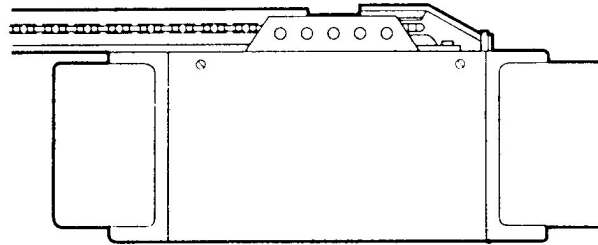
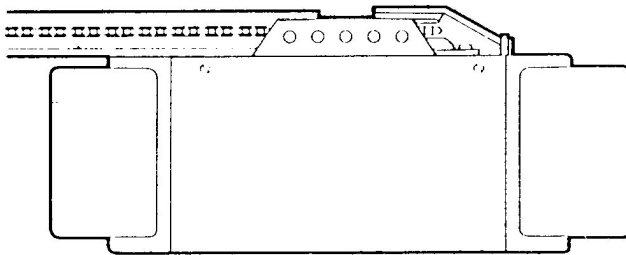


Owner's Manual Garage Door Opener

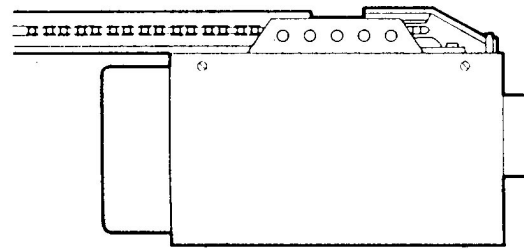
(1100 Series -- Canada)
FOR RESIDENTIAL USE ONLY



MODEL 1160 — 1/2HP



MODEL 1150 — 1/3HP



MODEL 1145 — 1/3HP

CAUTION! PLEASE READ THIS MANUAL CAREFULLY

The MODEL NUMBER label is located on the front panel of your opener

CONTENTS	PAGE	CONTENTS	PAGE
Safety Rules	2	Limit Adjustment	20
Carton Inventory	3	Force Adjustment.....	21
Features of Your Opener.....	3	Safety Reverse Test.....	22
Specifications	3	The Protector System™.....	22
Accessories	4	Setting/Changing Code	23
Completed Installation Illustration	5	Having a Problem?	24
Installation Information	5	Repair Parts, Rail Assembly.....	26
Operation of Your Opener.....	6	Repair Parts, Installation	26
Care and Maintenance of Your Opener	7	Repair Parts, Opener Assembly	27
Assembly.....	8	How To Order Repair Parts	28
Installation.....	10	Warranty.....	28

**FASTEN THIS MANUAL NEAR THE GARAGE DOOR AFTER INSTALLATION.
PERIODIC CHECKS OF THE OPENER ARE REQUIRED TO INSURE SATISFACTORY OPERATION.**

START BY READING THESE IMPORTANT SAFETY RULES



THIS SAFETY ALERT SYMBOL MEANS **CAUTION—PERSONAL SAFETY OR PROPERTY DAMAGE INSTRUCTION**. READ THESE INSTRUCTIONS CAREFULLY.

THIS GARAGE DOOR OPENER IS DESIGNED AND TESTED TO OFFER REASONABLY SAFE SERVICE PROVIDED IT IS INSTALLED AND OPERATED IN STRICT ACCORDANCE WITH THE FOLLOWING SAFETY INSTRUCTIONS.

FAILURE TO COMPLY WITH THE FOLLOWING INSTRUCTIONS MAY RESULT IN SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE.

CAUTION: IF YOUR GARAGE HAS NO SERVICE ENTRANCE DOOR, INSTALL MODEL 7702 EMERGENCY RELEASE KEYLOCK. THIS ACCESSORY ALLOWS MANUAL OPERATION OF THE GARAGE DOOR FROM OUTSIDE IN CASE OF POWER FAILURE.



KEEP GARAGE DOOR BALANCED. Sticking or binding doors must be repaired. Garage doors, door springs, cables, pulleys, brackets and their hardware are under extreme tension and can cause serious personal injury. **DO NOT ATTEMPT TO LOOSEN, MOVE OR ADJUST THEM.** Call for garage door service.



THE SAFETY REVERSE SYSTEM TEST IS VERY IMPORTANT (page 22). Your garage door **MUST** reverse on contact with a 1-inch obstacle placed on the floor. Failure to properly adjust the opener may result in serious personal injury from a closing garage door. **REPEAT THE TEST ONCE A MONTH AND MAKE ANY NEEDED ADJUSTMENTS.**



DO NOT WEAR RINGS, WATCHES OR LOOSE CLOTHING while installing or servicing a garage door opener.



Fasten the **CAUTION LABEL** adjacent to the door control button as a reminder of safe operating procedures.



To avoid serious personal injury from entanglement, **REMOVE ALL THE ROPES CONNECTED TO GARAGE DOOR** before installing the garage door opener.



Install door control button (or any additional push buttons) **IN A LOCATION WHERE GARAGE DOOR IS VISIBLE, BUT OUT OF THE REACH OF CHILDREN.** **DO NOT ALLOW CHILDREN TO OPERATE PUSH BUTTON(S) OR REMOTE CONTROL TRANSMITTER.** Serious personal injury from a closing garage door may result from misuse of the opener.



DISENGAGE ALL EXISTING GARAGE DOOR LOCKS to avoid damage to garage door.



Installation and wiring must be in compliance with your local building and electrical codes. **CONNECT THE POWER CORD ONLY TO A PROPERLY GROUNDED OUTLET.**



CAUTION: Activate opener only when the door is in full view, free of obstructions and opener is properly adjusted. **NO ONE SHOULD ENTER OR LEAVE THE GARAGE WHILE DOOR IS IN MOTION. DO NOT ALLOW CHILDREN TO PLAY NEAR THE DOOR.**



LIGHTWEIGHT DOORS OF FIBERGLASS, ALUMINUM OR STEEL MUST BE SUBSTANTIALLY REINFORCED TO AVOID DOOR DAMAGE. (See page 17.) The best solution is to check with your garage door manufacturer for an opener installation reinforcement kit.



Use manual release **ONLY** to disengage the trolley and, if possible, **ONLY** when the door is closed. **DO NOT USE THE RED HANDLE TO PULL DOOR OPEN OR CLOSED.**

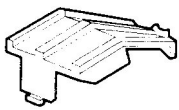


DO NOT USE THE FORCE ADJUSTMENTS TO COMPENSATE FOR A BINDING OR STICKING garage door. Excessive force will interfere with the proper operation of the safety reverse system or damage the garage door (page 21).



DISCONNECT ELECTRIC POWER TO GARAGE DOOR OPENER BEFORE MAKING REPAIRS OR REMOVING COVERS.

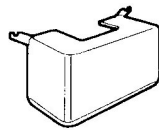
OPENER CARTON INVENTORY: Your garage door opener is packaged in two cartons which contain all parts illustrated below and on page 26. Hardware for assembly and installation are listed below.



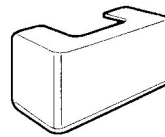
Sprocket Cover



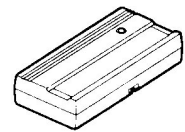
Rail Grease



Light Lens (1)
Model 1145



Light Lenses (2)
Model 1160 and
Model 1150



Remote Control
Transmitter (1)

6 lock washers, 5/16
6 nuts, 5/16"-18 x 1/2"
2 carriage bolts, 5/16"-18 x 2-1/2"
4 screws, 5/16"-18 x 7/8"
4 lag screws 5/16" x 1-7/8"

HARDWARE BAG CONTENTS

2 clevis pins, 5/16"-1"
1 clevis pin, 5/16"-2-3/4"
2 screws, 6ABx1" slotted pan head
3 ring fasteners
Anchors (2)

Insulated staples
Manual release rope
Manual release handle
Handy Hints label

FEATURES OF YOUR OPENER

1. Opener Light(s): Turns on and off automatically with 4 1/2 minute illumination for your safety and convenience. On Models 1160 and 1150, Light switch feature on Multi-Function Control Panel can be activated for constant light. (Optional accessory available for other models.)

2. Lock Switch Feature - (Standard on Models 1160, 1150; optional on other models): When Lock Switch feature is activated on the Multi-Function Control Panel, the opener will not operate from portable remote control transmitters. The door will OPEN from the door control button, Key Switch and Wireless Keyless Entry System accessories, described below.

Door will CLOSE if door button is pressed and held through a complete down cycle. If the door button is released before travel is complete door will reverse.

3. Safety System: Independent up and down force adjustment. The door REVERSES automatically when obstructed in direction. The door STOPS when obstructed in UP direction.

4. Manual Release Handle: Pull cord disconnect permits manual door operation in case of an emergency or power failure.

5. Automatic Reconnect: Trolley halves reconnect for automatic operation when opener is activated after a manual disconnect.

6. Motor Power: Permanently lubricated motor with automatic reset.

7. Digital Radio Controls: Codes can be set and changed easily and as often as you would like.

8. Easy Limit Adjustment: Limits of door opening and closing adjusted by turning screws without removing chassis cover.

SPECIFICATIONS

MOTOR

Type.....Permanent split capacitor
Speed1500 rpm
Volts120 Volts ?AC - 60 Hz. Only
Current4.5 amperes

DRIVE MECHANISM

Gears.....16:1 worn gear reduction
Drive Full chain with two-piece trolley on
..... steel T-rail
Length of travel.....Adjustable to 7 1/2 feet
Travel rate.....On when door starts to travel, off 4 1/2 minutes after stop. Models 1160 and 1150 have separate Light Switch feature.
Door Linkage..... Adjustable door arm. Pull cord trolley release.

SAFETY

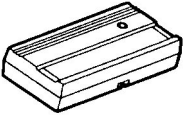
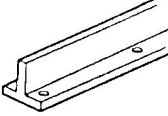
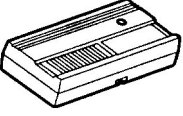
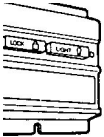
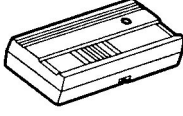
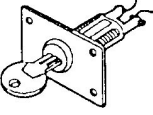
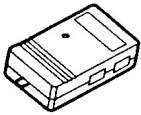

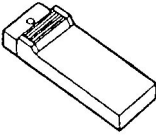
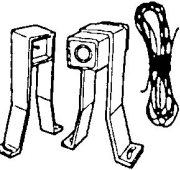
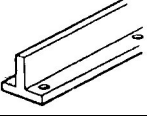
Personal..... Push button and automatic reversal in down direction. Push button and automatic stop in UP direction.
Electronic.....Independent UP and DOWN force adjustment screws.
Electrical.....Motor overload protector and low voltage push button wiring.
Limit device Circuit actuated by limit nut
Limit adjustment.....Screwdriver adjustment on side panel.
Start circuit..... Low voltage push button or radio control.

DIMENSIONS

Length (overall) 124 inches
..... 128 inches (Models 1160, 1150)
Headroom required 2 inches
Hanging weight 32 pounds

ACCESSORIES

Many useful accessories are available for your garage door opener. They are illustrated below with model numbers and descriptions.

<p>Model 61LM</p> <p>STANDARD REMOTE CONTROL TRANSMITTER: Single-Function with visor clip</p> 	<p>Model 1710</p> <p>10-FT T-RAIL: Fully assembled 10-ft. T-rail with full chain. Allows 10-foot garage doors to open fully</p> 
<p>Model 62LM</p> <p>2-CHANNEL REMOTE CONTROL TRANSMITTER: With visor clip.</p> 	<p>Model 56</p> <p>MULTI-FUNCTION CONTROL PANEL: Provides a Lock Switch feature which prevents operation of garage door opener from remote control transmitters and a Light Switch feature for constant light.</p> 
<p>Model 63LM</p> <p>MULTI-FUNCTION REMOTE CONTROL TRANSMITTER: With visor clip.</p> 	<p>Model 60</p> <p>OUTSIDE KEYLOCK: Opens garage door automatically from outside when transmitter is not handy</p> 
<p>Model 64LM</p> <p>MINI MULTI-FUNCTION REMOTE CONTROL TRANSMITTER: With key ring.</p> 	<p>Model 1702</p> <p>OUTSIDE QUICK RELEASE LOCK: REQUIRED for a garage with NO service door. Allows manual operation of garage door from outside in case of power failure .</p> 
<p>Model 66LM</p> <p>KEYLESS ENTRY SYSTEM: Enables homeowner to operate garage door opener from outside by entering code on specially designed keypad.</p> 	<p>Model 70</p> <p>"THE PROTECTOR SYSTEM": Provides auxiliary support to the safety features built into your opener. The system's invisible beam, when broken by an obstruction, causes a closing door to open and prevents an open door from closing. Strongly recommended for homeowners with young children.</p> 
<p>Model 1708</p> <p>8-FT T-RAIL: Fully assembled 8-ft. T-rail with full chain. Allows 8-ft. garage doors to open fully</p> 	

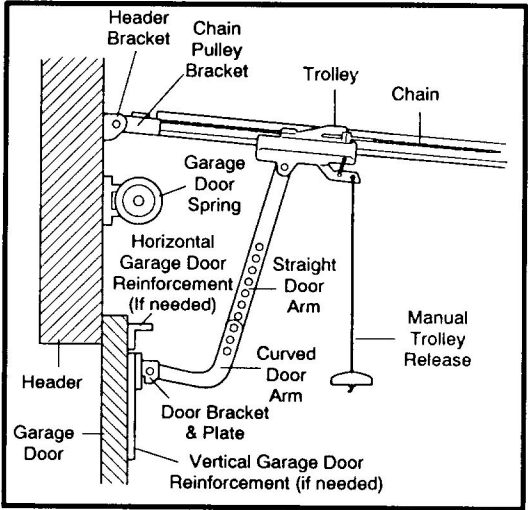
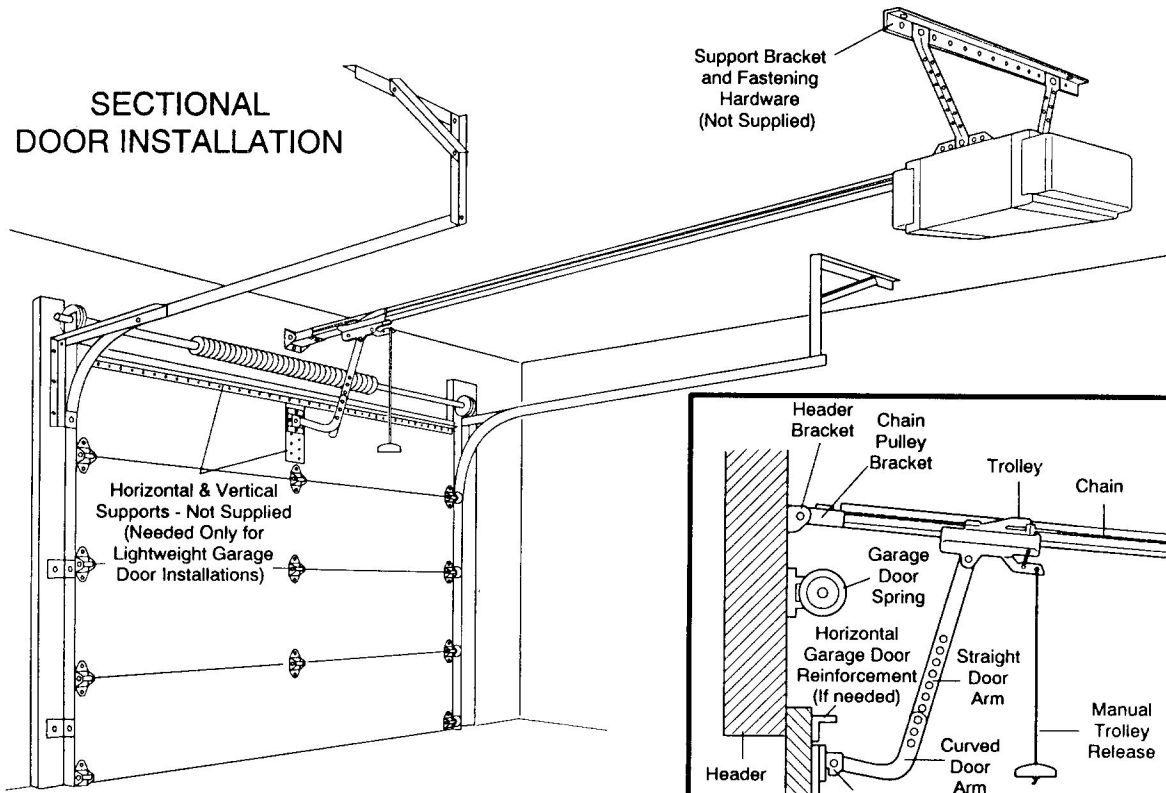
BEFORE YOU BEGIN, PLEASE TAKE SOME TIME TO CAREFULLY EXAMINE THE ILLUSTRATIONS ON THE FOLLOWING PAGE OF A TYPICAL GARAGE DOOR OPENER INSTALLATION ON BOTH A SECTIONAL AND A ONE-PIECE DOOR.

Some installation instructions vary for sectional and one-piece doors. Follow only those instructions which apply to your door type.

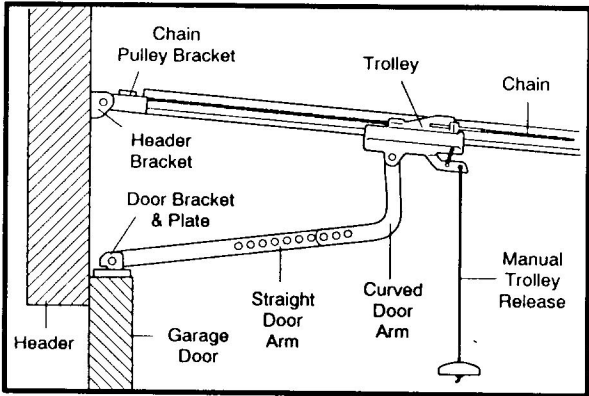
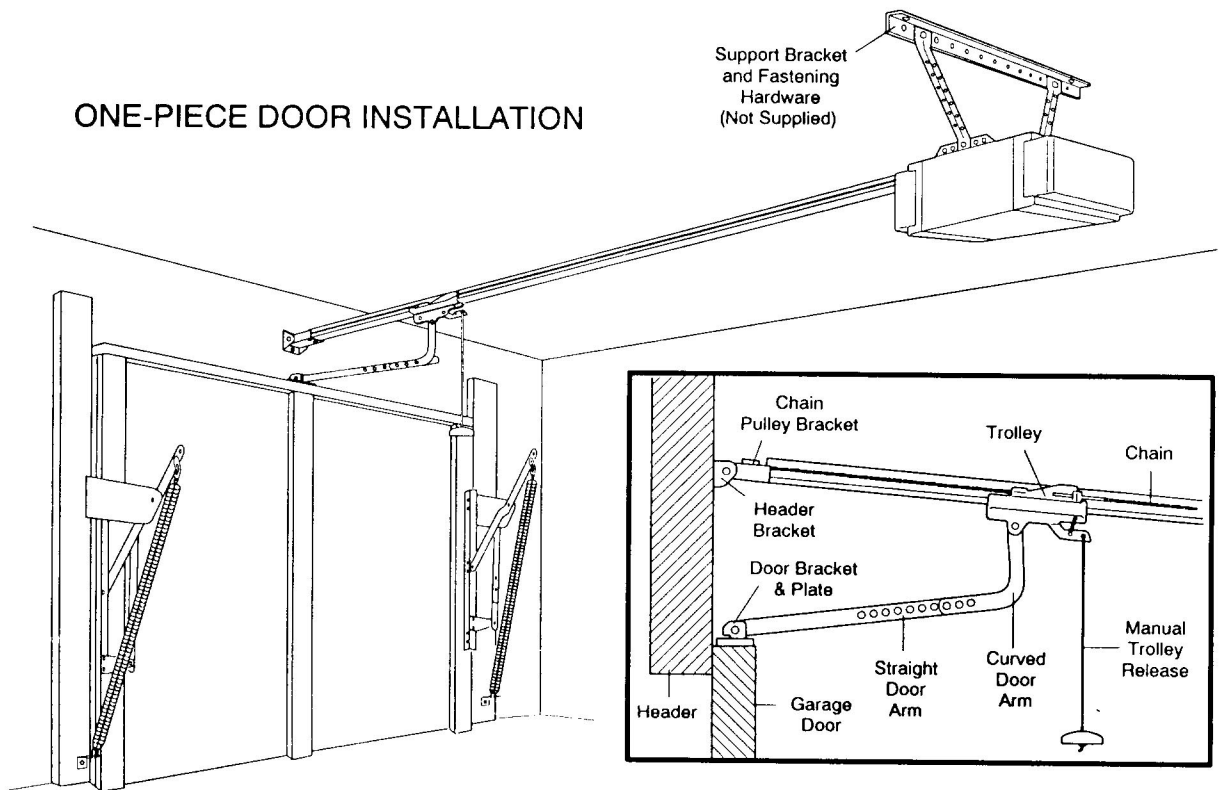
Do you have a finished ceiling in your garage? If so, you will need a support bracket and additional fastening hardware. Refer to Step 4, Page 13 for specific requirements.

Do you have a lightweight or metal door (or does it have glass panels)? If so, horizontal and vertical reinforcement is required. Refer to Step 8, Page 17.

SECTIONAL DOOR INSTALLATION



ONE-PIECE DOOR INSTALLATION



Operation of Your Opener

CAUTION

- *BEFORE YOU PROCEED, PLEASE READ THE SAFETY RULES ON PAGE 2 AND OPERATING INSTRUCTIONS ON THIS PAGE CAREFULLY.*
- *TO AVOID DIFFICULTY DURING INSTALLATION, DO NOT RUN OPENER UNTIL INSTRUCTED TO DO SO.*
- *DO NOT PERMIT CHILDREN TO PLAY IN DOOR AREA.*
- *OPERATE ONLY WHEN OPENER IS PROPERLY ADJUSTED AND THE DOOR IS VISIBLE AND UNOBSTRUCTED.*

HOW TO ACTIVATE THE OPENER

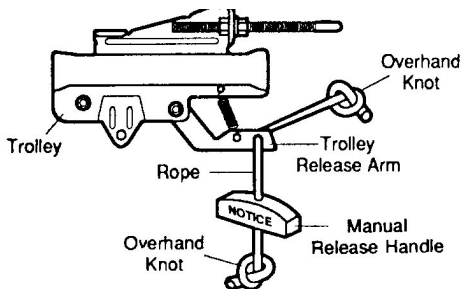
Use any of Operation following devices:

1. **The Remote Control Transmitter.** Hold the push button down until the door starts to move.
2. **The Door Control Button.** Hold the button down until the door starts to move.
3. **The Outside Keylock or Keyless Entry System** (if you have installed either of these accessories).

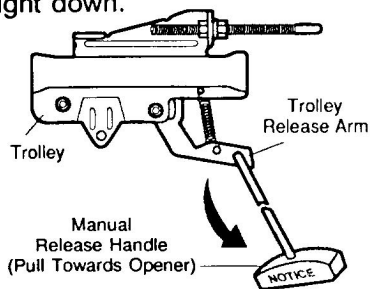
HOW TO OPERATE THE DOOR MANUALLY

THE DOOR SHOULD BE FULLY CLOSED IF POSSIBLE. WEAK OR BROKEN SPRINGS COULD ALLOW AN OPEN DOOR TO FALL RAPIDLY. PROPERTY DAMAGE OR SERIOUS PERSONAL INJURY COULD RESULT. DO NOT USE THE MANUAL RELEASE HANDLE TO PULL THE DOOR OPEN OR CLOSED.

Disconnect the door from the opener by pulling down sharply on the red handle. Lift the door manually. To automatically reconnect the door to the opener, press the Door Control Button.



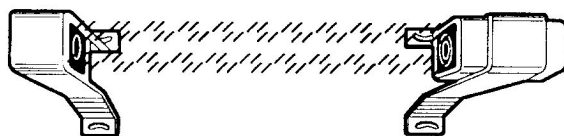
LOCKOUT FEATURE: prevents the trolley from reconnecting automatically. If you need to use this feature, pull the Manual Release Handle down and back (toward the opener). Trolley will remain "Locked-Out" and the door can be raised and lowered manually. To reconnect trolley, pull Handle straight down.



OPENER LIGHT(S) will turn on under the following conditions: when the opener is initially plugged in; when the power is interrupted; when the opener is activated. Light(s) turns off automatically after 4 1/2 minutes. Bulb size is 75 Watts maximum. If the Multi - Function Control Panel (with the Light Switch Feature) is installed, the light can remain ON or turn OFF before the automatic cycle is completed, if desired.

HOW THE DOOR MOVES WHEN THE OPENER IS ACTIVATED

1. If open, the door will close. If closed, the door will open.
2. If closing, the door will reverse.
3. If opening, the door will stop (allowing space for entry and exit of pets and for fresh air).
4. If the door has been stopped in a partially open position, it will close.
5. If an obstruction is encountered while closing, the door will reverse.
6. If an obstruction is encountered while opening, the door will stop.
7. The optional Protector System uses an invisible beam which, when broken by an obstruction, causes a closing door from closing door to open and prevents an open door from closing. It is **STRONGLY RECOMMENDED** for homeowners with young children.



CARE OF THE OPENER

When properly installed, opener will provide high performance with a minimum of maintenance. The opener does not require additional lubrication.

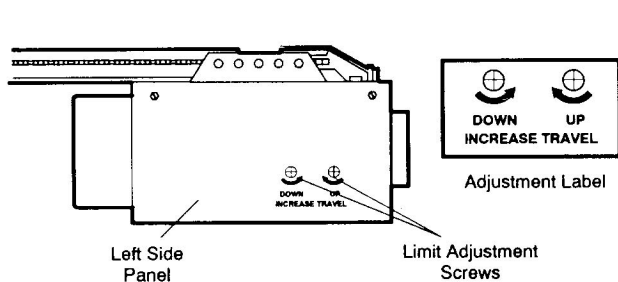
Most complaints of unsatisfactory opener operation can be traced to problems with the door itself. When operated manually, a properly balanced door will stay in any point of travel while being supported entirely by its springs.

THE OPENER IS NOT INTENDED TO CORRECT ANY PROBLEMS THAT ARE CAUSED BY AN UNBALANCED OR BINDING DOOR, BROKEN DOOR SPRINGS OR BY FAULTY DOOR HARDWARE.

LIMIT AND FORCE ADJUSTMENTS: These adjustments must be checked and properly set when opener is installed. Only a screwdriver is required. Pages 20 and 21 refer to the limit and force adjustments. Follow the instructions carefully.

REPEAT THE SAFETY REVERSE TEST AFTER ANY ADJUSTMENT. Weather conditions may cause some minor changes in the door operation, requiring some readjustments, particularly during the first year of operation.

THE SAFETY REVERSE SYSTEM IS IMPORTANT (SEE GARAGE DOOR MUST REVERSE ON CONTACT WITH A 1-INCH OBSTACLE PLACED ON THE FLOOR. FAILURE TO PROPERLY ADJUST OPENER MAY RESULT IN SERIOUS PERSONAL INJURY FROM A CLOSING GARAGE DOOR.



CHAIN TENSION ADJUSTMENT: After installation of the opener and adjustment of forces and limits, the chain may appear loose. This is normal.

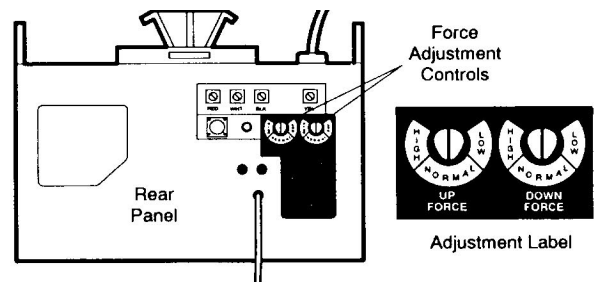
TO CHECK THE CHAIN TENSION: Disconnect the trolley by pulling the red handle. If the chain returns to the position described and illustrated in Step 3 page 9, DO NOT make ANY further adjustments.

REMOTE CONTROL TRANSMITTER: The portable remote control may be secured to a car sun visor with the clip provided. Additional remotes can be purchased at any time for use in all vehicles using garage. Refer to Accessories on page 4.

Any new remotes must be set to the same code as the original remote. Code setting procedures are described on page 23.

REMOTE CONTROL BATTERY: The 12 Volt battery should produce power for at least one year. As long as there is adequate power, the transmitter battery test light will glow when the push button is pressed (and the opener will operate). When the light becomes dim or does not come on, replace the battery. If transmission range lessens, check the battery test light.

TO CHANGE BATTERY: Slide the battery compartment cover back. Discard the old battery and Position the new battery as indicated on the case.



MAINTENANCE OF YOUR OPENER

ONCE A MONTH

MANUALLY OPERATED DOOR. If it is unbalanced or binding, call for professional garage door service. **CHECK TO BE SURE DOOR OPENS & CLOSES FULLY.** Adjust Limits and/or Force if necessary. **REPEAT SAFETY REVERSE TEST.** Make any necessary adjustments (See Page 22).

TWICE A YEAR

CHECK CHAIN TENSION. Adjust if necessary.

ONCE A YEAR

OIL DOOR ROLLERS, BEARINGS AND HINGES.

ASSEMBLY STEP 1

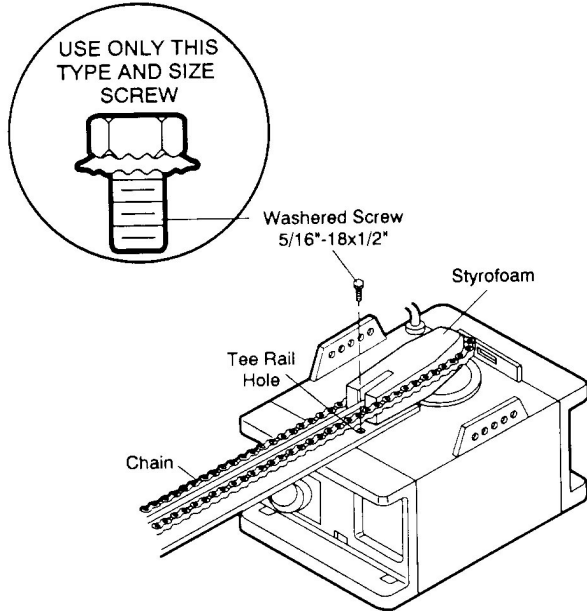
Attach T-Rail To Opener



TO AVOID INSTALLATION DIFFICULTIES, DO NOT RUN OPENER UNTIL YOU ARE INSTRUCTED TO DO SO.



USE ONLY THOSE SCREWS MOUNTED IN TOP OF OPENER. FAILURE TO DO SO WILL CAUSE SERIOUS DAMAGE TO THE DOOR OPENER.



PROCEDURE: remove the two washed screws mounted in top of opener. Position T-Rail at a 45 degree angle to opener so one hole in T-rail and opener line up. Thread one of the washed screws part way in.

CAUTION: USE ONLY THESE SCREWS! Use of any other screws will cause serious damage to door opener.

Align T-rail and styrofoam over opener sprocket. Cut tape from T-rail, chain and styrofoam.

REMOVE STYROFOAM. Proceed to Step 2.

ASSEMBLY STEP 2

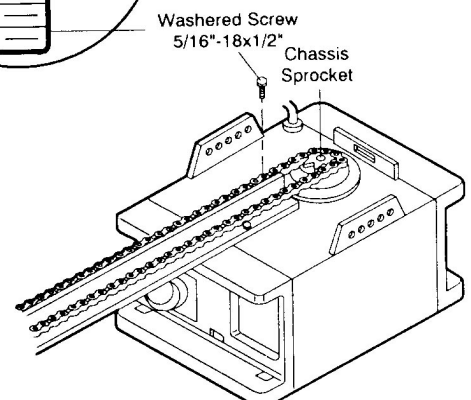
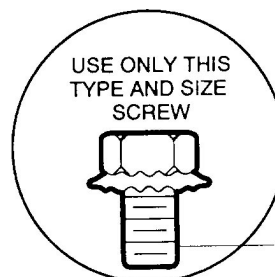
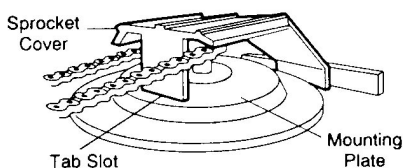
Attach Chain to Sprocket

PROCEDURE: Position chain over opener sprocket. If necessary, loosen inner nut on trolley to obtain more chain slack. Insert second washed screw.

CAUTION: Use only the screw previously removed from opener

Tighten both screws securely through the T-rail into opener as shown.

Insert back tab of sprocket cover in slot; then bend the cover forward and insert front tab in slot provided on mounting Plate.



ASSEMBLY STEP 3

Tighten the Chain Assembly

CAUTION: Keep the chain from twisting as nuts are turned

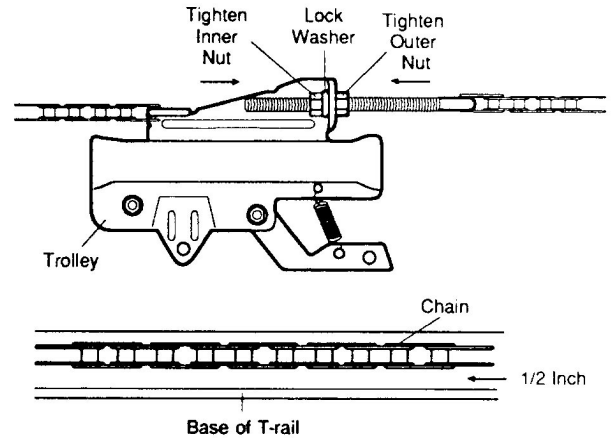
PROCEDURE: Thread inner nut on the trolley in the direction shown. Loosen outer nut, if necessary.

Tension is correct when the chain is approximately 1/2" above the base of the T-rail, midway between the pulley bracket and the opener.

To maintain proper tension, tighten outer nut as shown

Sprocket noise can result if chain is either too loose or too tight.

CAUTION: Do not overtighten the chain. Refer to Page 7.



ASSEMBLY OF YOUR GARAGE DOOR OPENER IS NOW COMPLETE

BEFORE BEGINNING THE INSTALLATION OF YOUR GARAGE DOOR OPENER, BE SURE TO COMPLY WITH ALL THE SAFETY RULES.



KEEP GARAGE DOOR BALANCED. STICKING OR BINDING DOORS MUST BE REPAIRED. THE GARAGE DOOR, DOOR SPRINGS, CABLES, PULLEYS, BRACKETS AND THEIR HARDWARE ARE UNDER EXTREME TENSION AND CAN CAUSE SERIOUS PERSONAL INJURY. DO NOT ATTEMPT TO LOOSEN, MOVE OR ADJUST THEM. CALL FOR GARAGE DOOR SERVICE



DO NOT WEAR WATCHES, RINGS OR LOOSE CLOTHING WHILE INSTALLING OR SERVICING A GARAGE DOOR OPENER.

IT IS RECOMMENDED THAT THE GARAGE DOOR OPENER BE INSTALLED 7 FEET OR MORE ABOVE THE FLOOR. WHERE SPACE PERMITS.

INSTALLATION STEP 1

Position and Install Header Bracket

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

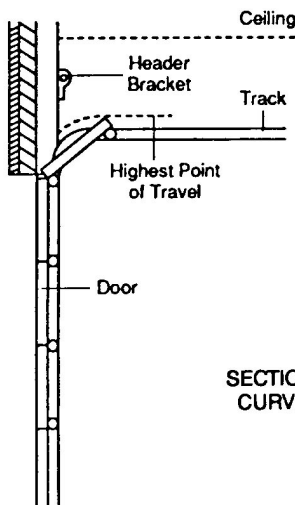


THE HEADER BRACKET MUST BE RIGIDLY FASTENED TO HEADER WALL. REINFORCE WALL WITH A 2x4 IF NECESSARY. FAILURE TO COMPLY MAY RESULT IN IMPROPER OPERATION OF SAFETY REVERSE SYSTEM (SEE PAGE 22).

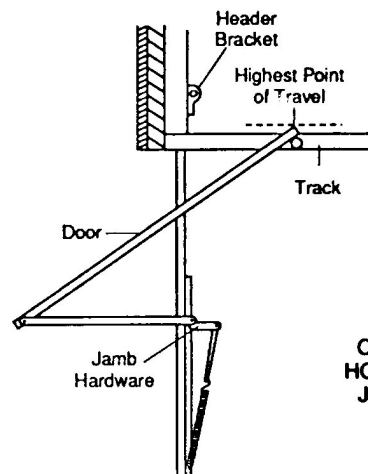
SECTIONAL DOOR & 1-PIECE DOOR WITH TRACK

1. Close door and mark the inside vertical centerline of garage door. Extend the line onto header wall above door.
2. Open door to highest point of travel as shown. Draw an intersecting horizontal line on header wall 2" above high point. This height will provide travel clearance for top edge of door.

NOTE: When the headroom is not sufficient for 2" clearance, the bottom edge of bracket may be placed in line with the door's high point of travel.



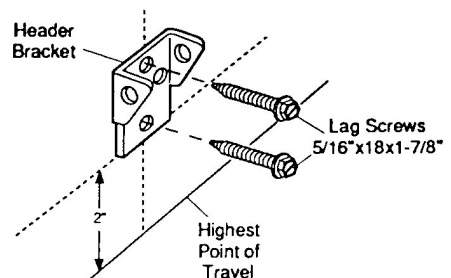
SECTIONAL DOOR
CURVED TRACK



ONE-PIECE DOOR
HORIZONTAL TRACK
JAMB HARDWARE

3. Position bracket as shown (centered on vertical guideline with bottom edge of bracket on horizontal line).

Mark either top and bottom or left and right bracket holes. Drill 3/16" pilot holes and fasten bracket.



ONE-PIECE DOOR WITHOUT TRACK

PLEASE READ AND COMPLY WITH THE WARNINGS ON PAGE 10. THEY APPLY TO THE INSTALLATION OF THE HEADER BRACKET REGARDLESS OF DOOR TYPE.

1. Close door and mark inside vertical centerline of garage door. Extend line onto header wall above door.
2. Open door to highest point of travel as shown. Measure the distance from top of door to floor. Subtract actual height of door. Add 8" to remainder (See Example).

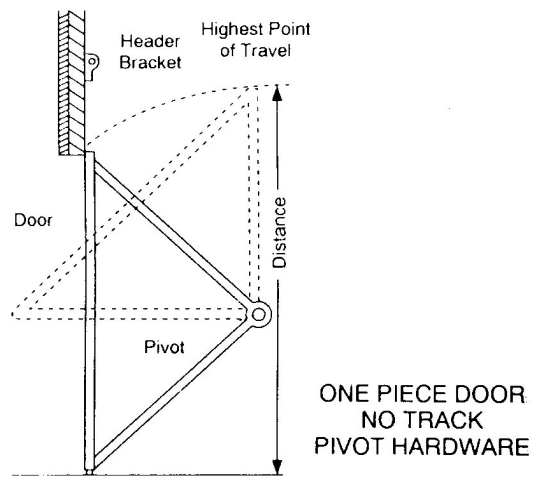
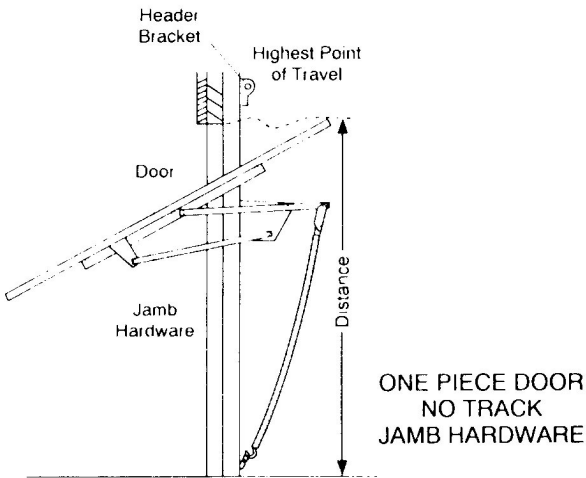
NOTE: If the total number of inches exceeds height available in garage, use the maximum height possible. On finished ceilings, do not position the bracket closer than 1/2" from ceiling.

EXAMPLE

Distance from top of door (at highest point of travel) to floor.....	92"
Actual height of door	-88"
Remainder.....	4"
Add	+8
Bracket height on header wall	=12"

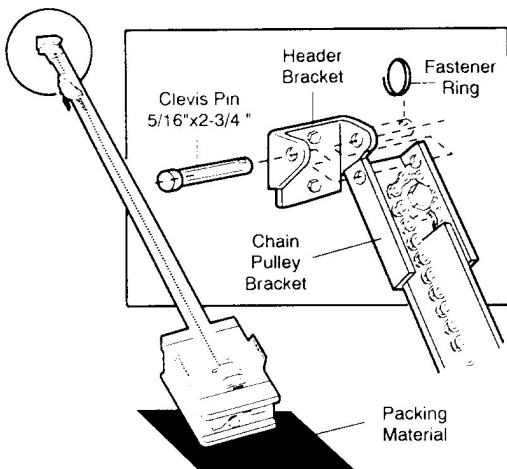
(Measure UP from top of CLOSED door.)

POSITION AND FASTEN HEADER BRACKET AS DESCRIBED AND SHOWN IN NO. 3 ON PAGE 10.



INSTALLATION STEP 2

Attach the T-Rail to Header Bracket



PROCEDURE: Position opener on garage floor below header bracket. Use packing material as a protective base.

NOTE: To enable T-rail to clear sectional door springs, it may be necessary to lift opener onto a temporary support.

CAUTION: *The opener must either be secured to a support or held firmly in place by another person.*

Raise T-rail until pulley and header brackets come together. Align bracket holes and join with clevis pin as shown. Insert ring fastener to secure.

INSTALLATION STEP 3

Position the Opener

Follow instructions which apply to your door type as illustrated.

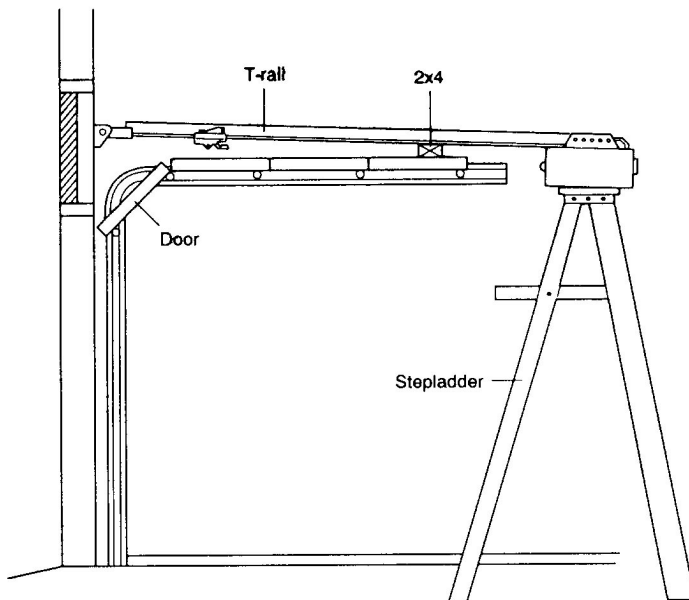


TO PREVENT DAMAGE TO LIGHT WEIGHT DOORS AND/OR DOORS WITH WINDOWS, DO NOT REST THE OPENER ON THE DOOR.

INSTALLATION-SECTIONAL DOOR & 1-PIECE DOOR WITH TRACK

NOTE: A 2 x4 is convenient for setting an ideal door to T-rail distance. It is not necessary where headroom is insufficient.

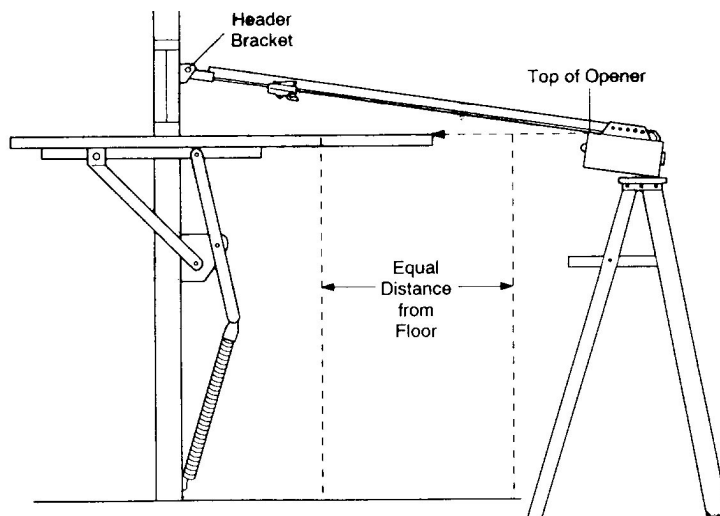
PROCEDURE: Raise the opener onto a stepladder. Open garage door. Place a 2x4 on the top section of door near centerline as shown. Rest T-rail on 2x4 as shown.



INSTALLATION - 1-PIECE DOOR WITHOUT TRACK

PROCEDURE: Measure the distance from floor to top of door (in fully open position and parallel to the floor). Using a stepladder as a support, raise opener to the same distance from the floor (it will have a slight angle as shown).

The top of the door should be level with the top of opener. For maximum efficiency, do not position opener more than 2 inches above this point.



INSTALLATION STEP 4

Hang the Opener



THE OPENER MUST BE SECURELY FASTENED TO A STRUCTURAL SUPPORT OF THE GARAGE.

Three representative installations are shown. Yours may be different. Hanging brackets should be angled (**Fig.1**) or crossed (**Fig.2**) to provide rigid support. On finished ceilings (**Fig.3**), attach a sturdy metal bracket (not supplied) to ceiling joists before installing opener.

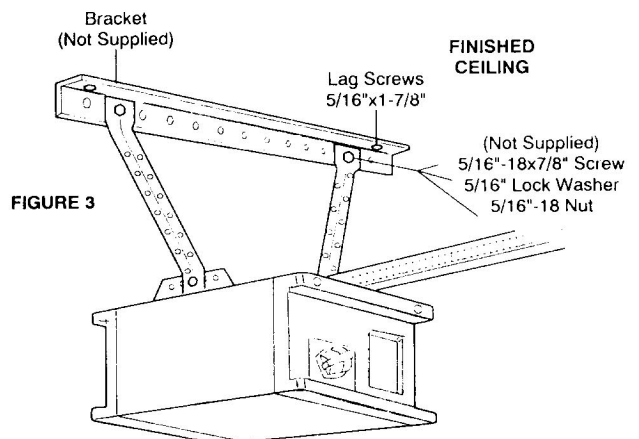
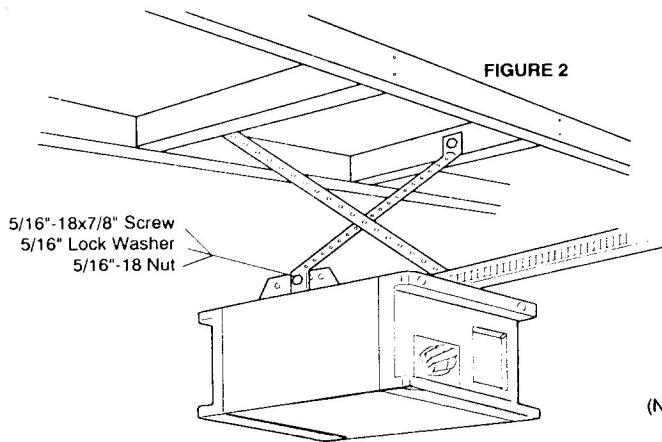
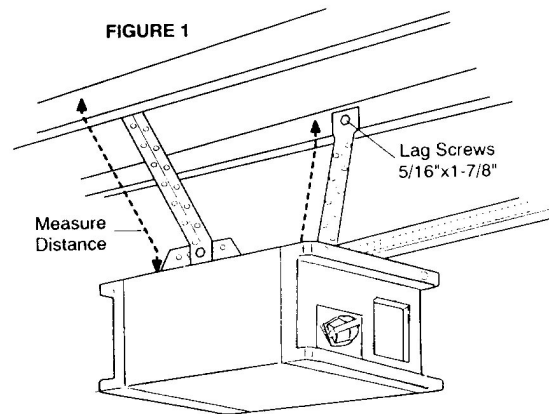
PROCEDURE: Measure the distance from EACH side of the opener to the structural support.

Cut both pieces of the hanging bracket to required lengths. Flatten one end of each bracket and bend or twist to fit the fastening angles **Do not bend at the bracket holes**. Drill $3/16$ " pilot holes in structural supports. Attach flattened ends of brackets to the supports with $5/16$ "x $1-7/8$ " lag screws.

Lift opener and fasten to hanging bracket as shown. **Check to make sure the T-rail is centered over door. REMOVE the 2x4.**

Operate the door manually. **If door hits the rail, raise header bracket.**

Grease the top and underside of rail surface on which trolley slides. A tube of grease is supplied.





LOCATE DOOR CONTROL BUTTON (OR ANY ADDITIONAL PUSH BUTTONS) WHERE THE GARAGE DOOR IS VISIBLE. AWAY FROM DOOR AND DOOR HARDWARE AND OUT OF THE REACH OF CHILDREN.

SERIOUS PERSONAL INJURY FROM A MOVING GARAGE DOOR MAY RESULT FROM MISUSE OF OPENER.

DO NOT ALLOW CHILDREN TO OPERATE DOOR CONTROL BUTTON(S) OR REMOTE CONTROL TRANSMITTER.

FASTEN THE CAUTION LABEL ON THE WALL NEAR DOOR CONTROL BUTTON AS A REMINDER OF SAFE OPERATING PROCEDURES.

INSTALLATION STEP 5

Install Lighted Door Control Button

Models 1156,1155, 1146,1145,1140

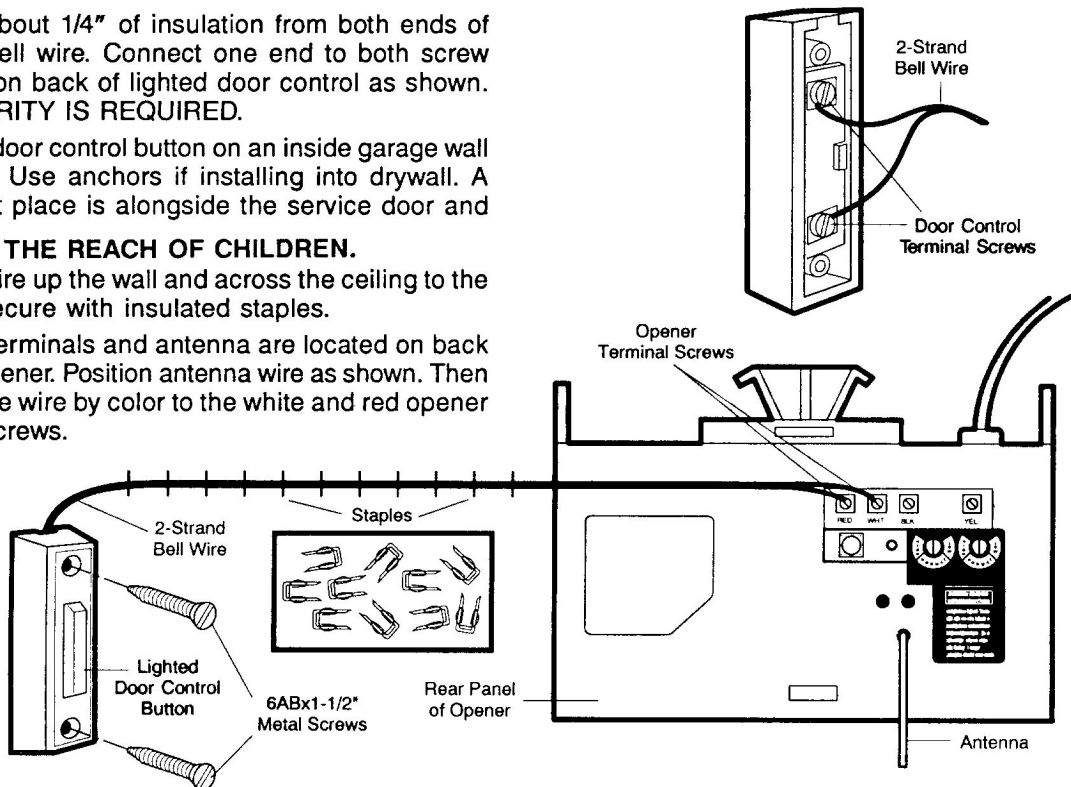
Remove about 1/4" of insulation from both ends of 2-strand bell wire. Connect one end to both screw terminals on back of lighted door control as shown. **NO POLARITY IS REQUIRED.**

Install the door control button on an inside garage wall as shown. Use anchors if installing into drywall. A convenient place is alongside the service door and

OUT OF THE REACH OF CHILDREN.

Run bell wire up the wall and across the ceiling to the opener. Secure with insulated staples.

Receiver terminals and antenna are located on back panel of opener. Position antenna wire as shown. Then connect the wire by color to the white and red opener terminal screws.



OPERATION OF LIGHTED DOOR CONTROL BUTTON

Press to open or close door. Press again to REVERSE door during the CLOSING cycle or to STOP door during OPENING cycle.

INSTALLING LIGHT: Install a 75 watt maximum light bulb in socket as shown. The light will turn on and remain lit for 4-1/2 minutes when power is connected. After 4-1/2 minutes it will turn off.

If light bulb burns out prematurely due to vibration, replace with bulb specifically packaged for "Garage Door Openers".

INSTALLING LENS (Models shown above except 1140): Locate (and loosen approximately 1/8") the two screws near top of opener front panel. Position lens against panel with slotted tabs directly below screws. Slide lens up to seat tabs behind screws. Snap bottom tabs of lens into panel slots. Retighten top panel screws to secure lens.

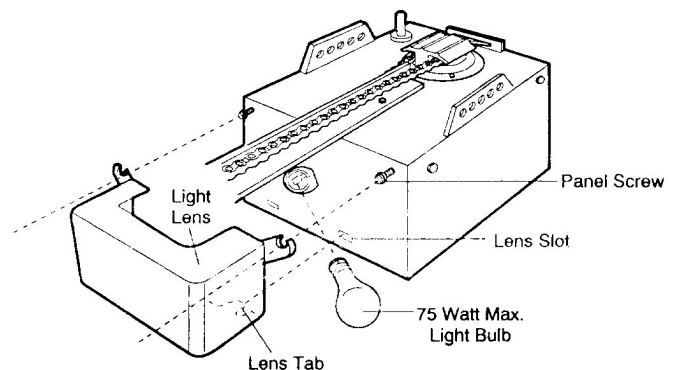
WIRING INSTRUCTIONS FOR ACCESSORIES

The Protector System™

To white and black opener terminals

Outside Keylock

To red and white opener terminals



Install Multi-Function Door Control Panel
Models 1160 and 1150 ONLY

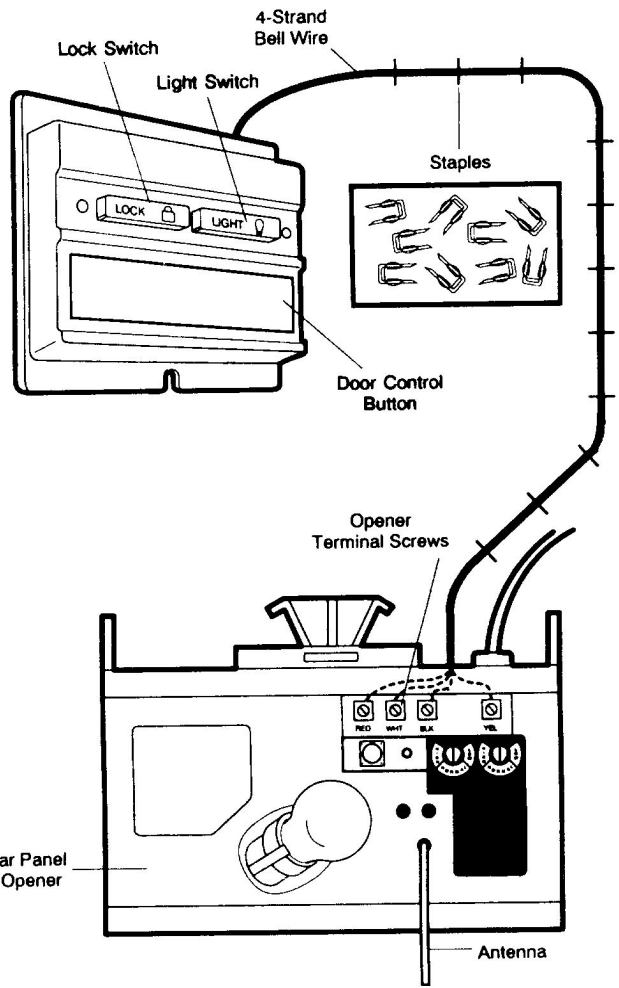
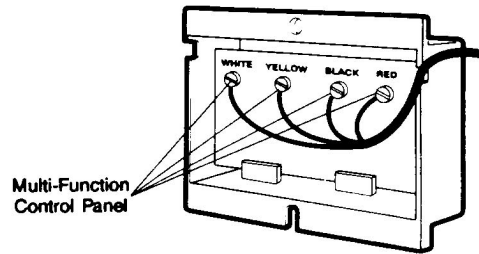
There are 4 screw terminals on the back of the Multi Function Control. Connect bell wire by color; yellow to yellow, white to white, red to red and black to black.

Install the Multi-Function Control on an inside garage wall as shown. Use anchors if installing into drywall a convenient place is alongside the service door.

LOCATE OUT OF THE REACH OF CHILDREN.

Run bell wire up the wall and across the ceiling to opener. Secure with insulated staples.

Receiver terminals and antenna are Located on back panel of opener. Position antenna wire as shown. Then connect the wire by color to the red, white, black and yellow opener terminal screws.



**OPERATION OF THE
 MULTI-FUNCTION CONTROL PANEL
 DOOR CONTROL PUSH BUTTON**

Press to open or close door. Press again to REVERSE door during CLOSING cycle or to STOP door while OPENING.

LOCK SWITCH: Activate ONLY when door is closed. The LOCK Switch is designed to prevent operation of door from portable remote control transmitters. Door will OPEN from Door Control Button, Key Switch and Keyless Entry Systems. Door will CLOSE if door control button is pressed and held until the door closes fully. If button is released before down travel is completed, door will reverse.

TO ACTIVATE: Press Lock Switch button. Indicator light will turn ON. **TO TURN OFF:** Press Lock Switch button again. Indicator light will turn OFF. Normal operation will

LIGHT SWITCH

TO ACTIVATE: Press Light Switch button. Indicator light will turn ON. Opener light will turn on (or remain on if opener is still in 4 1/2 minute automatic cycle). **TO TURN OFF:** Press Light Switch button again. Opener light will turn OFF.

NOTE: To turn light OFF during 4-1/2 minute automatic cycle, press Light Switch button twice • to activate and then to turn off Light Switch Feature. Light will turn OFF immediately.

WIRING INSTRUCTIONS FOR ACCESSORIES

The Protector System™
 To white and black opener terminals
Outdoor Key Switch:
 To red and white opener terminals

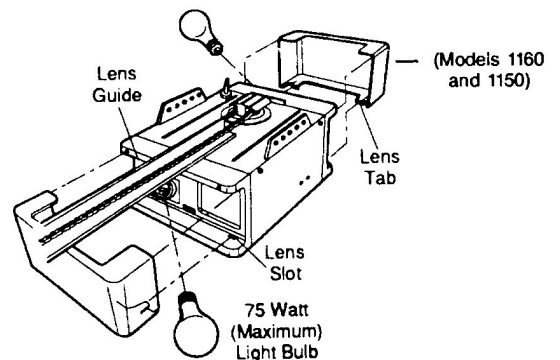
INSTALL THE LIGHTS

Install a 75 Watt maximum light bulb in each socket. Lights will turn ON and remain lit for 4-1/2 minutes when power is connected. Then they will turn OFF. **If bulbs burn out prematurely due to vibration, replace with "Garage Door Opener" bulbs.**

INSTALL THE LENSES

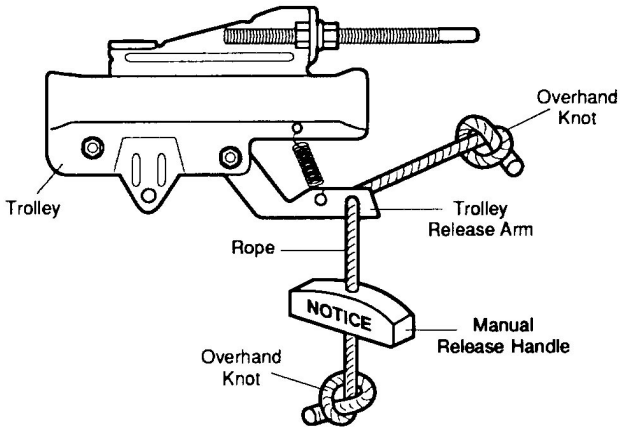
Slide lens into guides as shown. Snap bottom tabs into lens slots.

For convenience, lenses may be installed after Adjustment Step 3, Page 22.



INSTALLATION STEP 6

Attach Manual Release Rope & Handle



USE MANUAL RELEASE ROPE ONLY TO DISENGAGE TROLLEY. DO NOT USE ROPE AND HANDLE TO PULL DOOR OPEN OR CLOSED.

PROCEDURE: Thread one end of rope through hole in top of red handle so 'NOTICE' reads right side up as shown. Secure with an overhand knot.

NOTE: Knot should be at least 1" from the end of the rope to prevent slipping.

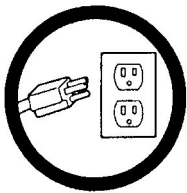
Thread other end of rope through hole in release arm of outer trolley. Adjust rope length so that handle is 6 feet above the floor. Secure with an overhand knot as above.

NOTE: If it is necessary to cut rope, heat seal cut end with a match or lighter to prevent fraying and/or raveling.

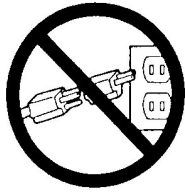
INSTALLATION STEP 7

Connect Electric Power

Opener MUST be permanently wired or plugged into a grounded 3-prong receptacle wired according to local electrical codes. DO NOT use a 2-wire adapter. DO NOT USE an extension cord.



RIGHT



WRONG



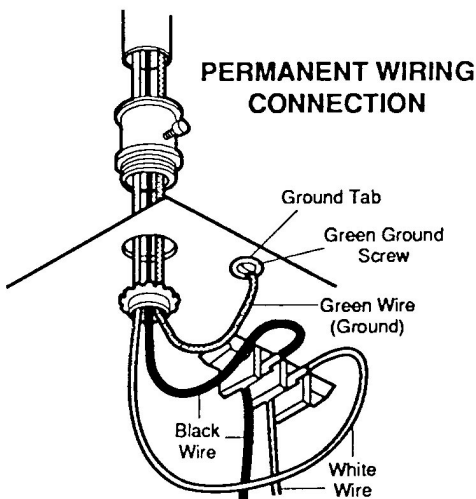
TO AVOID SERIOUS PERSONAL INJURY FROM ENTANGLEMENT, REMOVE ALL THE ROPES CONNECTED TO GARAGE DOOR BEFORE OPERATING OPENER.

TO AVOID DAMAGE TO GARAGE DOOR AND OPENER, MAKE DOOR LOCKS INOPERATIVE BEFORE CONNECTING ELECTRIC POWER. USE A WOOD SCREW OR NAIL TO HOLD LOCKS IN "OPEN" /UNLOCKED) POSITION.

THE INSTALLATION & THE WIRING MUST BE IN COMPLIANCE WITH LOCAL ELECTRICAL AND BUILDING CODES.

OPERATION AT OTHER THAN 120V 60Hz WILL CAUSE OPENER MALFUNCTION AND DAMAGE.

PROCEDURE FOR PERMANENT WIRING (if required by local codes)



DISCONNECT THE POWER AT THE FUSE BOX BEFORE PROCEEDING.

Refer to illustration. Make connection through the 7/8" diameter hole in top of opener.

1. Remove opener cover screws and set cover aside.
2. Remove attached 3-prong cord.
3. Connect black (line) wire to black wire on terminal block; white (neutral) wire to white terminal wire; Green (GROUND) wire to green around screw.

CAUTION: BE SURE THE UNIT IS GROUNDED ACCORDING TO LOCAL CODE.

IMPORTANT NOTE: TO AVOID INSTALLATION DIFFICULTIES, DO NOT RUN OPENER NOW.

INSTALLATION STEP 8

Fasten Door Bracket and Plate

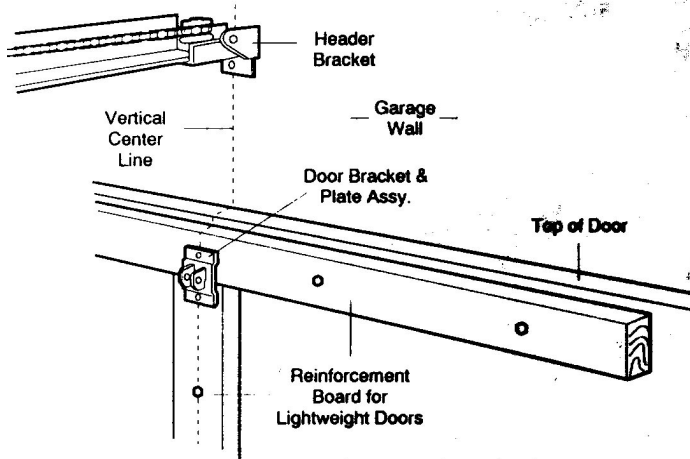
Follow instructions which apply to your door type as illustrated below.



TO PREVENT DAMAGE TO LIGHTWEIGHT AND METAL GARAGE DOORS (OR THOSE WITH GLASS PANELS), ALWAYS REINFORCE THE INSIDE OF DOOR—BOTH VERTICALLY AND HORIZONTALLY—WITH 2X4 BOARDS OR ANGLE IRON.

The horizontal brace should be at least six feet long. The vertical brace should cover height of top panel. The best solution is to check with the garage door manufacturer for a door reinforcement kit to be used with an opener installation.

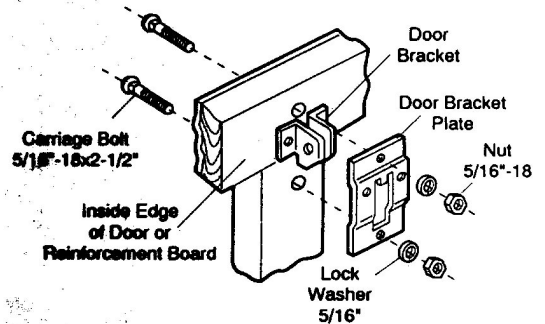
Sectional Door Installation Procedure



Position door bracket and plate assembly against door within the following limits according to your requirements (and centered on vertical guideline—or to one foot left or right of center, if necessary):

- A) Top edge of bracket 2" - 4" below top edge of door.
- B) Directly below any structural support across top of door.

Mark and drill 5/16" TOP and BOTTOM fastening holes. Secure bracket assembly as shown.

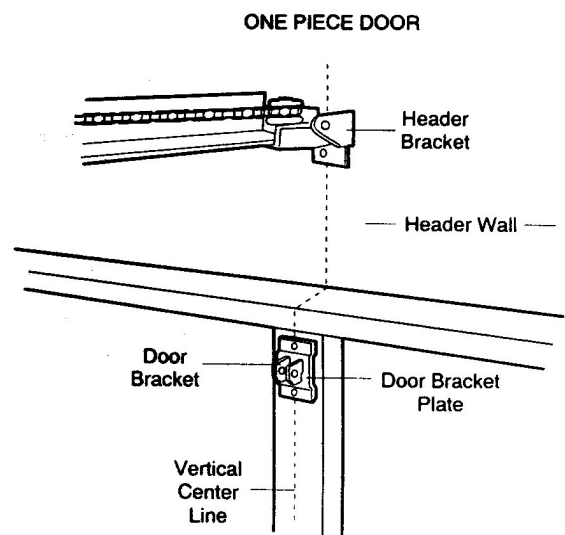
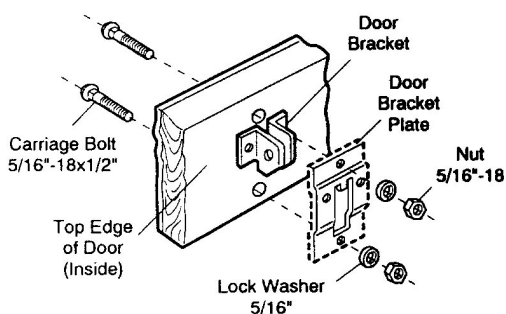


All One-Piece Door Installation Procedure

NOTE: The door bracket has left and right side fastening holes. Assemble and install the door bracket and plate if your installation requires top and bottom fastening holes.

Center bracket (with or without plate as required) at the top of the inside face of door as shown. Mark holes.

Drill 5/16" holes and fasten the door bracket with hardware supplied.



INSTALLATION STEP 9

Connect Door Arm to Trolley

Follow instructions which apply to your door type as illustrated.

SECTIONAL DOORS INSTALLATION

Make sure garage door is closed tight. Pull the manual release handle to disconnect the trolley. Manually move outer trolley back to the center of inner trolley as shown in Figures A, B and C.

FIG A: Fasten straight door arm section to outer trolley with a clevis pin. Secure the connection with a ring fastener.

Fasten curved section to the door bracket in the same way.

FIG B: 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 rigidity.

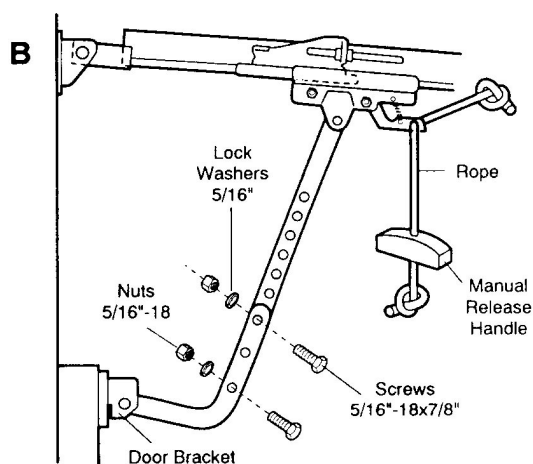
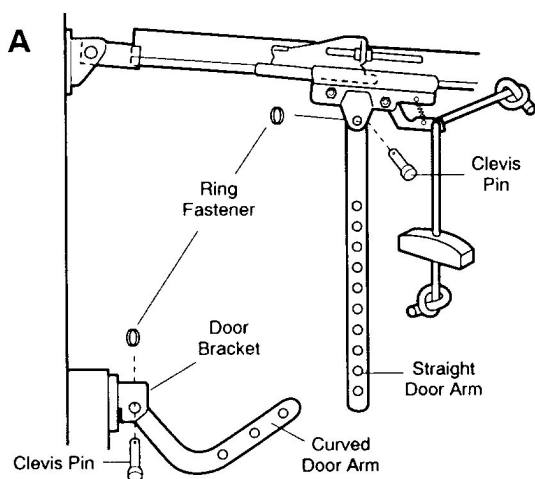
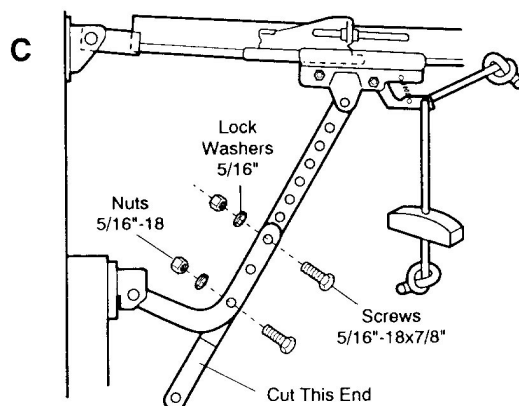


FIG C: If holes in curved arm are ABOVE holes in straight arm, disconnect straight arm. Cut about 6" from the solid end. Reconnect to trolley with CUT END DOWN as shown.

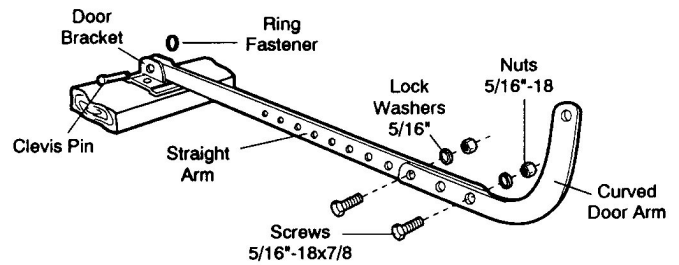
Bring arm sections together. Find two pairs of holes that line up and join with screws, lock washers and nuts.



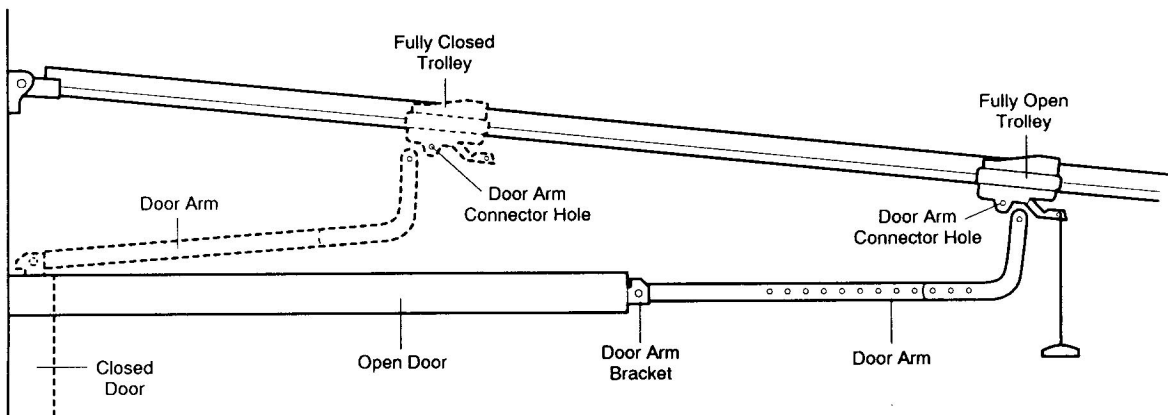
Proceed to Step 1, page 20. Trolley will re-engage automatically when opener is operated.

ALL ONE-PIECE DOORS

ASSEMBLE DOOR ARM: Fasten straight and curved door arm sections together to their longest possible length. With door closed, connect straight door arm section to door bracket with a clevis pin. Secure with a ring fastener.



Before connecting door arm to trolley, limits of travel must be adjusted on one-piece doors. Limit adjustment screws are located on left side panel as shown in illustration on Page 20. Follow procedures below.



ADJUSTMENT PROCEDURES

OPEN DOOR ADJUSTMENT

Decrease UP limit. Turn UP limit adjustment screw counterclockwise 4 complete turns.

Press door control button. Trolley will travel to full open position.

Manually raise door arm to open position (parallel to floor) and lift door arm to trolley. The arm should touch trolley just in back of door arm connector hole as shown in solid line drawing. If arm does not extend far enough, adjust limit further. One full turn equals 2" of door travel.

CLOSED DOOR ADJUSTMENT

Decrease DOWN limit. Turn DOWN limit adjustment screw clockwise 8 complete turns.

Press door control button. Trolley will travel to full closed position.

Manually close door and lift door arm to trolley. The arm should touch trolley just ahead of door arm connector hole as shown in dotted line drawing. If arm is behind the connector hole, adjust limit further. One full turn equals 2" of door travel.

CONNECT DOOR ARM TO TROLLEY: With door closed, join curved arm to connector hole in trolley with remaining clevis pin. Secure with ring fastener. **NOTE: It may be necessary to lift door slightly to make connection.**

Run opener through a complete travel cycle. If door has a slight 'backward' slant in full open position, decrease UP limits until door is parallel to floor.

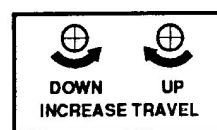
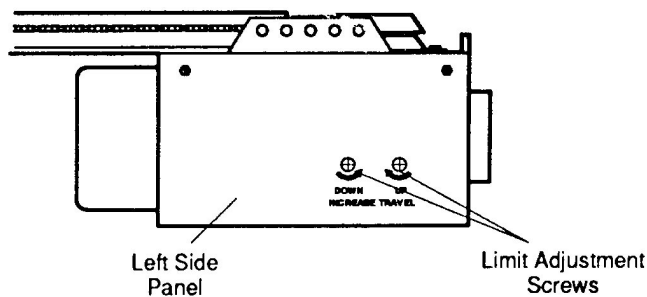
ADJUSTMENT STEP 1

Adjust UP and DOWN Limits

LIMIT ADJUSTMENT settings regulate the points at which the door will stop when moving up or down.

NOTE: Door **STOPS** in the **UP** direction if anything interferes with door travel. Door **REVERSES** in the **DOWN** direction if anything interferes with the door travel (including binding or unbalanced doors).

PROCEDURE: To operate the opener, press the Door Control Button. Run the opener through a **COMPLETE TRAVEL CYCLE**. No limit adjustments are necessary when the door opens and closes completely and doesn't reverse unintentionally when fully closed.



Adjustment Label

THE FOLLOWING CHART OUTLINES ADJUSTMENT PROCEDURES. RUN THE OPENER THROUGH A COMPLETE TRAVEL CYCLE AFTER EACH ADJUSTMENT.

NOTE: REPEATED OPERATION OF THE OPENER DURING ADJUSTMENT PROCEDURES MAY CAUSE MOTOR TO OVERHEAT AND SHUT OFF. SIMPLY WAIT 15 MINUTES AND TRY AGAIN.

Read the chart carefully before proceeding to Step 2. Use a screwdriver to make limit adjustments.

LIMIT ADJUSTMENT CHART

IF DOOR DOES NOT OPEN COMPLETELY BUT OPENS AT LEAST FIVE FEET

Increase UP travel. Turn the UP LIMIT adjustment screw clockwise. One turn equals 2" of travel.

If door does not open at least 5 feet: adjust UP (OPEN) FORCE as explained in Step 2.

IF DOOR DOES NOT CLOSE COMPLETELY

Increase DOWN travel. Turn down limit adjustment screw counterclockwise. One turn equals 2" of travel.

If the door still will not close completely, the header bracket is positioned too high. See Step 1, page 10.

IF ONE-PIECE DOOR DOES NOT CLOSE COMPLETELY

Increase DOWN travel. Turn down limit adjustment screw counterclockwise. One turn equals 2 inches of travel.

IF OPENER REVERSES IN FULLY CLOSED POSITION.

Decrease DOWN travel. Turn down limit adjustment screw clockwise. One turn equals 2 inches of travel.

IF DOOR REVERSES WHEN CLOSING AND THERE IS NO INTERFERENCE TO TRAVEL CYCLE

Test door for binding: Pull manual release handle. Manually open and close door. If door is binding, call a door serviceman. If door is not binding or unbalanced, adjust DOWN (CLOSE) FORCE. See Step 2.

ADJUSTMENT STEP 2

Adjust Force



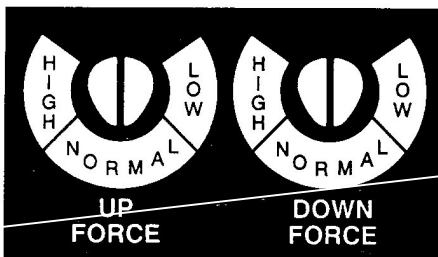
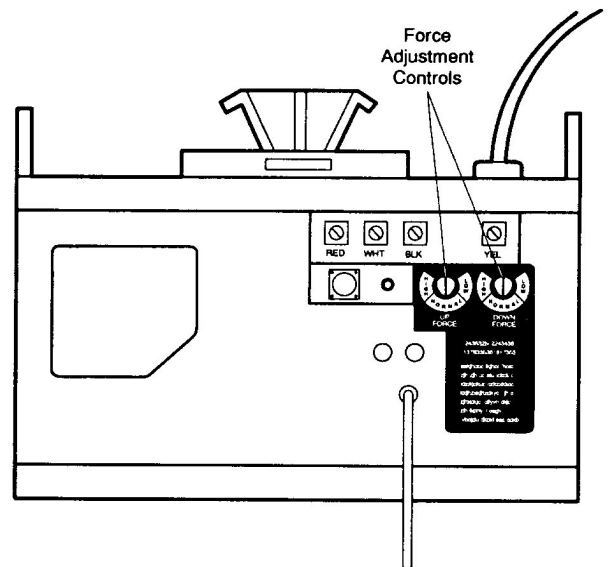
DO NOT USE FORCE ADJUSTMENTS TO COMPENSATE FOR A BINDING OR STICKING GARAGE DOOR EXCESSIVE FORCE WILL INTERFERE WITH THE PROPER OPERATION OF THE SAFETY REVERSE SYSTEM OR DAMAGE THE GARAGE DOOR.

Force Adjustment Controls are located on rear panel of opener. **FORCE ADJUSTMENT** settings regulate amount of the power required to open and close door.

NOTE: The door STOPS in the UP direction if anything interferes with its travel. Door REVERSES in the DOWN direction if anything interferes with its travel (including binding or unbalanced doors).

If the force adjustments are set too light, door travel may be interrupted by nuisance reversals in DOWN direction and stops in UP direction. Weather conditions can affect the door movement, so occasional adjustment may be needed.

Maximum force adjustment range is 260 degrees, about 3/4 of a complete turn. Do not force controls beyond that point. Turn force adjustment controls with a screwdriver.



Adjustment Label

FORCE ADJUSTMENT CHART

TEST DOWN (CLOSE) FORCE

Grasp the door handle or door bottom when door is about halfway through DOWN (CLOSE) TRAVEL. Door should reverse. If the door is hard to hold or doesn't reverse, decrease DOWN (CLOSE) FORCE by turning the control in a counterclockwise direction. Make 10 degree turn adjustments until door reverses normally. After each adjustment, run opener through a complete cycle.

PROCEED TO STEP 3

IF DOOR DOESN'T OPEN AT LEAST 5 FEET

Increase UP (OPEN) FORCE by turning the control in a clockwise direction. Make 10 degree turn adjustments until door opens completely. Readjust UP LIMIT if necessary. After each adjustment, run opener through a complete travel cycle.

IF DOOR REVERSES DURING DOWN (CLOSE) CYCLE

Increase DOWN (CLOSE) FORCE by turning control clockwise. Make 10 degree turn adjustments until door completes close cycle. After each adjustment, run the opener through a complete travel cycle.

ADJUSTMENT STEP 3

Test Safety Reverse System

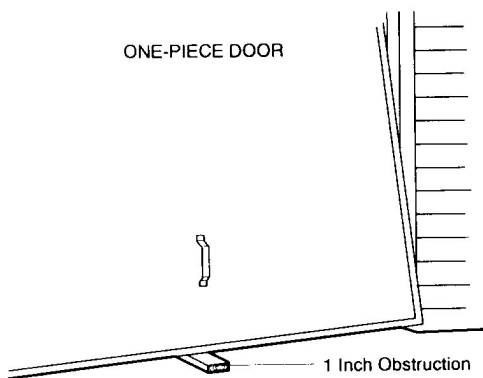
PROCEDURE: Place a one-inch obstacle on the floor under the garage door. Operate door in DOWN direction. The door **MUST** reverse on the obstruction.

If the door **STOPS** on the obstruction, it is not traveling far enough in the DOWN direction. Increase the DOWN limit by turning DOWN limit adjustment screw counterclockwise 1/4 turn. **REPEAT TEST.**

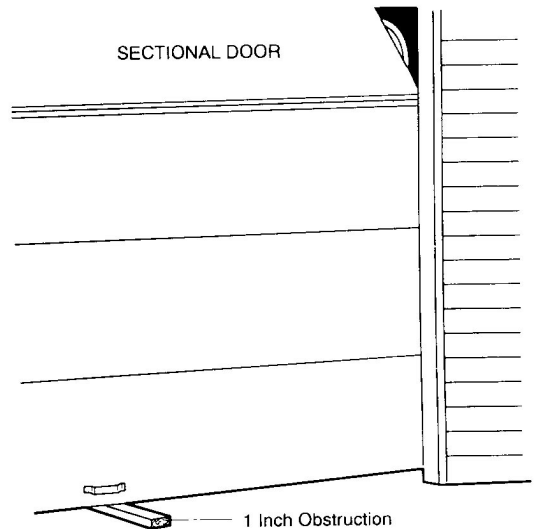
NOTE: Make sure limit adjustments do not force the door arm beyond a straight up and down position. See the illustration on Page 18/19.

When the door reverses on the one-inch obstacle, remove the obstruction and run the opener through a complete travel cycle.

Door MUST NOT reverse in closed position. Repeat Adjustment Steps 1, 2 and 3 if necessary.



THE SAFETY REVERSE SYSTEM TEST IS IMPORTANT. GARAGE DOOR MUST REVERSE ON CONTACT WITH A ONE-INCH OBSTACLE PLACED ON THE FLOOR. FAILURE TO PROPERLY ADJUST OPENER MAY RESULT IN SERIOUS PERSONAL INJURY FROM A CLOSING GARAGE DOOR. REPEAT TEST ONCE A MONTH AND ADJUST AS NEEDED.



REPEAT ADJUSTMENT STEP 3 AFTER:

- EACH ADJUSTMENT OF DOOR ARM LENGTH, CLOSE FORCE OR DOWN LIMIT.
- ANY REPAIR OR ADJUSTMENT OF GARAGE DOOR (INCLUDING SPRINGS AND HARDWARE).
- ANY REPAIR OR BUCKLING OF THE GARAGE FLOOR R.
- ANY REPAIR OR ADJUSTMENT OF THE GARAGE DOOR OPENER.

THE PROTECTOR SYSTEM™

Installation of Optional Safety Feature

After opener has been installed and adjusted, **THE PROTECTOR SYSTEM** accessory can be installed.

Instructions are included with this optional device.

THE PROTECTOR SYSTEM™ PROVIDES AN ADDITIONAL MEASURE OF SAFETY AGAINST A SMALL CHILD BEING CAUGHT UNDER A GARAGE DOOR. It uses an invisible beam which, when broken by an obstruction, causes a closing door to open and prevents an open door from closing. **STRONGLY RECOMMENDED FOR HOMEOWNERS WITH YOUNG CHILDREN.**



Radio Controls

F.C.C. rules prohibit adjustments to or modification of receiver and/or remote control transmitter circuitry except for changing code setting and replacing remote control transmitter battery. **NO USER SERVICEABLE PARTS.**

Manufactured under 1 or more of the following U.S. patents: RE29,525; 4,750,118; 4,868,930. Other Patents Pending.



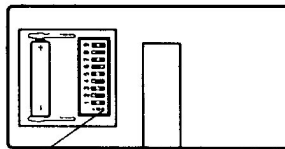
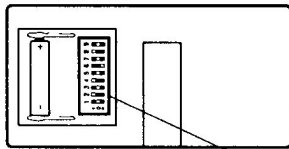
ACTIVATE THE OPENER ONLY WHEN DOOR IS IN FULL VIEW, FREE OF OBSTRUCTION AND PROPERLY

ADJUSTED. NO ONE SHOULD ENTER OR LEAVE GARAGE WHILE DOOR IS IN MOTION. DO NOT ALLOW CHILDREN TO OPERATE REMOTES OR DOOR CONTROL BUTTONS. DO NOT ALLOW CHILDREN TO PLAY NEAR THE DOOR.

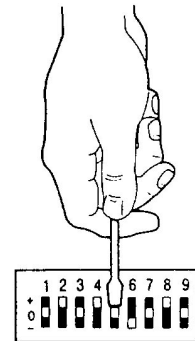
Your garage door opener receiver and remote control transmitter have been factory set to a matching code. If you want to CHANGE your code or purchase additional remotes, follow the Instructions below. The code in any NEW remote control must be set to match the code in the original remote control.

MATCH/CHANGE THE CODE IN REMOTE CONTROL(S)

- Slide battery compartment cover back to access code switches in your single function remote and any new remote control.
- Place remotes side by side as shown and set switches in ALL remotes to matching positions (+, -, 0). Use a pen or screwdriver to slide the code switches.



Match Code Switches (1-9)



NOTE: Instructions for matching the code switches in two-channel and multi-function remote control transmitters are included with those accessories.

MATCH/CHANGE THE CODE IN THE RECEIVER

GARAGE DOOR OPENERS WITH RECEIVER "SMART" CODE BUTTON

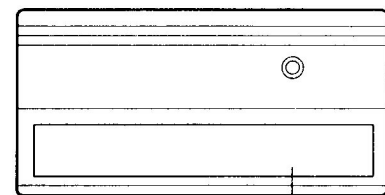
- Press the RECEIVER Smart Button on the back panel of the opener as shown. The adjacent indicator light will turn ON.

CAUTION: Door will begin to move immediately if any transmitter has been activated.

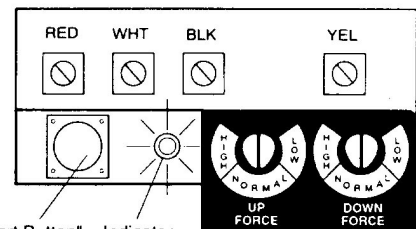
If this occurs, wait until the door has completed its UP or DOWN cycle. Then begin again at Step 3.

- STAND AWAY FROM THE DOOR** and press the remote control transmitter push button. The indicator light will turn OFF and the door will move. Receiver and remote control(s) codes now match. The opener will operate when either the door control button or the remote control transmitter push button is pressed.

NOTE: If the remote control transmitter push button is not pressed within 30 seconds, the indicator light will turn OFF. In that case, begin again at steps 3.



TRANSMITTER Push Button



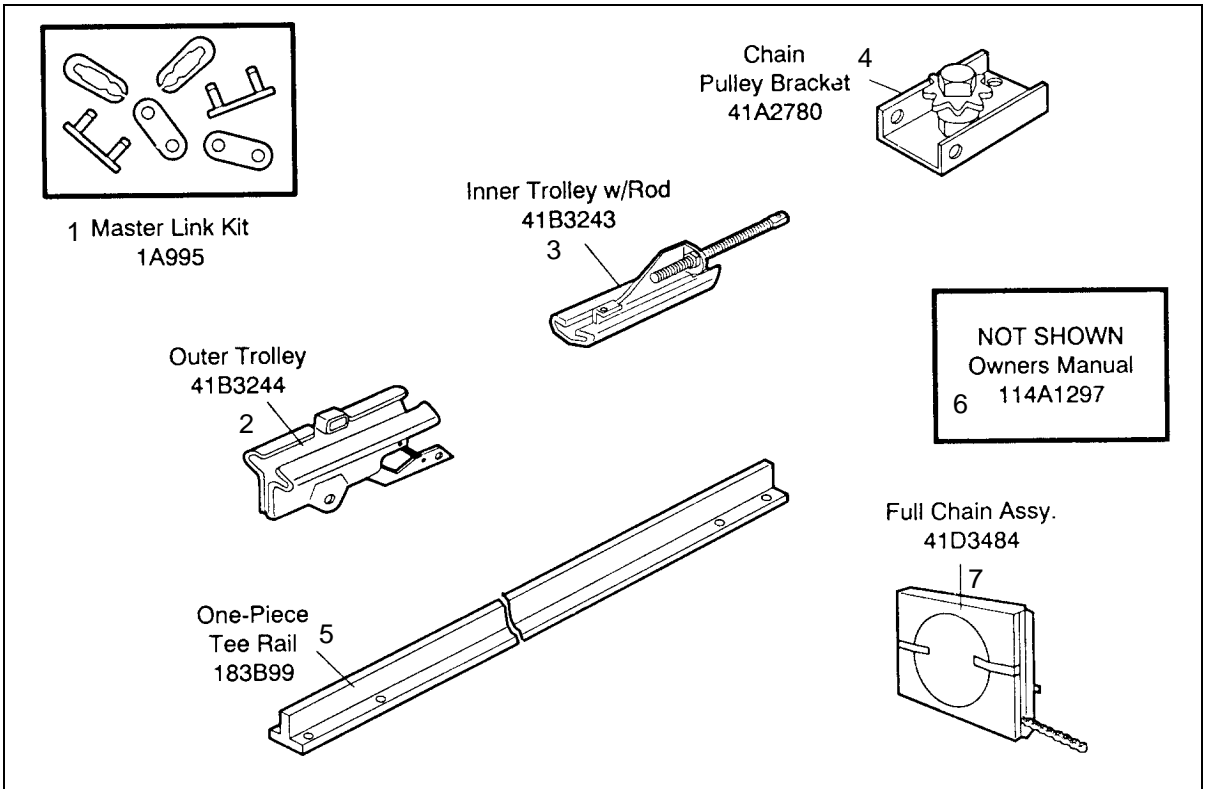
"Smart Button" Indicator Light RECEIVER

SITUATION	PROBABLE CAUSE & SOLUTION
OPENER DOESN'T OPERATE FROM EITHER THE DOOR CONTROL BUTTON OR REMOTE CONTROL TRANSMITTER	<ol style="list-style-type: none"> 1. Have you disengaged all door locks? Review Step 7, page 16. 2. Does the opener have electric power? Plug a lamp into the outlet. If it doesn't light, check fuse box or circuit breaker. (Some outlets are controlled by a wall switch.) 3. Repeated operation may have tripped the overload protector in the motor. Wait 15 minutes. Try again. 4. Is there a build-up of ice or snow under door? Door may be frozen to ground. Remove any obstruction. 5. Remove bell wire from opener terminals. Short red and white terminals by touching both terminals at same time with a piece of metal (screwdriver or coin). If opener runs, check for a faulty wire connection at door control button or a short under staples.
OPENER OPERATES FROM REMOTE CONTROL BUT NOT FROM DOOR CONTROL BUTTON	<ol style="list-style-type: none"> 1. Is door control push button lit? If not, refer to No. 5 above and follow same procedure. 2. Are wiring connections correct? Review Step 5, page 14 or 15.
DOOR OPERATES FROM DOOR CONTROL PUSH BUTTON BUT NOT FROM THE REMOTE CONTROL TRANSMITTER	<ol style="list-style-type: none"> 1. Is the LOCK Switch ON? (Models 1160 and 1150) Turn it OFF. 2. Does the battery test light glow when remote control push button is pressed? If not, replace the battery. 3. If you have two remote controls and only one operates, review the code setting procedures on page 23. ALL remote controls must be set to same code.
REMOTE CONTROL TRANSMITTER HAS SHORT RANGE	<ol style="list-style-type: none"> 1. Check battery test light. If the light is dim, change the battery. 2. Change the location of the remote control in the car. 3. A metal garage door or foil-backed insulation or metal siding will reduce the transmission range. 4. Check to be sure antenna on the back panel of opener extends fully downward.
THE GARAGE DOOR OPENS AND CLOSES BY ITSELF	<ol style="list-style-type: none"> 1. Is there a neighbor with a garage door opener using the same frequency code? Change your code. Review page 23. 2. Check to be sure that the remote control push button is not stuck in the 'down' position. 3. Remove bell wire from opener terminals and operate from remote control only. If this solves the problem, the door control is faulty (replace), or there is a short or broken wire between door control button and opener.
DOOR DOESN'T OPEN COMPLETELY	<ol style="list-style-type: none"> 1. Is something obstructing the door? 2. If door opens at least 5 feet, travel limits may need to be increased. One turn equals 2 inches of travel. See page 20. REPEAT SAFETY REVERSE TEST after the adjustment is complete. 3. If door has been working properly but now doesn't open all the way, increase the UP FORCE See page 21. REPEAT SAFETY REVERSE TEST after the adjustment is complete.
DOOR DOESN'T CLOSE COMPLETELY	<ol style="list-style-type: none"> 1. Is something obstructing the door? 2. Review the Travel Limits Adjustment Chart on page 20. REPEAT SAFETY REVERSE TEST after any adjustment of door arm length, close force or down limit.
DOOR WON'T CLOSE	<ol style="list-style-type: none"> 1. Check the Protector System™ (if you have installed this accessory). If the light is blinking, correct alignment.

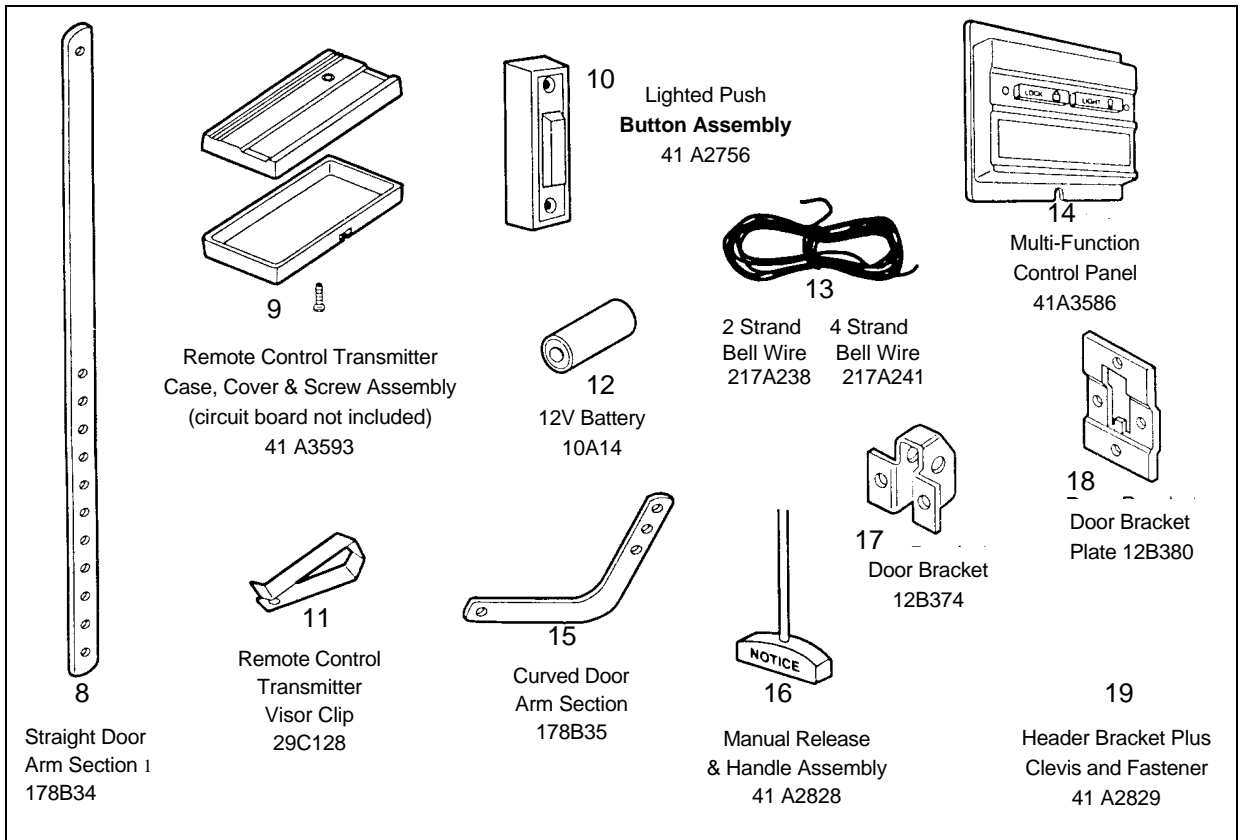
Having a Problem? (continued)

SITUATION	PROBABLE CAUSE & SOLUTION
DOOR REVERSES FOR NO APPARENT REASON	<ol style="list-style-type: none">1. Pull red manual release handle. Operate door manually. If it is unbalanced or binding, call a garage door serviceman to correct the problem.2. Clear any ice or snow from garage floor area where garage door closes.3. Review the Force Adjustment Chart on page 21. REPEAT SAFETY REVERSE TEST after adjustment is complete.4. If door reverses in FULLY CLOSED position, decrease travel limits (Page 20). REPEAT SAFETY REVERSE TEST after the adjustment is complete. THE NEED FOR OCCASIONAL ADJUSTMENT OF THE FORCE AND LIMIT SETTINGS IS NORMAL. WEATHER CONDITIONS IN PARTICULAR CAN AFFECT DOOR TRAVEL.5. Check the Protector System™ (if you have installed this accessory). If the light is blinking, correct alignment.
OPENER LIGHT(S)	<p>DOESN'T TURN ON</p> <ol style="list-style-type: none">1. Replace the light bulb (75 watts maximum). Use a "garage door opener bulb" if standard bulb burns out prematurely due to vibration. Vibration may be caused by loose end panel. Retighten screws. <p>DOESN'T TURN OFF</p> <ol style="list-style-type: none">1. There may be a defective ground at ceiling or wall receptacle. UNIT MUST BE GROUNDED.2. Is the Light Feature ON ? Turn it OFF.
OPENER STRAINS OR MAXIMUM FORCE IS NEEDED TO OPERATE DOOR	<ol style="list-style-type: none">1. Door may be out of balance or springs are broken. Close door and use manual release rope and handle to disconnect trolley. Open and close door manually. A properly balanced door will stay in any point of travel while being supported entirely by its springs. If it does not, call a garage door serviceman to correct the problem .
OPENER MOTOR HUMS BRIEFLY, THEN WON'T WORK	<ol style="list-style-type: none">1. Garage door springs are broken. SEE ABOVE.2. The trolley may be jammed into stop bolts. Pull or push on door while motor is humming to release jammed condition. Re-adjust door limits (page 20) to prevent over-travel. REPEAT SAFETY REVERSE TEST after adjustment is complete.3. If the problem occurs on first operation of the opener, door is locked. DISABLE DOOR LOCK. If chain was removed and reinstalled, motor may be out of phase. Remove chain; cycle motor to the down position. Observe drive sprocket. When it turns in clockwise direction and stops in down position, reinstall chain. REPEAT SAFETY REVERSE TEST after adjustment is complete.
OPENER WON'T OPERATE DUE TO POWER FAILURE	<ol style="list-style-type: none">1. Use manual release rope and handle to disconnect trolley. Door can be opened and closed manually. When the power is restored, press the door control button and trolley will automatically reconnect.2. The Outside Quick Release Lock accessory (for use on garages with no service door) disconnects the trolley from outside the garage in case of power failure.
CHAIN DROOPS OR SAGS	<ol style="list-style-type: none">1. It is normal for chain to droop slightly in the closed door position. Use manual release rope and handle to disconnect trolley. If chain returns to normal height when the trolley is disengaged and door reverses on a one-inch obstruction, no adjustments are needed (see page 9).
OPENER NOISE IS DISTURBING IN LIVING QUARTERS OF HOME	<ol style="list-style-type: none">1. If operational noise is a problem because of proximity of the opener to the living quarters, Vibration Isolator Kit 41A3263 can be installed. This kit was designed to eliminate the 'sounding board effect' and is easy to install

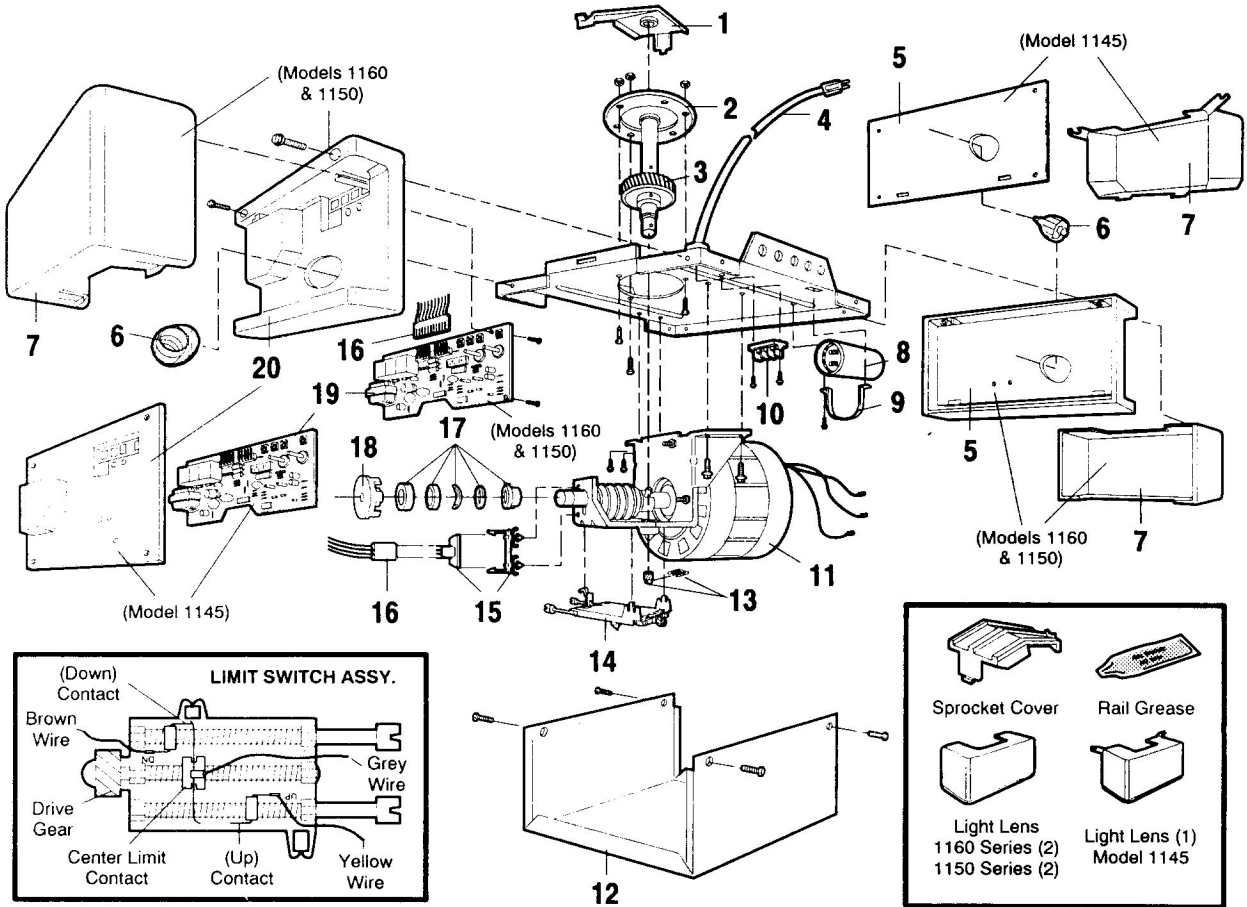
RAIL ASSEMBLY PARTS LIST



INSTALLATION PARTS LIST



Chassis Assembly Parts List



KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	31C290	Sprocket cover	10	41A3150	Terminal block w/screws
2	41A2827	Gear and sprocket assy. Complete with: Spring washer Thrust washer Retaining ring Bearing plate Roll pins (2) Drive gear Worm gear Helical gear w/retainer Grease	11	41D3058	Universal replacement motor /bracket assy. (Includes motor, worm, bracket, bearing assy. and RPM sensor)
3	41A2817	Drive/worm gear kit w/ grease Roll pins (2)	12	51R370	Cover (Specify model)
4	41B2991-1	Line cord	13	41A2818	Helical gear & retainer w/grease
5	143D100	End panel (Model 1145)	14	41D3452	Limit switch assembly
	41A2916	End panel (Model 1160, 1150)	15	41C3005	RPM sensor assembly
6	175B88	Light socket	16	41C2726	Wire harness assy. w/plug
7	108D36	Lens (Model 1145)	17	41A2826	Shaft bearing kit
	108D34	Lens (Models 1160, 1150)	18	41A2822	Interrupter cup assy.
8	30B363	Capacitor - 1/2HP	19	41A3627	Receiver logic board assy. (Model 1145)
	30B387	Capacitor - 1/3HP		41A3626	(Models 1160 and 1150)
9	12A373	Capacitor baracket			Complete with: Logic board End panel w/all labels
			20	41A3712	End panel w/all labels (Model 1145)
				41A3673	End panel w/all labels (1160 and 1150)
				41A2825	NOT SHOWN Chassis assy. hardware kit (includes screws not designated by a number in illustration)

LIFT-MASTER SERVICE IS ON CALL

OUR LARGE SERVICE Organization
SPANS THE UNITED STATES AND CANADA

INSTALLATION AND SERVICE INFORMATION IS AS
NEAR AS YOUR TELEPHONE SIX DAYS A WEEK.
SIMPLY DIAL OUR TOLL FREE NUMBER:

1-800-654-4736

HOURS: 7:00 a.m. TO 3:30 p.m.
(Mountain Std. Time)
MONDAY through SATURDAY

For professional installation parts and service contact your
local LIFT-MASTER/CHAMBERLAIN dealer. Look for him in
the Yellow Pages or call our Service number for a list of
dealers in your area.

HOW TO ORDER REPAIR PARTS

Selling prices will be furnished on request or parts will be
shipped at prevailing prices and you will be billed

WHEN ORDERING REPAIR PARTS ALWAYS GIVE THE
FOLLOWING INFORMATION:

- PART NUMBER
- PART NAME
- MODEL NUMBER

ADDRESS ORDERS TO:
CHAMBERLAIN MFG., CANADA INC.
Unit 11 230 Bayview Drive
Barrie Ont. Canada L4N 5E9

SERVICE INFORMATION
TOLL FREE NUMBER:
1-800-654-4736

LIFTMASTER GARAGE DOOR OPENER ONE-YEAR LIMITED WARRANTY

The Chamberlain/Lift-Master warrants to the first retail purchaser of this product that it will be free from any defect in materials and/or workmanship for a period of twelve full months from the date of purchase. The product must be used in complete accordance with Lift-Master's instructions for installation, or operation and care.

LIMITED WARRANTY ON MOTOR

Model 1160: The motor is warranted to be free from any defect in materials and/or workmanship for a period of 60 full months (5 years) from the date of purchase.

Models 1150 and 1145: The motor is warranted to be free from any defect in materials and/or workmanship for a period of 36 full months (3 years) from the date of purchase.

This warranty does not cover non-defect damage caused by unreasonable use (including abuse failure to provide reasonable and necessary maintenance or any alterations to the product), labor charges for dismantling or reinstalling of a repaired or replaced unit or replacement batteries.

If during the warranty period the product appears as though it may be defective **CALL OUR TOLL FREE SERVICE NUMBER BEFORE DISMANTLING IT (1-800-654-4736)**. If the product is then alleged to be defective please send it pre-paid and insured to our Service Center to obtain warranty repair You will be advised of shipping instructions when you call the number listed above.

Please be sure to include a brief description of the problem and a dated proof-of-purchase receipt with any product that is returned for warranty repair.

Product under warranty which upon receipt by Chamberlain/LiftMaster is determined to be defective in materials and/or workmanship will be repaired or replaced (Chamberlain's option) at no cost to you and returned pre-paid. Defective parts will be repaired or replaced with new or factory rebuilt parts at Chamberlain's option.

THE DURATION OF IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. SOME PROVINCES MAY NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

All claims for consequential or incidental damages for breach of this warranty are excluded and in no event shall manufacturer's liability for breach of warranty negligence strict liability or breach of contract exceed the cost of the product covered herein but the purchaser is entitled to the remedies expressly provided in this policy. Some provinces do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you.

No representative or person is authorized to assume for us any other liability in connection with the sale of this product. This warranty gives you specific legal rights and you may also have other rights which may vary from province to province.

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