the operator's light is on, pushing the wall station's LIGHT button will turn the operator's light off.

CONTROLLING THE OPERATOR'S LIGHT

PRESS THE LIGHT BUTTON TO TURN THE LIGHT ON OR OFF.

THE LIGHT WILL STAY ON UNTIL THE LIGHT BUTTON IS PRESSED OR THE OPERATOR IS CYCLED.
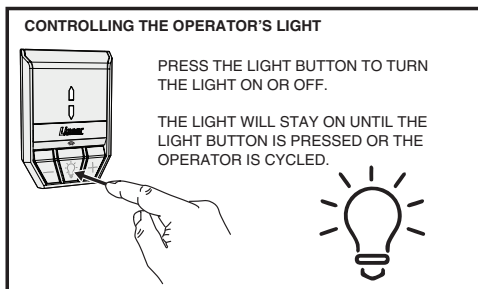
Disconnecting the Door from the Operator

1 With the door in any position (preferably closed), carefully pull the red release handle. **USE CAUTION IF THE DOOR IS OPEN, THE DOOR MAY DROP.**
2 The disconnected door can be opened or closed manually.
3 To re-connect the operator, flip the release lever up. Raise or lower the door manually until the operator reconnects.

IN CASE OF POWER FAILURE OR IF DOOR BECOMES OBSTRUCTED

PULL THE RED RELEASE HANDLE TO DISCONNECT THE OPERATOR FROM THE DOOR

FLIP THE LEVER UP AND RAISE OR LOWER THE DOOR TO RECONNECT THE OPERATOR

19 Garage Door Operator Maintenance

Weather conditions may affect the door operation which could require some re-setting of the operator's adjustments. Doors may swell and become heavier during wet periods, door hinges and rollers might bind during cold periods. To insure safe operation of the door, perform the following tests, including any additional test steps described.

Every Month

1 With the door closed, pull the red release handle to disconnect the operator from the door.
2 From outside the garage, slowly open the door manually all the way, and then close it all the way. Notice if there is any binding, sticking or rubbing. The door should move smoothly in both directions.
3 Raise the garage door about halfway up. Carefully release the door and see if the door balances. It should stay in place. Close the door.

NOTE: If the garage door is unbalanced or the door travel isn't smooth, have a qualified garage door professional adjust or repair the door.

4 To reconnect the operator, flip the release lever up and run the operator.
5 Perform the Safety Beam Test (Section 12).
6 Perform the Safety Reversal System Test as described in Section 16.

After Servicing the Operator

1 Perform the Safety Beam Test (Section 12).
2 Perform the Open and Close Limit Adjustments (Section 14).
3 Perform the Safety Reversal System Test (Section 16).

Every 6 Months

Check the belt or chain tension.
• For belt-drive rails, examine the length of the tension spring in the traveler. It should be about 1" long.
• For chain-drive rails, examine the spacing between the turnbuckle and the rail. The turnbuckle should be slightly above the rail.

NOTE: Too much or too little chain tension will cause excessive sprocket noise.

Chain Adjustment

If necessary, use the following steps to adjust the chain.
1 Hold the turnbuckle with a flat blade screwdriver and loosen the two locknuts with a 7/16" end wrench.
2 Twist the turnbuckle to adjust the chain tension. Adjust the chain until the turnbuckle is sightly above the rail.
3 Hold the turnbuckle with a flat blade screwdriver and tighten the two locknuts with a 7/16" end wrench.

Belt Adjustment

The tension spring in the traveler keeps the belt taut. The factory setting for the tension spring length is .9" long. If the tension spring is longer than 1", adjust the belt.
1 Hold the traveler so the adjustment wheel is visible through the large slot.
2 Use a flat blade screwdriver to turn the adjustment wheel to compress the tension spring until its length is between .9" and 1" long.

Every Year

Check the door hardware for lubrication needs. Lubricate door hinges, rollers and bearings according to door manufacturer's recommended procedures.

20 Field Reset

In installations where the door spring, door, or hardware is being replaced, and the operator was already programmed for the old door, reset the operator's settings using the following steps.
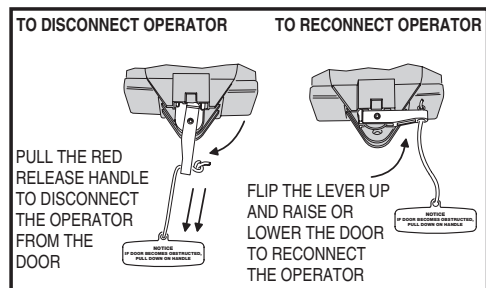
1 Press and hold down the UP, DOWN, and LEARN buttons at the same time for ten seconds. The red and green indicators and the operator's light will flash twice.

2 Release the buttons. The operator will reset force settings and erase all set limits, **but will still retain all programmed transmitters in memory.**
3 **AFTER PERFORMING A FIELD RESET, BOTH THE OPEN AND CLOSE LIMITS MUST BE ADJUSTED AND THE AUTOMATIC DOOR FORCE SETUP COMPLETED BEFORE THE OPENER WILL FUNCTION.**

⚠ **WARNING** ⚠

Garage door hardware (springs, cables, brackets, pulleys, etc.) are under extreme pressure and tension. DO NOT ATTEMPT TO LOOSEN, TIGHTEN OR ADJUST ANY DOOR HARDWARE. CALL A QUALIFIED GARAGE DOOR INSTALLATION PROFESSIONAL!
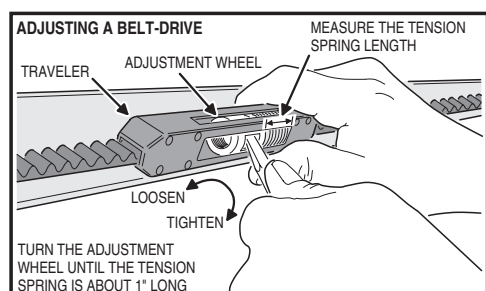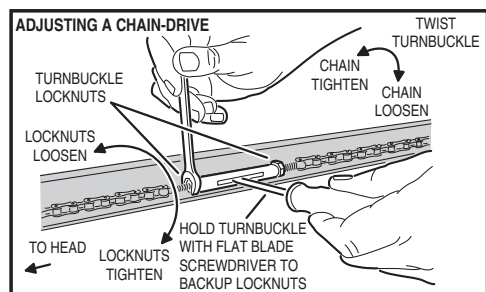
⚠ **WARNING** ⚠

The garage door operator must not be installed and used on an unbalanced door. The operator's internal door force sensor will not function properly on an unbalanced door. Risk of serious injury or death may result.

TO DISCONNECT OPERATOR   TO RECONNECT OPERATOR

PULL THE RED RELEASE HANDLE TO DISCONNECT THE OPERATOR FROM THE DOOR

FLIP THE LEVER UP AND RAISE OR LOWER THE DOOR TO RECONNECT THE OPERATOR

⚠ **WARNING** ⚠

Always perform the Safety Reversal System Test (see Section 16) after making any adjustments to the operator.

ADJUSTING A CHAIN-DRIVE

TWIST TURNBUCKLE
CHAIN TIGHTEN
CHAIN LOOSEN
TURNBUCKLE LOCKNUTS
LOCKNUTS LOOSEN
TO HEAD   LOCKNUTS TIGHTEN
HOLD TURNBUCKLE WITH FLAT BLADE SCREWDRIVER TO BACKUP LOCKNUTS

ADJUSTING A BELT-DRIVE

MEASURE THE TENSION SPRING LENGTH
TRAVELER   ADJUSTMENT WHEEL
LOOSEN
TIGHTEN
TURN THE ADJUSTMENT WHEEL UNTIL THE TENSION SPRING IS ABOUT 1" LONG

21 Troubleshooting – Operator

Flash/Beep Trouble Code	Problem	Cause	Remedy
1	No Problem	Remote control entered into memory	Add any additional remote controls
2	Door won't operate	Shorted wall station wires	Check wall station wires. Be sure both are connected to the terminal screws. Check for a staple in the wall station wires. Remove any staples compressing the wire. Check for frayed wires.
3	Door won't close	Safety beam obstacle	Check for obstacles. Align the safety beams.
4	Door reverses or won't open or close	Open or close force exceeded	Check for obstruction or binding of the garage door. Adjust force factor if necessary. Perform a field reset if necessary.
5	Door won't open from remote control	Remote was activated while in vacation mode	Activate vacation mode switch on wall station to exit vacation mode.
6	Limit error	Down limit and up limit are set too close together	Re-set the open and close limits. If error occurs again, contact a qualified garage door professional.
7	Door reverses or won't open or close	Encoder has detected an error	Check for obstruction or binding of the garage door. If error occurs again, contact a qualified garage door professional.

Troubleshooting – Battery

Number of Beeps	Problem	Cause	Solution
2	Low battery	Battery is low	Check that AC power is connected and allow battery to charge. It will take approximately 10 hours to charge the battery.
4	No capacity	Battery is no longer holding a charge.	Replace battery now
5	Battery shorted	Battery is internally shorted or battery leads are shorted.	Check battery wires for shorting. If wires are ok, replace battery now.