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BY **Alistar**

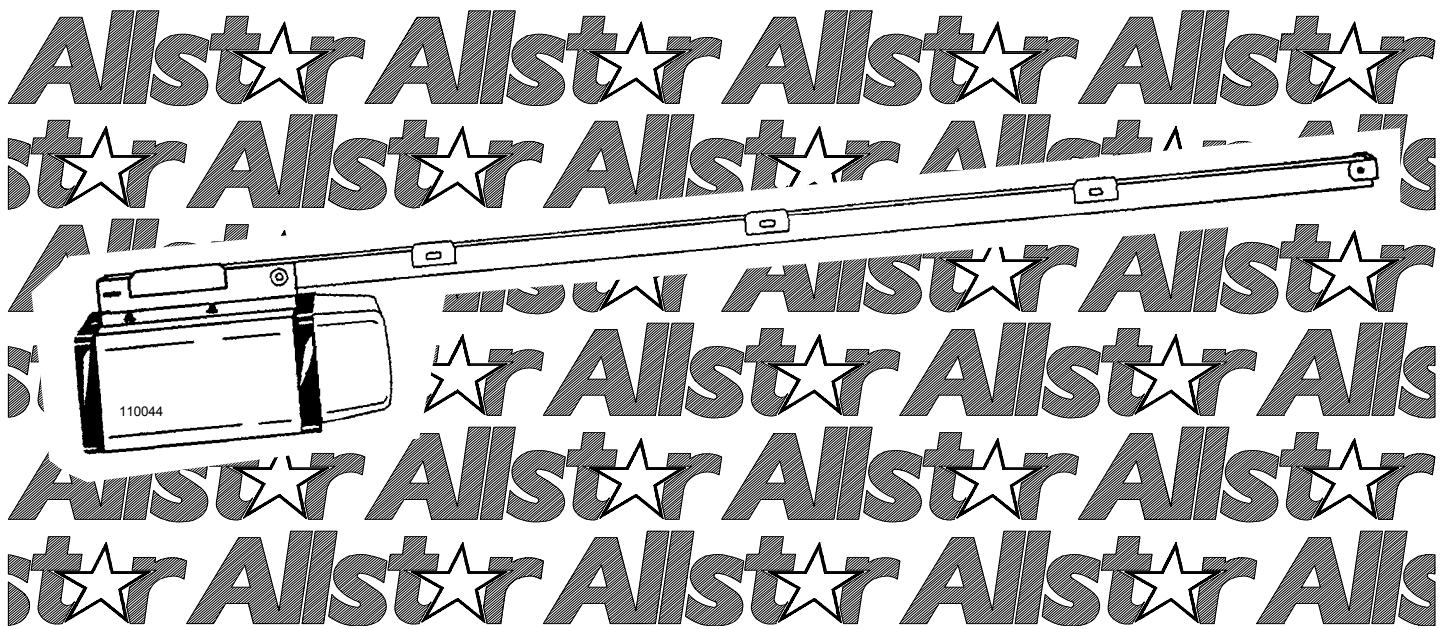
CHALLENGER AC9000 SERIES

Residential Vehicular Garage Door Operator

MODEL NUMBERS AC9300, AC9500, and ACJ9500

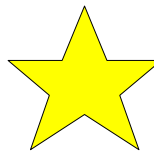
INSTALLATION AND OWNER'S MANUAL

INSTALLER: Place this manual in the plastic envelope provided and permanently attach to the wall near the pushbutton.



As of date of manufacture, meets all ANSI/UL 325 Safety Requirements for Vehicular Garage Door Operators

Serial #:
Date Installed:
Your Dealer:

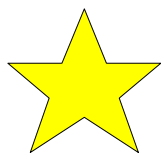


READ THIS MANUAL CAREFULLY BEFORE INSTALLATION OR USE
SAVE THESE INSTRUCTIONS


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★ READ THESE STATEMENTS CAREFULLY AND FOLLOW THE INSTRUCTIONS CLOSELY.




The Warning and Caution boxes throughout this manual are there to protect you and your equipment. Pay close attention to these boxes as you follow the manual.

 WARNING
<p>Indicates a MECHANICAL hazard of INJURY OR DEATH. Gives instructions to avoid the hazard.</p>

 CAUTION
<p>Indicates a MECHANICAL hazard of DAMAGE to your door, door operator, or equipment. Gives instructions to avoid the hazard.</p>

 WARNING
<p>Indicates an ELECTRICAL hazard of INJURY OR DEATH. Gives instructions to avoid the hazard.</p>

 CAUTION
<p>Indicates an ELECTRICAL hazard of DAMAGE to your door, door operator, or equipment. Gives instructions to avoid the hazard.</p>



The purpose of this booklet is to provide assembly, installation and operation information concerning the Challenger AC9000 Series (Models AC9300, AC9500, and ACJ9500) Residential Garage Door Openers and related Accessory Products.

NOTICE

IT IS IMPORTANT THAT THIS INSTRUCTION MANUAL BE READ AND UNDERSTOOD COMPLETELY BEFORE INSTALLATION OR OPERATION IS ATTEMPTED.

NOTICE

THE IMPORTANT SAFEGUARDS AND INSTRUCTIONS IN THIS MANUAL CANNOT COVER ALL POSSIBLE CONDITIONS AND SITUATIONS WHICH MAY OCCUR DURING ITS USE. IT MUST BE UNDERSTOOD THAT COMMON SENSE AND CAUTION MUST BE EXERCISED BY THE PERSON(S) INSTALLING, MAINTAINING AND OPERATING THE EQUIPMENT DESCRIBED HEREIN. DO NOT USE THIS EQUIPMENT FOR ANY OTHER THAN ITS INTENDED PURPOSE - OPERATING OVERHEAD GARAGE DOORS.

STANDARD FEATURES:

Safe Finish™ Photosystem: An invisible infrared beam of light guards the door opening and reverses a downward moving door if the beam is broken by a stationary or moving object. The AC9000 Series motor control circuitry constantly monitors the Safe Finish Photosystem for proper operation.

Manual Release: A pull cord allows separation of the drive mechanism and manual operation of the door when desired, as in the event of a power failure. (Page 16)

Automatic Reconnection: Once power is restored, or automatic operation of the door is again desired, initiating operation in the normal manner (Push Button, Radio Control, etc.) will effect automatic reconnection of the Manual Release Mechanism. (Page 16)

Alternating Action Operation: The mechanical wall pushbutton functions in an Open/Stop/Close/Stop mode in normal operation. (Page 16)

Sensing System: A built-in sensing system detects obstructions during door operation. If in the downward (close) travel mode, the Opener will sense an obstruction and reverse the direction of the door. In the open mode, the Opener will stop. Since all doors are different, the Sensing System has independent adjustments for customizing the level of force required for the normal opening and closing of specified doors. (Page 18)

Close Limit Switch: In winter months it's common for small pieces of ice or packed snow to be trapped under the door. Ground swelling can also effect the close limit setting of the Opener. The AC9000 Series Close Limit Switch overrides the Sensing System during the last one inch of closing travel and prevents the door from reversing if it encounters an obstruction at this point.

Constant Contact To Close: For utmost safety and security, the standard operation mode requires constant contact on the mechanical Push Button to close the door if the Safe Finish™ Photosystem becomes misaligned or if there is an irregularity in the wiring to the device. In this mode of operation, a Radio Transmitter cannot be used to close the door. (Page 19)

OPTIONAL FEATURES:

Digital Radio Controls: The AC9000 Series Openers covered in this Manual can be fitted with Allstar's optional Radio Controls. Up to 19,683 private codes can be easily selected without use of tools. (Page 14)

Super Station Deluxe Wall Push Button: A feature-packed accessory unit, the Deluxe Wall Station allows access to all of the Opener's functions. Open/Close button permits full control of the door's operation. The Opener's built-in light can be turned on or off independent of door operation. A Security Switch allows the Opener to be deactivated for extended periods of time. (Page 12)

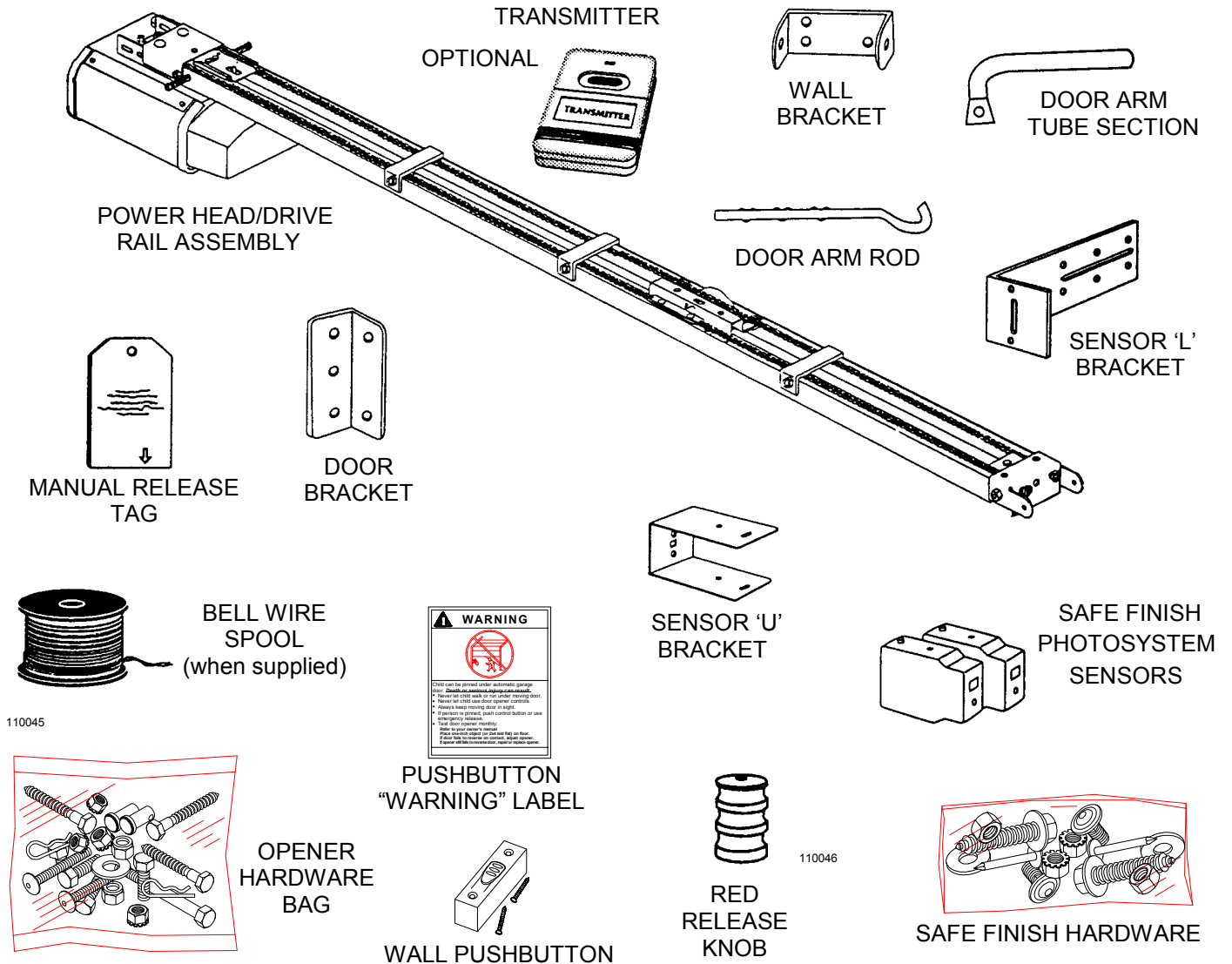
Keyless Entry System: A tamper resistant outdoor keypad, the optional Keyless Entry System permits entry to the garage without use of key or radio transmitter. Easily programmable, it accommodates four separate access codes of 4 digits. Lighted Buttons enhance nighttime use.



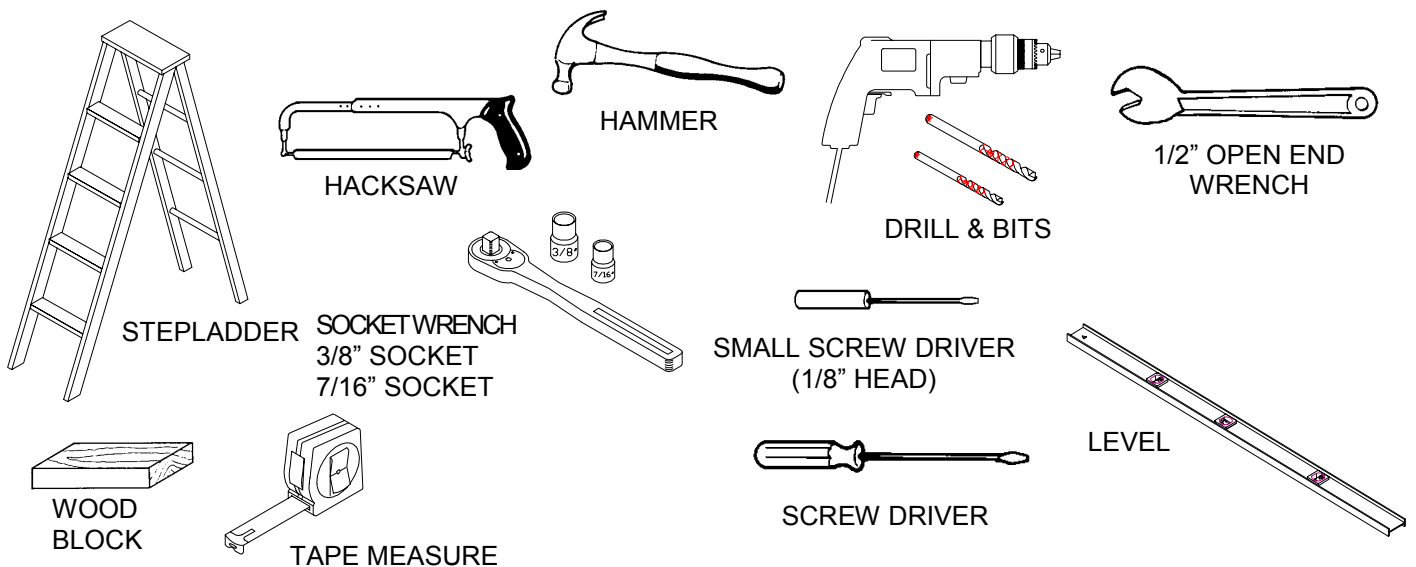
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BY **Allstar**

★ COMPONENT IDENTIFICATION



★ TOOLS REQUIRED

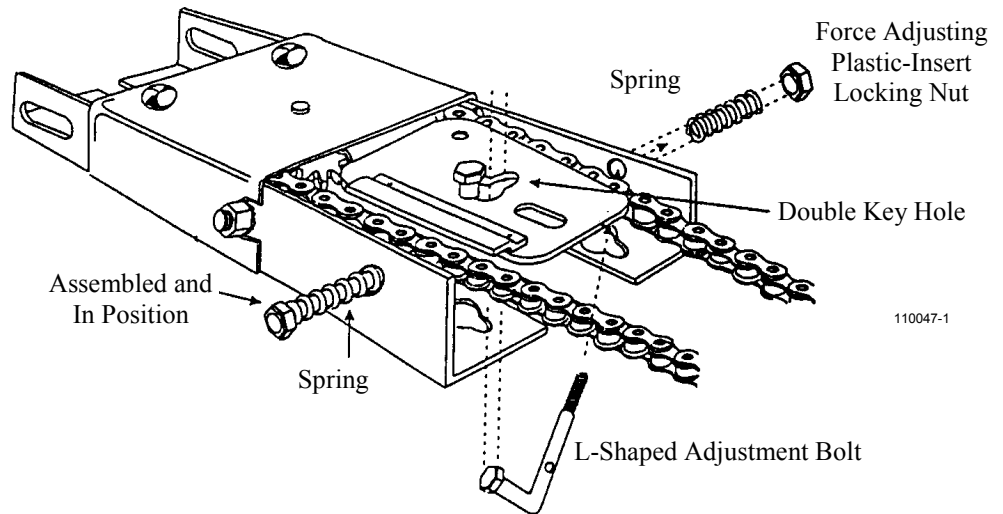


A: ASSEMBLY INSTRUCTIONS

If Your Opener Is Supplied Fully Assembled, Please Disregard This Page.

NOTE: The Rail/Chain Assembly is packaged separately from the Power Head Unit. The trolley, front idler/tension adjustment assembly, chain, drive gear and limit cams are assembled to the Rail/Chain Assembly at the factory. Follow the steps outlined below to complete assembly prior to installation. Refer to the component identification illustrations on the previous page.

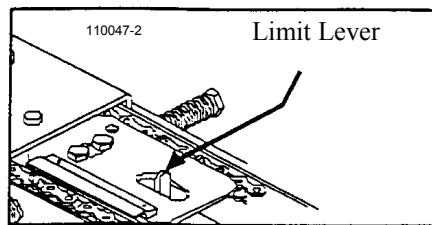
STEP 1: Prior to attaching the motor drive unit to the rail assembly, the Open and Close adjustment bolts must be installed. Place the threaded end of the adjustment bolt through the hole in the rail and then slip the head of the bolt through the center of the double key hole. Slide the spring over the bolt and attach load adjusting nut. Tighten until the tip of the bolt extends 3/16" outside the nut. Repeat above for the other side.



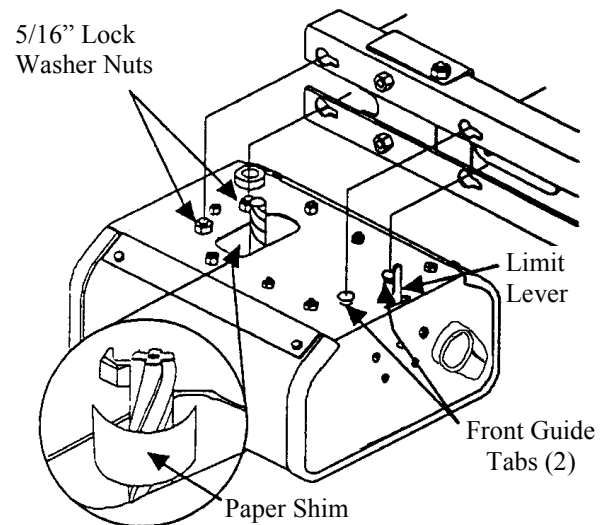
STEP 2: Protect the Power Unit cover from scratching during assembly by placing it on cardboard. Loosen the two 5/16" lock washer nuts on top of the power head drive unit.

STEP 3: VERY IMPORTANT ! Position a paper shim around the power head unit drive gear (standard weight paper, see illustration). Shim must remain in place while assembling the power head unit to the Rail/Chain assembly to ensure a proper gear mesh and avoid excessive long term wear.

STEP 4: Align the four key holes in the Rail/Chain assembly with the two front guide tabs and the two rear bolt studs on the power head unit and place the rail/chain assembly in place over the power head unit. The power head drive unit limit lever protrudes up through the rail/chain assembly sensing plate. Take care not to bend the lever when assembling. Slide the power head drive unit forward until the gear meshes with the rail/chain assembly drive gear. Check to make sure the front guide tabs on the power head unit are securely locked on the rail/chain assembly.



Take care not to bend limit lever



STEP 5: The power head drive unit should be move forward until all play between the gears has been eliminated, but no additional force should be used that could cause pressure on the motor (power head unit) drive gear. Tighten the two 5/16" lock washer nuts on top of the power head drive unit that were loosened in Step 2 above.

When the opener is first activated the paper shim will be ejected. The paper shim should have the profile of the gears to indicate the proper mesh between them.

STEP 6: Recheck the nuts used to secure the Rail/Chain assembly to the Power Head Unit, making sure they are tight.


Assembly is now complete and you are ready to begin installation of the opener.


IMPORTANT INSTALLATION INSTRUCTIONS



WARNING

TO REDUCE THE RISK OF SEVERE INJURY OR DEATH: READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS!

 **WARNING:** AN UNBALANCED DOOR OR ONE THAT STICKS OR BINDS MAY PREVENT THE SENSING SYSTEM FROM WORKING PROPERLY, CAUSING INJURY OR DEATH. ENSURE DOOR IS PROPERLY BALANCED AND ELIMINATE ANY STICKING OR BINDING PRIOR TO INSTALLATION OF OPERATOR. A properly balanced door will open slowly from a 3/4 open position, close slowly from a 3/4 closed position, and remain still at a 1/2 open position. If the door is not properly balanced, HAVE A QUALIFIED SERVICE PERSON MAKE REPAIRS TO CABLES, SPRING ASSEMBLIES AND OTHER DOOR HARDWARE BEFORE INSTALLING THE OPENER

 **WARNING:** YOUR GARAGE DOOR IS THE LARGEST MOVING OBJECT IN YOUR HOUSE, THE SPRINGS, PULLEYS, CABLES AND MOUNTING HARDWARE UTILIZED TO BALANCE ITS OPERATION ARE UNDER EXTREME TENSION AT ALL TIMES AND CAN CAUSE SERIOUS PERSONAL INJURY, EVEN DEATH, IF DISTURBED. DO NOT ATTEMPT ADJUSTMENT. CALL A QUALIFIED SERVICE PERSON TO MOVE, LOOSEN OR ADJUST DOOR SPRINGS OR HARDWARE.

- REMOVE ALL ROPES AND REMOVE OR MAKE INOPERATIVE ALL LOCKS CONNECTED TO THE GARAGE DOOR BEFORE INSTALLING THE OPENER.
- DO NOT WEAR RINGS, WATCHES OR LOOSE CLOTHING WHILE INSTALLING OR SERVICING GARAGE DOOR OPENERS. WEAR SAFETY GOGGLES OR OTHER PROTECTIVE EYEWEAR.
- IF POSSIBLE, INSTALL THE DOOR OPENER 7 FT OR MORE ABOVE THE FLOOR. MOUNT THE EMERGENCY RELEASE 6 FT ABOVE THE FLOOR.
- REINFORCE LIGHTWEIGHT FIBERGLASS,

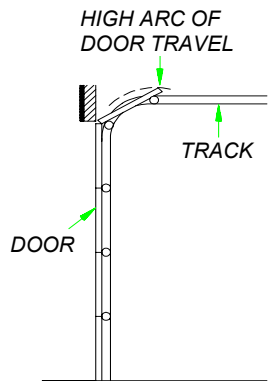
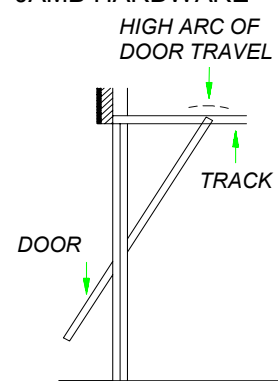
ALUMINUM AND STEEL DOOR TOP SECTIONS TO AVOID DAMAGE AND TO INSURE PROPER OPERATION OF THE SAFETY REVERSE SYSTEM. CONTACT YOUR DOOR MANUFACTURER FOR A REINFORCEMENT KIT.

- DO NOT CONNECT THE OPENER TO A POWER SOURCE UNTIL INSTRUCTED TO DO SO.
- CHECK LOCAL BUILDING AND ELECTRICAL CODES FOR MANDATORY INSTALLATION AND WIRING REQUIREMENTS.
- CONNECT POWER CORD ONLY TO A PROPERLY GROUNDED OUTLET. IF PERMANENT WIRING IS REQUIRED BY CODES, DISCONNECT POWER AT FUSE BOX OR CIRCUIT BREAKER BEFORE ATTEMPTING ANY WIRING CONNECTIONS.
- LOCATE THE CONTROL PUSH BUTTON:
 - A. WITHIN SIGHT OF THE DOOR, AND,
 - B. AT A MINIMUM HEIGHT OF 5 FT SO SMALL CHILDREN CAN'T REACH IT, AND,
 - C. AWAY FROM MOVING PARTS OF THE DOOR.
- INSTALL THE ENTRAPMENT WARNING LABEL NEXT TO THE CONTROL PUSH BUTTON IN A PROMINENT LOCATION. INSTALL THE EMERGENCY RELEASE INSTRUCTION CARD, ATTACHING IT ON OR NEXT TO THE EMERGENCY RELEASE.
- ADJUST THE SENSITIVITY ADJUSTMENTS ENOUGH TO ALLOW THE DOOR TO OPERATE, BUT NOT SO FIRMLY AS TO EXERT EXCESSIVE PRESSURE ON AN OBSTRUCTION BEFORE REVERSING.
- AFTER INSTALLING THE OPENER, THE DOOR SHOULD REVERSE WHEN IT CONTACTS A 1-1/2" HIGH OBJECT (A PIECE OF STANDARD 2 X 4 BOARD LAID FLAT) ON THE FLOOR.

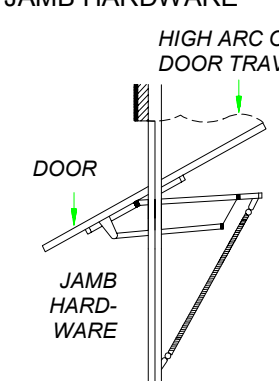
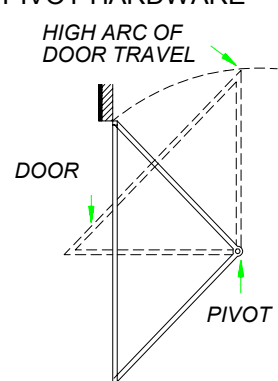
C: INSTALLING THE OPERATOR

IMPORTANT!
IDENTIFY YOUR DOOR TYPE FROM THOSE ILLUSTRATED BELOW AND FOLLOW INSTRUCTIONS FOR THAT TYPE OF DOOR

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<p>SECTIONAL DOOR CURVED TRACK</p> 	<p>ONE PIECE DOOR HORIZONTAL TRACK JAMB HARDWARE</p> 
<p>FOR THESE TYPES OF DOORS USE 1/3 HP MODEL AC9300 OR 1/2 HP MODEL AC9500. USE 7 FT, 8 FT OR 10 FT RAIL ASSEMBLY (MATCH DOOR HEIGHT)</p>	

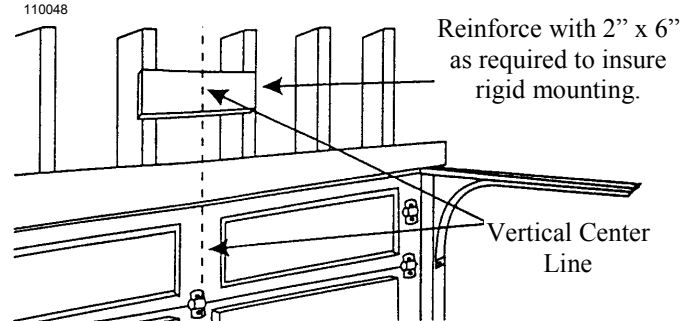
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<p>ONE PIECE DOOR NO TRACK JAMB HARDWARE</p> 	<p>ONE PIECE DOOR NO TRACK PIVOT HARDWARE</p> 
<p>FOR THESE TYPES OF DOORS USE 1/2 HP MODEL ACJ9500. USE 7J RAIL (FOR DOOR HEIGHT UP TO 8 FT)</p>	

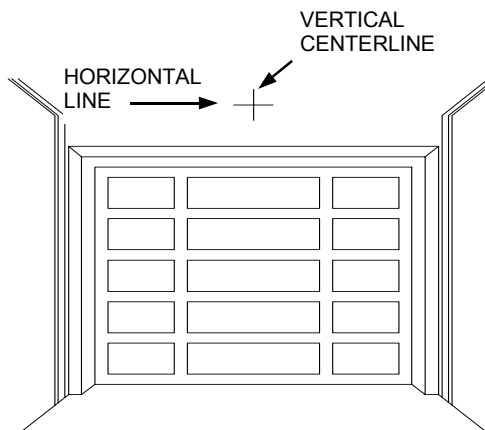
REINFORCE THE HEADER WALL

Reinforce the header wall (wall above the door opening as required, to ensure rigid mounting of the front wall bracket).

Locate the vertical centerline of your garage door and mark it on the header above the door and on the top rail of the door.



SPRINGS, PULLEYS, CABLES AND MOUNTING HARDWARE USED TO BALANCE YOUR GARAGE DOOR ARE UNDER EXTREME TENSION AT ALL TIMES AND CAN CAUSE SEVERE INJURY OR DEATH IF DISTURBED. DO NOT ATTEMPT ADJUSTMENT.



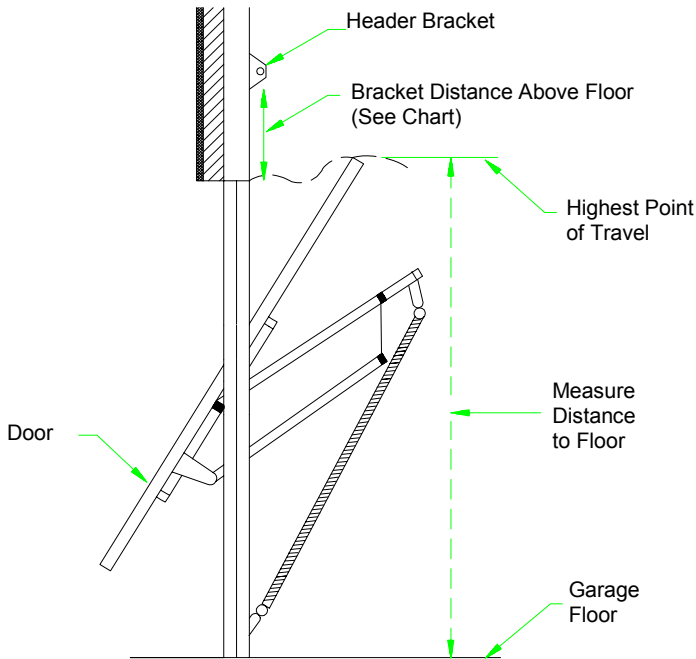
STEP 1: Mounting the Front Bracket — Sectional Doors and One-Piece Doors with Track (For One-Piece Doors without track see Step 1A, next): Mark a vertical centerline on the header above the door. By manually raising the door, determine the high arc of the door's travel (see illustration, top of previous page) and using a level, transfer this measurement to the header (see illustration at left). Draw a horizontal line, crossing the previously drawn centerline, at this point. Install the Front Mounting Bracket securely with lag screws as shown below. If necessary, **reinforce the header with steel angle iron or wood to ensure a secure mount.**

★ C: INSTALLING THE OPERATOR



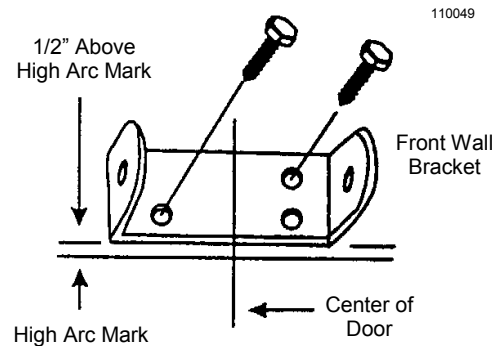
FRONT MOUNTING BRACKET MUST BE INSTALLED TO A STRUCTURAL SUPPORT (STUD) ON THE HEADER WALL. FAILURE TO DO SO COULD CAUSE SENSING SYSTEM TO MALFUNCTION, RESULTING IN ENTRAPMENT, INJURY OR DEATH. REINFORCE HEADER USING 2 x 6 WOOD STUDS AND LAG SCREW OR ANGLE IRON AND LAG SCREWS AS NECESSARY (NOT PROVIDED).

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STEP 1A: Mounting the Front Bracket — One Piece Doors Without Track: Mark a vertical centerline on the header above the door. Manually raise the door to its high arc position and temporarily clamp in that position. With the door in this high arc position, measure the distance from the top of the door to the floor (see figure at left). Subtract the actual door height from the high arc distance to the floor. This is the high arc rise of the door. Unclamp and close the door. Using the table below, draw a horizontal line at the appropriate height above the door to intersect with the vertical centerline.

HIGH ARC RISE	HIGH ARC RISE HORIZONTAL LINE
4 INCHES	8 INCHES
4 TO 8 INCHES	13 INCHES
8 TO 12 INCHES	18 INCHES



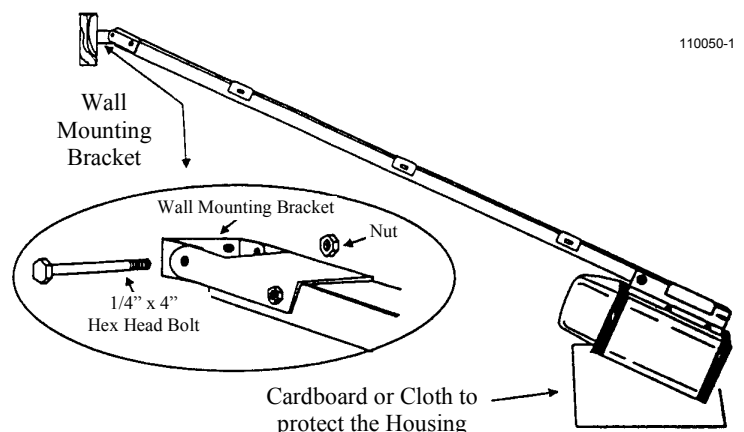
Mount the Front Mounting Bracket securely with lag screws as shown in figure above. If necessary, reinforce the header with steel angle iron or wood to ensure a secure mount.

STEP 2: Raise the front of the Rail/Chain assembly so that the Front Rail Bracket and Wall Mounting Bracket align. Insert the 1/4" x 4" bolt and tighten nut loosely for now. Later in the installation, this nut must be tightened securely.

STEP 3 — Sectional Doors and One Piece Doors with Track: Raise the Opener and rest the Power Unit on a ladder or other sturdy support. Open the door the full open position. Allow 2" of space between the Tee Rail and the top section of the door (as shown in the illustration on page 9).

STEP 3A — One Piece Doors without Track: Raise the opener and rest the power unit on a ladder or other sturdy support. Open the door to the high arc position. Allow 2" of space between the tee rail and the door (at the high arc position) as shown in the illustration on page 9. The opener will be angled as shown. This is necessary for proper operation.

NOTE: Since the Opener will be secured permanently in this position, open and close the door a few times to be sure the door does not rub on the Tee Rail and that you have allowed the proper clearances before proceeding.

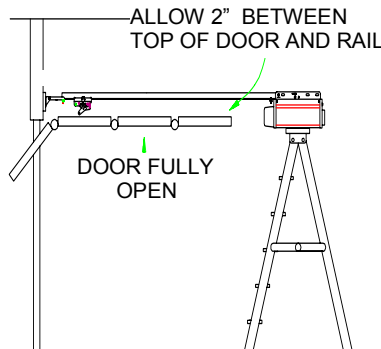


C: INSTALLING THE OPERATOR

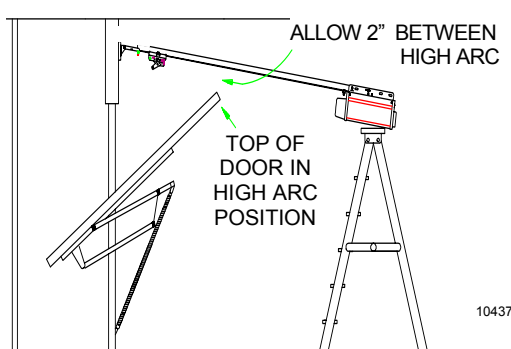
STEP 4: Mount Power Head to Ceiling: Since there is such variety in ceiling structures, all the mounting possibilities for the Power Unit cannot be illustrated here. The main concern is mounting the Power Unit securely to the ceiling joists for operational strength, rigidity and safety. Although there are a series of mounting slots provided on the power unit, try to **secure the mounting straps in the slots closest to the front**. Mounting may usually be accomplished using standard 1-1/4" perforated steel angle available at most hardware stores. If in doubt about location of, and attachment to, ceiling joists, a carpenter should be contacted to provide assistance. A cross brace will be necessary if power head is mounted 8" or more from the ceiling.

STEP 5: Return to the Rail/Wall Mounting Bracket and securely tighten the bolt and nut that connect the Rail Front Idler bracket and the Wall Mounting Bracket. Take care not to over tighten the nut; tighten only until the end of the bolt is (See Step 2).

SECTIONAL DOORS AND ONE-PIECE DOORS WITH TRACKS



ONE PIECE DOORS WITHOUT TRACKS



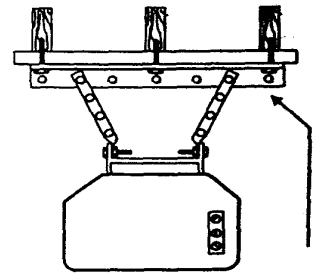
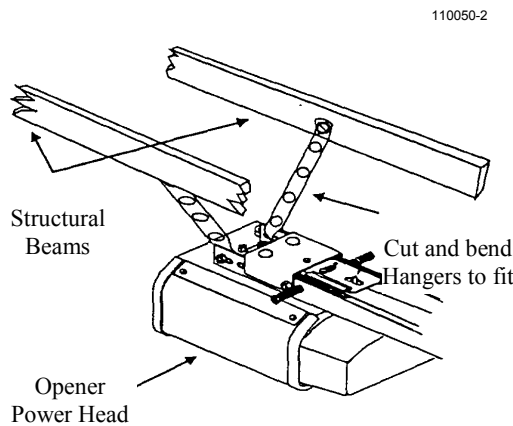
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Mounting The Power Head End of Opener


STEP 6: Align the center of opener tracks with the center line previously marked on the top section of the garage door to ensure rail will be parallel with the direction of door travel.

Use supplied hangers from the ceiling beams to hang the opener at the power head end (be sure to locate and mount to the solid structural beams, as illustrated). Pre-drill with 3/16" drill bit and use supplied 1/4" x 1-1/2" lag screws to ensure a rigid mount.

NOTE: Hanging brackets should be at an angle to provide rigid support. If hangers have no angle or if you use longer hangers, cross brace the hangers to eliminate the possibility of sway during operation of the opener.



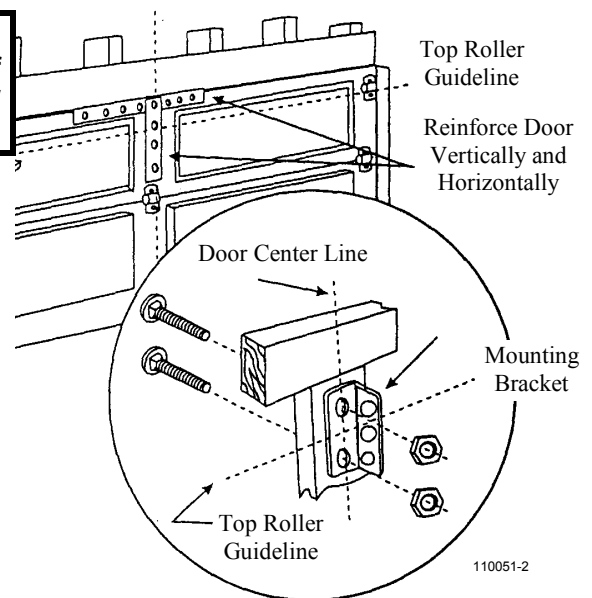
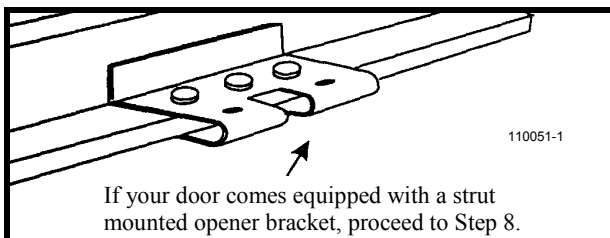
For finished ceilings, or if structural beams are out of position for mounting use a third mounting angle (not included) making sure it is securely mounted to beams.

WARNING  **Fiberglass, aluminum or lightweight steel garage doors will require reinforcement before installation of the door mounting bracket. Contact your door manufacturer for a reinforcement kit or instructions.**

STEP 7: Door Bracket Installation

NOTE: If the door is of light construction it may be necessary to reinforce the center stile with steel angle or wood to prevent damage to the door if it encounters an obstruction on closing.

Mount the door bracket using two 1/4"-20 x 2" carriage bolts and 1/4" nuts (supplied), on center line of door with the middle hole in line with the top rollers.

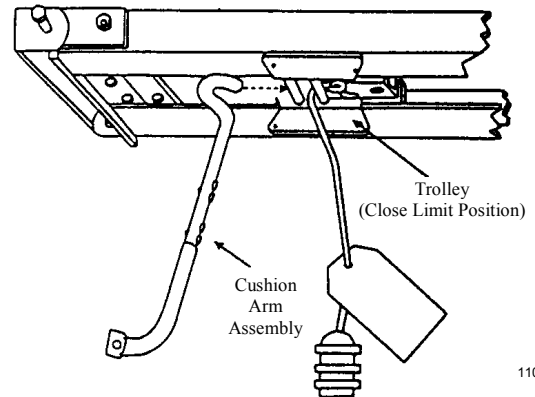


★ C: INSTALLING THE OPERATOR

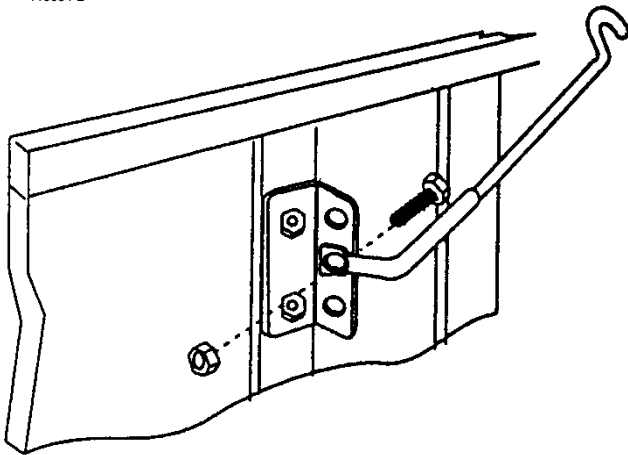
Step 8: Connecting Door Arm to Trolley (THIS IS FOR SECTIONAL DOORS ONLY - FOR ONE PIECE DOORS PROCEED TO STEP 10)

The door arm assembly consists of the door arm tube section and door arm rod which are packaged separately. To assemble, screw the door arm rod into the the door arm tube in a clockwise direction approximately ten turns. Connect the door arm assembly into the trolley with the open end of the rod hook facing the power head unit (away from the door). Extend the manual release cord (connected to the trolley) and thread through the warning tag and red pull knob handle. Adjust so the knob is 6 feet above the floor and secure with a double overhand knot in the end of the release cord.

Release the trolley (leave door arm attached) with the manual release cord and pull trolley toward the door.



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Step 9: Connecting the Door Arm to the Door

Type 1: Door Mounted Bracket

Visually align the door arm connecting hole with the middle hole of the door bracket by rotating the tube section in the appropriate direction.

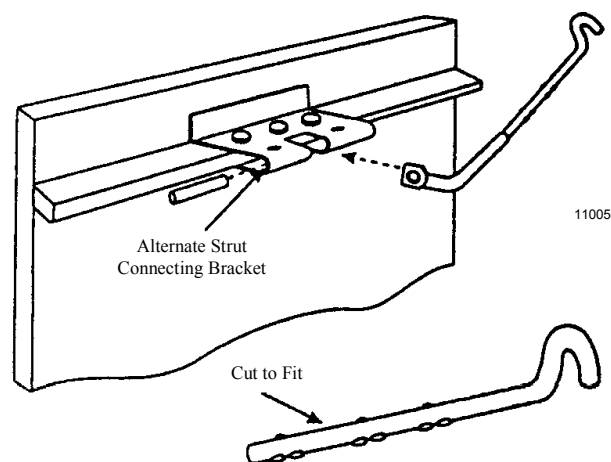
Release the trolley (leave door arm attached) with the manual release cord and pull trolley toward the power head unit. Now rotate the door arm tube section two turns counterclockwise (increasing the exposed length of the door rod) to provide a cushion when the door is closed or encounters an obstruction. Align connecting hole in the door arm to middle hole in the door bracket; insert 3/8" diameter bolt and tighten locking nut, allowing for free pivot of the arm. **Note: Do not overtighten locking nut as this will cause binding between the door arm and door bracket.**

Type 2: Strut Mounted Bracket

Visually align the door arm connecting hole with the connecting pin of the strut by rotating the tube section in the appropriate direction.

Release the trolley (leave door arm attached) with the manual release cord and pull trolley toward the power head unit. Now rotate the door arm tube section two turns counterclockwise (increasing the exposed length of the door rod) to provide a cushion when the door is closed or encounters an obstruction. Align connecting hole in the door arm with the strut mounted connecting bracket. Insert connecting pin through the hole in the door arm. Secure the connecting pin to the strut bracket according to the manufacturer's instructions.

Note: Door Bracket Mount or Strut Mount - If rod bottoms in cushion tube, cut rod to allow for proper function of this assembly.



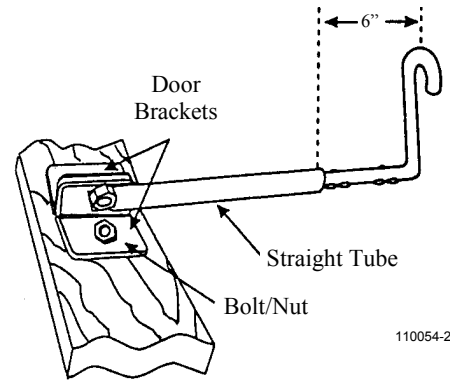
C: INSTALLING THE OPERATOR

Step 10: Connecting the Door Arm to the Door - ONE PIECE DOORS (USING OPTIONAL ONE PIECE DOOR ARM ASSEMBLY)

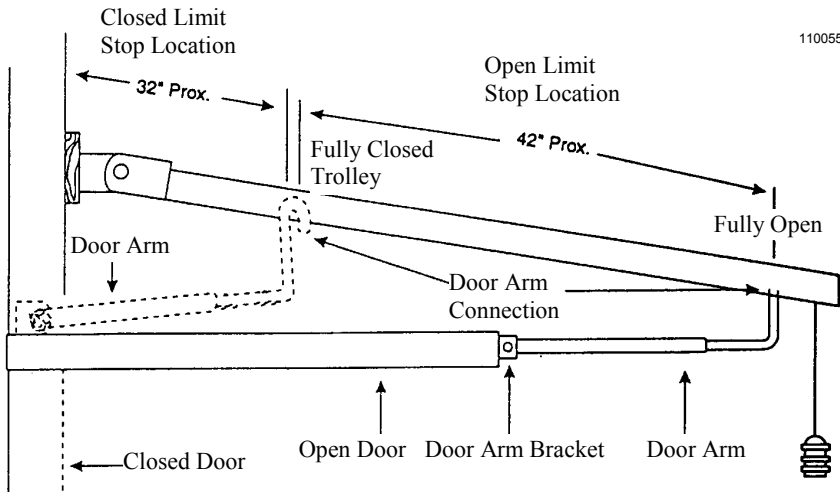
Attach door arm brackets to the top surface of the door on the center line.

Reposition Open and Close limit stops so trolley stops in locations as shown. Assemble the door arm by screwing curved rod into straight tube section. Allow approximately 6" of rod to project outside of the straight tube.

Release trolley with red knob handle and move to a convenient position between



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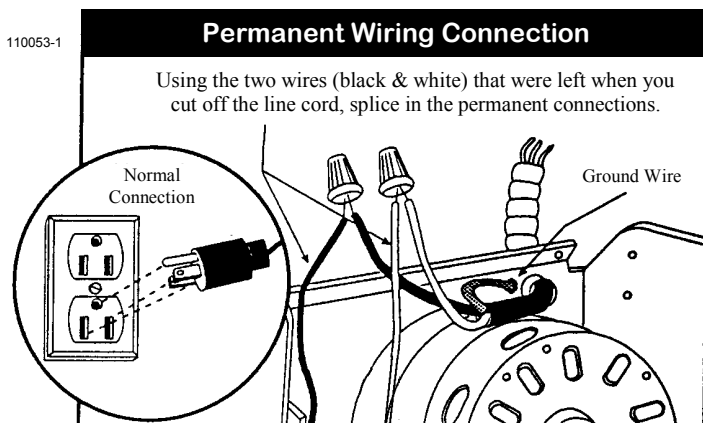
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Open and Close limits. Connect curved rod section to trolley.

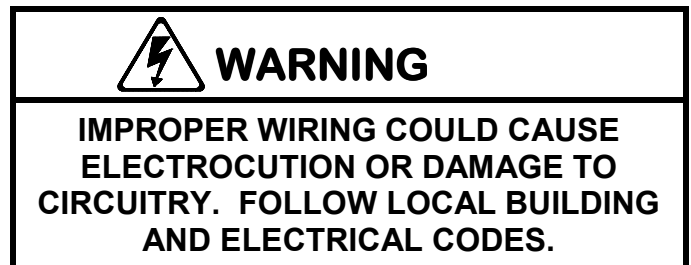
Slide door arm and trolley toward door; connect the tube assembly to the door bracket with the 3/8" diameter bolt and locking nut, tightening enough to allow for door arm pivot. Do not overtighten the locking nut.

Press door control button and run opener through full open and close cycles, adjusting the limit stops as required to fully open and close the door. At full closed position, the door arm assembly should compress approximately one inch.

STEP 11: Connecting The Electrical Power Consult the label on the rear panel of the Opener to determine its proper working voltage. Normally it will be marked for 115V, 60 cycle operation. (If it is an export model designed for 220V, 50 cycle operation, the label will clearly indicate this.) The Opener must be plugged into a properly grounded receptacle within 3 FT of the Power Unit. **A GFI Type receptacle is recommended.** Do not use 2-prong adapters and do not use extension cords for anything more than temporary hook-up and testing purposes. Receptacle wiring should be No. 14 or heavier, and **must be in compliance with local building and electrical codes.**

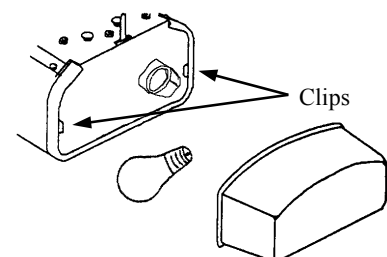


110053-1



If local codes require permanent wiring, a GFI type circuit breaker is recommended to protect the line. Remove the Strain Relief Bushing and withdraw the Line Cord from the rear of the Power Unit to expose the three insulated connectors. Cut the wire at the rubber jacket of the Line Cord and wire in permanently, employing proper wiring practices. Discard Strain Relief. It is not used with permanent wiring.

Step 12: Install a Rough Service lamp bulb (75 Watt maximum) firmly in the light socket. Light bulbs in Door Openers are subject to vibration during normal operation which may shorten their life spans. Rough Service bulbs, available at most hardware stores, are recommended. Fit Light Diffuser tabs into the panel tabs as shown.




110051-3

★ D: CONTROL AND AUXILIARY EQUIPMENT

INSTALLATION OF A STANDARD WALL PUSH BUTTON OR DELUXE WALL STATION CONTROL

A standard wall push button is included in your hardware package, an optional Deluxe Wall Station may be purchased from your installing dealer. The operating parameters for the standard wall push button and the Deluxe Wall Station are outlined on pages that follow ("Operating Instructions") to see what mode of operation is right for you. Allstar recommends the Deluxe Wall Station installation, as it will provide full control over the garage door operator and its functions at all times. You may install one Deluxe Wall Station and one or more standard push buttons to a Challenger AC9000 Series operator following the cautions and instructions outlined below.

 WARNING	<p>A CHILD OPERATING THE DOOR CONTROLS RISKS INJURY — OR DEATH — TO HIMSELF AND OTHERS. DO NOT ALLOW CHILDREN TO OPERATE ANY DOOR CONTROLS. MOUNT THE PUSHBUTTON AT LEAST 5 FT FROM THE FLOOR, OUT OF REACH OF CHILDREN.</p>
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STEP 1: After determining a suitable location, usually near the access door and at least 5 feet above the floor to prevent use by children, use the standard wall push button or Deluxe Wall Station as a guide to mark the mounting holes. Drill holes for drywall anchors or screws. NOTE: Do not mount directly to masonry walls. Use backer board.

STEP 2: A length of 2-conductor, #22 gauge wire (or heavier) is required to connect the control button to the garage door operator. Strip approximately 2" of the wire jacket from one end and 1/2" of insulation from each wire. Carefully connect one wire to each of the two terminals. Carefully tuck the loose wires into the case and mount the unit using appropriate screws.

STEP 3: Run the wire from the control button to the operator, supporting it at 18" intervals with suitable staples. Leave a sufficient length to make the necessary connections to the operator terminal strip.

104350

WARNING: SOME LOCAL BUILDING CODES DO NOT ALLOW SURFACE WIRING. BE SAFE AND CHECK WITH YOUR LOCAL BUILDING INSPECTOR FIRST.

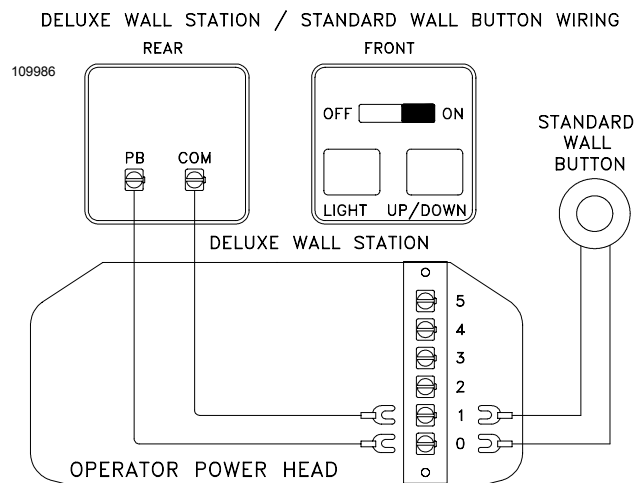
STEP 4: Ensure power is OFF to the operator or disconnect the power from the operator. Strip approximately 4" of jacket from the end of the wire and 1/2" insulation from each wire. Connect to terminals 0 and 1 as shown in the illustration. Support the wire near the operator with wire ties.

 WARNING


<p>Child can be pinned under automatic garage door. Death or serious injury can result.</p> <ul style="list-style-type: none"> • Never let child walk or run under moving door. • Never let child use door opener controls. • Always keep moving door in sight. • If person is pinned, push control button or use emergency release. • Test door opener monthly: Refer to your owner's manual Place one-inch object (or 2x4 laid flat) on floor. If door fails to reverse on contact, adjust opener. If opener still fails to reverse door, repair or replace opener.

CONTROL BUTTON WARNING LABEL

Contact the factory for additional labels if needed.



Step 5: Install the Control Button Warning Label supplied with your Challenger AC9000 Series operator near the control button (see illustration). Repeat the Steps 1 thru 5 above to install additional standard wall push buttons if desired. Every control must have a separate Control Button Warning Label mounted near it.

 WARNING	<p>IMPROPER DOOR OPERATION COULD CAUSE INJURY OR DEATH. WARNING LABEL MUST BE MOUNTED ON WALL NEAR THE PUSHBUTTON. ALL WARNINGS AND INSTRUCTIONS ON THE LABEL SHOULD BE STRICTLY ADHERED TO.</p>
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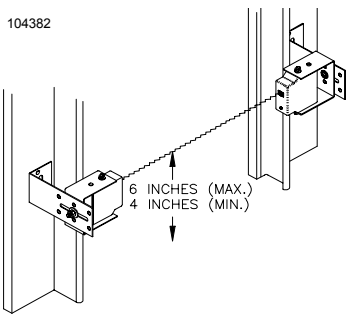


SAFE FINISH™ PHOTOSYSTEM INSTALLATION

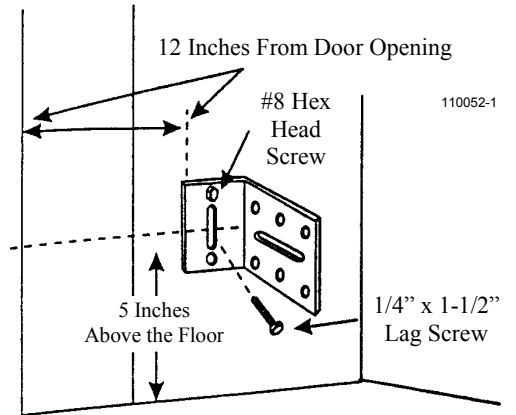
Identify which side of the garage door opening (if any) the sun is “likely” to shine into. As sunlight may cause undesirable operation, mount the sending unit (black button below the window) on the side of the door opening exposed most to the sun.

STEP 1: Mounting the Photosystem Wall Brackets Select a mounting position 5 inches above the floor to the center line wall bracket. The sending and receiving units should be mounted inside the door opening to minimize any interference by the sun. However, the sensors should be mounted as close to the door track or inside edge of the door as possible to offer maximum entrapment protection. The brackets may be temporarily mounted to the wall (or jamb) with the 1” flathead nail provided. Leave this nail in place after installation of the lag screw below to prevent accidental rotation of the bracket. **NOTE:** It is very important that the wall brackets be mounted at exactly the same height so they will be aligned.

104382



Using the 1/4” x 1-1/2” lag screw provided, attach the wall bracket securely to the wall. In some installations it may be necessary to attach wooden spacers to the wall to achieve the required clearance. Expansion bolts (not supplied) may be required to attach brackets to walls constructed of materials other than wood or gypsum. Repeat for the wall bracket on the other side of the door opening.



STEP 2: Wire Connect the Photosystem

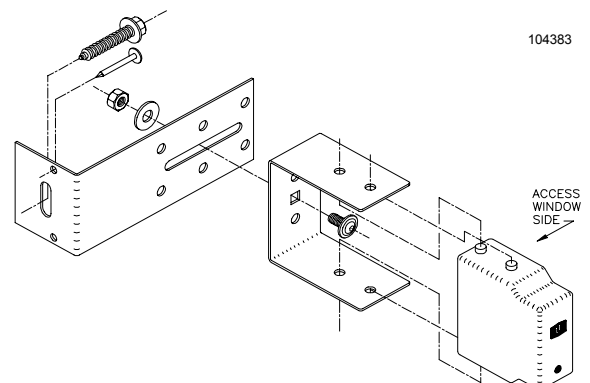
Refer to page 20 for wiring diagrams of the Safe Finish™ Photosystem and garage door opener. The following outlines the “PHOTOCELL SERIES CONNECTION (RECEIVER FIRST)” wiring diagram.

- Run a wire pair (not supplied) around the garage door jamb between the transmitter and receiver “L” mounting brackets. **NOTE:** Leave about 12” of extra wire at each end. Use a minimum 22 gauge solid “trace” wire (one wire in set should be marked to identify it at each end) for interconnect.
- Run a wire pair (20 or 22 gage solid wire) from the receiver position (unit with “LED” light in the front, may be either side of the door) back to the rear bulkhead of the garage door opener. **NOTE:** Leave about 12” of extra wire at the receiver end and about 24” of extra wire at the opener end. Use a minimum 22 gauge solid “trace” wire (one wire in set should be marked to identify it at each end) for interconnect.
- Strip approximately 5/16” from each wire end at the photosystem units and at the opener.
- Using two (2) wire nuts (supplied), connect the wire ends at the Safe Finish™ Photosystem transmitter to the pigtail wire ends coming out of the transmitter unit. **Observe polarity, connect the trace wire ends (with black stripe) together and the unmarked wire ends together. See wiring diagrams on page 20.**

Using two (2) wire nuts (supplied), connect the wire ends at the SAFE FINISH™ Photosystem receiver to the pigtail wire ends coming out of the receiver unit. **Observe polarity, connect the trace wire ends (with black stripe) together and the unmarked wire ends together.**

STEP 3: Final Installation of Photosystem Units

- Attach the “U” brackets to the “L” brackets with a 1/4-20 carriage bolt, washer and hex nut (provided). Insert the bolt from the inside of the “U” bracket and hand tighten only at this time.
- Place the transmitter and receiver units into their respective “U” brackets. **NOTE:** It is easier to slip the photosystem units in from the side of the bracket than forcing them in from the front of the bracket. *See Illustration, at right.*
- Connect the interconnect wire pair to the garage door opener terminals. *Connect the trace wire (with black stripe) to the operator terminal marked “4” and the solid color wire to the operator terminal marked “5”.* See Wiring Diagrams on page 20.





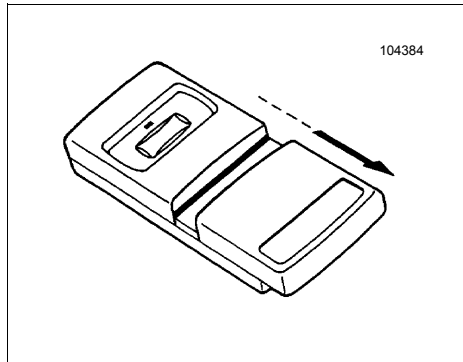
D: CONTROL AND AUXILIARY EQUIPMENT

INSTALLATION OF RADIO CONTROLS:

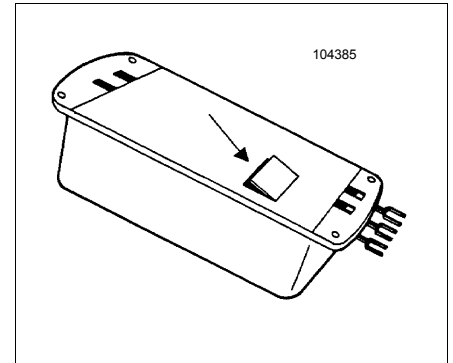
The following instructions detail installation of Model 9931 Radio Controls. For other Radio models, see instructions packaged with product.

TRANSMITTER:

To gain access to the Transmitter Coding Switches, remove the Battery Cover from the front of the Transmitter by sliding it toward the bottom of the Transmitter as illustrated.



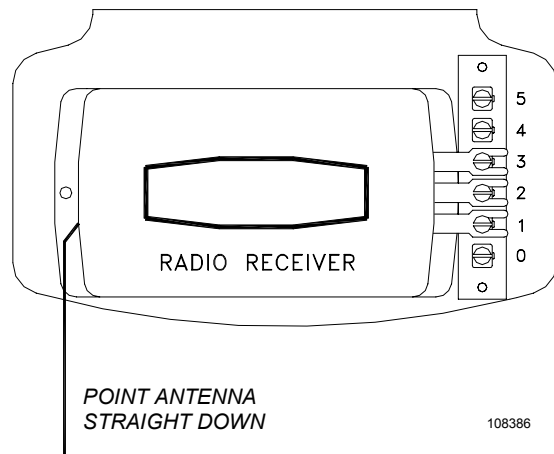
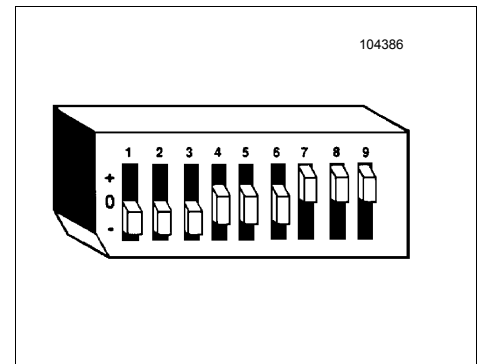
RECEIVER: The Receiver Coding Switches can be accessed by removing the small door from the back of the Receiver using a small screwdriver or knife.



Setting The Coding Switches: When setting the Coding Switches THE FACTORY PRE-SET CODES MUST BE CHANGED TO PREVENT UNAUTHORIZED OPERATION. Transmitter and Receiver codes must be set IDENTICALLY. If just one Code Switch is mismatched, the Radio Controls will not function.

NOTE: For security reasons, it is advisable NOT to set all the switches in the same position.

Mounting The Receiver: After setting the Coding Switches, mount the Receiver on the rear panel of the Opener by connecting it to Terminals 1, 2 and 3. For proper operation, the Antenna Wire should be POINTED STRAIGHT DOWN toward the floor.



After installing the Radio Controls, check their operation by moving approximately 35 FT away from the garage door and pressing the Transmitter Button. Operation at this distance should be reliable.

CODING BLOCK: Transmitter and Receiver Coding Switches are contained in identical Coding Blocks, consisting of nine small switches, labeled 1 - 9, each of which can be set in any of three positions, labeled +, 0, -

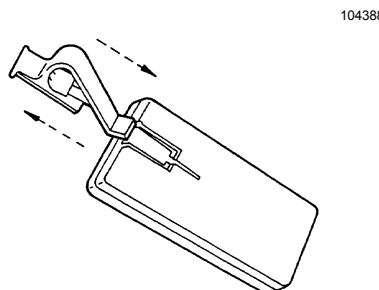
If the Transmitter doesn't activate door operation, check that all Coding Switches are set identically. If the operational distance is inadequate, try moving the position of the

! WARNING

TO PREVENT THE RISK OF PERSONAL INJURY, DAMAGE TO DOOR OR PROPERTY, ONLY OPERATE DOOR CONTROLS WHEN DOOR IS IN CLEAR VIEW. KEEP REMOTE CONTROL AWAY FROM CHILDREN IN SECURE AREA.

Transmitter in the car. If the distance is still inadequate, try bending the Antenna Wire to a different angle. If the distance is still inadequate, replace the Battery with a standard 9-Volt "transistor radio" Battery (NEED 1604). The Battery is located in the front compartment next to the Coding Switches.

The Transmitter may be hand held if desired by removing the Visor Clip from the rear of the Case as illustrated. Place your finger in the loop at the top of the visor, and your thumb on the top edge of the Transmitter. Push down with your thumb and pull up with your finger. The clip will release and pull out easily.





IMPORTANT SAFETY INSTRUCTIONS



WARNING

TO REDUCE THE RISK OF SEVERE INJURY OR DEATH: READ AND FOLLOW ALL USER / SAFETY INSTRUCTIONS!

- **NEVER** let children operate or play with door controls. Keep the Remote Control away from children.
- **ALWAYS** keep a moving door in sight and keep people and objects away from the door area until the door is completely closed. **NO ONE SHOULD CROSS THE PATH OF A MOVING DOOR.**
- **NEVER GO UNDER A STOPPED, PARTIALLY OPEN DOOR.**
- **TEST THE DOOR OPENER MONTHLY.** The door **MUST** reverse upon contact with a 1-1/2" high object (or a 2 X 4 board laid flat) on the floor. After adjusting the sensitivity or the limit of travel, **ALWAYS RETEST** the Opener. Failure to **ADJUST THE OPENER PROPERLY** may result in **SERIOUS INJURY OR DEATH.**
- If possible, **USE THE EMERGENCY RELEASE** only when the door is closed. Use caution when using the Release with the door open. **WEAK OR BROKEN SPRINGS MAY ALLOW THE DOOR TO CLOSE RAPIDLY, CAUSING SEVERE INJURY OR DEATH.**
- **KEEP THE GARAGE DOOR PROPERLY BALANCED.** See the door owner's manual. An improperly balanced door **MAY CAUSE SEVERE INJURY OR DEATH.** Have a **QUALIFIED SERVICE PERSON MAKE REPAIRS TO CABLES, SPRING ASSEMBLIES AND OTHER HARDWARE.**
- **SAVE THIS INSTRUCTION MANUAL.**

TURNING ON POWER TO THE OPERATOR

NOTE: It is now necessary to turn on the power in order to run the Opener to test the operation and check the limit settings. Before doing so, ensure that all mounting hardware is installed and has been properly tightened, that all electrical connections are per local code requirements, and that proper wiring practices have been followed. Also, double-check that all ropes have been removed from the door and that the doorway is clear.

BASIC OPERATING PARAMETERS

Please note the following Operating Parameters which apply to Openers with Auxiliary Entrapment Protection System (Safe Finish™ Photosystem, Installation Instructions on Page 13) and a standard wall push button connected. Please see page 17 for instructions concerning the Deluxe Wall Push Button operating parameters.

HOW TO ACTIVATE THE OPENER



Never let children operate or play with the door controls. Keep Remote Control Away for Children.

Use any of the following devices:

1. The Remote Control Transmitter. Hold the push button down until the door starts to move, then release button.
2. The Door Control Button. Momentary push of the button until the door starts to move. Constant push of the button until the door is closed is required if light flashes.
3. An Outside Keylock or Keyless Entry System (*if you have installed either of these options, see Mfg's instructions*).

★ E: OPERATION AND ADJUSTMENT INSTRUCTIONS

HOW THE DOOR MOVES WHEN THE OPENER IS ACTIVATED



Always keep moving door in sight and away from people and objects until it is completely closed
NO ONE SHOULD CROSS THE PATH OF A MOVING DOOR.

IF THE DOOR IS...

...**FULLY OPEN**, then pushing the standard wall Push Button or the radio control will cause the door to begin **MOVING DOWNWARD**.

...**FULLY CLOSED**, then pushing the wall Push Button or the radio control will cause the door to begin **MOVING UPWARD**.

...**MOVING UPWARD**, then pushing the wall Push Button will cause the door to **STOP**. The next push of the wall button will cause the door to begin **MOVING DOWNWARD (Alternate Action Operation)**.

...**MOVING DOWNWARD**, then pushing the wall Push Button or the radio control will cause the door to **STOP**. The next activation will cause the door to **BEGIN MOVING UPWARD**.

...**MOVING DOWNWARD** and an obstruction is encountered, the door will **STOP, PAUSE AND REVERSE TO THE OPEN DIRECTION**.

...**MOVING UPWARD** and an obstruction is encountered, the door will **STOP**. The next activation will **CLOSE** the door.

The SAFE FINISH PHOTOELECTRIC uses an invisible beam which, when broken by an obstruction, causes a closing door to open and prevents an open door from closing.

HOW THE LIGHT WORKS AND WHAT IT MEANS WHEN IT FLASHES

1. The convenience light automatically turns on when the opener is activated and remains on for 4-1/2 minutes for your convenience and safety.
2. The light will flash after coming upon an obstruction in the down direction to alert you of a problem. It will continue to flash for 4-1/2 minutes, then shut off.
3. Optional Wall Station adds the convenience of allowing the light to be turned on and stay on until turned off by a second push of the button or activation of door cycle.

If the light begins to flash and the door does not move in the close direction from a push button or radio, the external safety device (Safe Finish Photoelectric) is activated or defective (misaligned or blocked etc.). To temporarily override and close door, activate pushbutton or wall station for 2 seconds; opener will begin moving in the down direction. The button must remain depressed until the cycle is completed. If the button is released before cycle is completed, the door will reverse and come to a fully open position. *Problems with the safety system should be inspected by a professional garage door installer.*

HOW TO OPERATE THE DOOR MANUALLY - *MANUAL RELEASE DISCONNECT*



The door should be fully closed, if possible, before using the manual disconnect. 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.

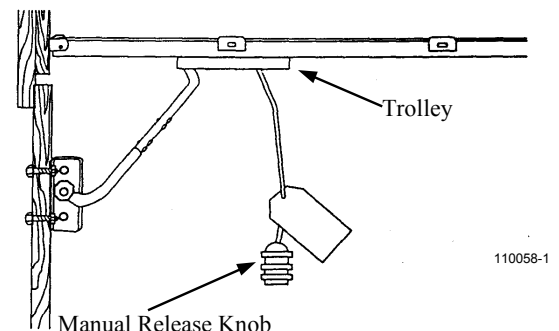
Your opener is equipped with a manual release recessed trolley-type disconnect system, enabling manual operation of the garage door during a power failure.

The trolley is disconnected from the chain by pulling down on the red release handle, allowing the garage door to be operated manually.

The trolley will automatically reconnect when power is restored and the door is activated.

If the manual release is used, close the door before reactivating the opener.

NOTE: Outside keylock manual releases are an available accessory and are recommended for garages without a service entrance.



110058-1

E: OPERATION AND ADJUSTMENT INSTRUCTIONS



OPTIONAL THREE FUNCTION DELUXE WALL STATION

When the Wall Station is connected to the operator per instructions supplied with the wall station, it will provide the following features:

1. “OFF-ON” will prevent inadvertent operation of the door from any other push button, radio or keyless entry device. It will also as additional protection from unwanted operation during absence of the owner. ***This feature is to be activated only when the door is at the full open or close position and never while the door is moving.***
2. “LIGHT” button allows the convenience light to be turned on and stay on until turned off by a second push of the button or activation of the door cycle.
3. “UP/DOWN” button provides normal opening and closing of the door by momentary activation of this push button. Function of door cycle is described above - “How the Door Moves When the Opener is Activated”.



DO NOT USE ADJUSTMENTS TO COMPENSATE FOR A POORLY WORKING DOOR. THIS WILL INTERFERE WITH THE PROPER OPERATION OF THE REVERSING MECHANISM AND MAY DAMAGE THE DOOR.

Adjustment #1: Opening Travel

Your opener is assembled at the factory with the trolley in the forward position with the open limit stops snapped in place on the chain, set for a standard door.

If your door is non-standard, move BOTH open limit stops, located just behind the trolley. As an example: For a 6 FT, 6 INCH door, move both open limit stops six inches or 12 links toward the power head unit.

To confirm final opening travel adjustment, activate the opener to bring the door to the fully open position. When properly adjusted, center of the open limit stops should come to rest opposite the load adjusting nut.

NOTE: If the door drifts forward, move the open limit stops toward the power head unit. If the door does not drift forward it is still advised that you perform one additional check. Operate manual release on the trolley and allow the door to seek its natural fully open position, then move the open limit stops to align trolley to this position. If the door does not open fully at its natural open position, it indicates a door spring or hardware problem that should be referred to a door system professional.

(See instruction label on side of track for proper limit stop location.)

Adjustment #2: Opening and Closing Force

Hex nuts for adjusting force are located on either side of the rail at the motor end. The left hex nut, labeled “CLOSE”, adjusts the closing force; the right hex nut, labeled “OPEN”, adjusts the opening force.

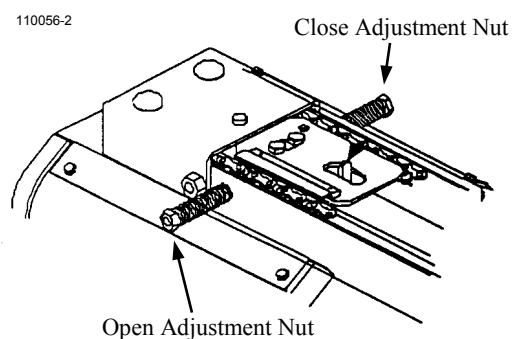
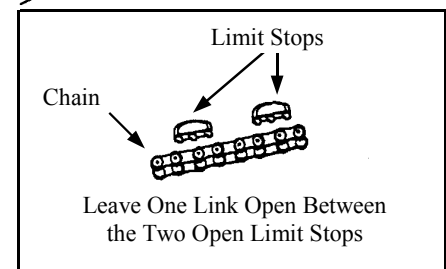
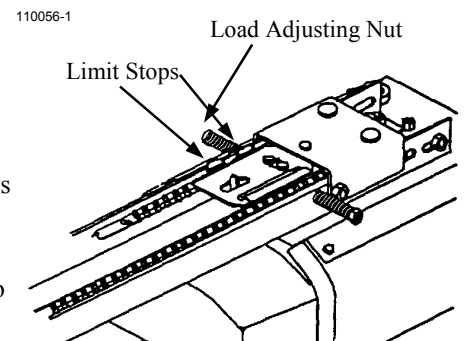
Turning the hex nuts clockwise increases force; counterclockwise decreases force.

Your garage door opener is built with a safety system that allows the door to reverse in the close direction and stop in the open direction. This must be adjusted so your opener does not use excessive force in the down direction or react to the weight of the door during upward travel.

To help determine that the force is not excessive, grasp the door handle or bottom edge during downward travel. The opener should reverse to this force. Do not stand under the door during this test.

If the handle is hard to hold and the door does not reverse, adjust the **CLOSE** hex nut to decrease force until the door reacts properly.

Repeat the adjustment procedure for upward travel. The door should stop without using excessive force.



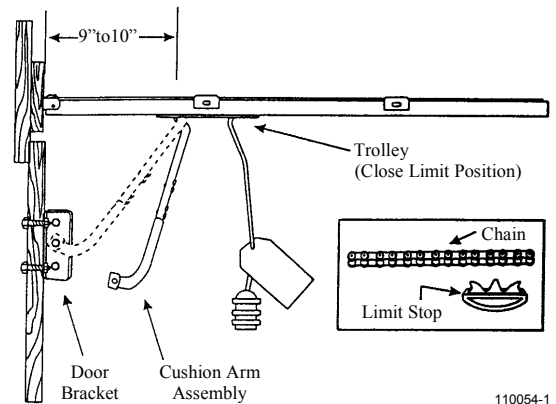
★ E: OPERATION AND ADJUSTMENT INSTRUCTIONS

Adjustment #3: Setting Door Close Limit

Confirm trolley close position 9" to 10" between the inside face of the door and the point where the door arm connects to the trolley (see illustration).

If adjustment of the close trolley position is necessary, activate the opener and move the trolley 12" to 18" to provide access to the "Limit Stop" devices (mounted on the chain). Move the limit stop to establish the correct trolley close position as above.

Relocation of "Limit Stop" toward the door increases down travel. Relocation of the limit stop away from the door reduces down travel. Note that each chain link provides 1/2" adjustment of trolley travel.



110054-1

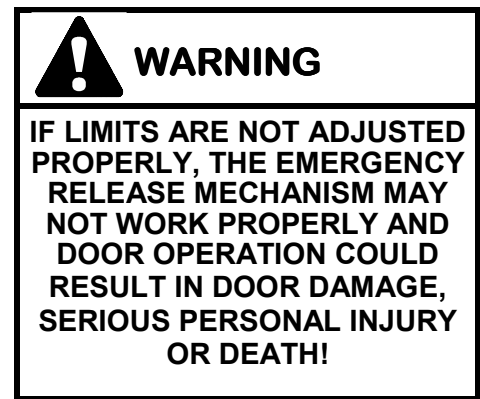
Adjustment #4: Obstruction Sensing (Closing Direction)

Your opener is designed to automatically reverse the door during closing travel whenever it comes into contact with an object up to the last 1-1/2 inch of travel above the floor. An object on the floor with a height of less than 1-1/2 inch will cause the door to stop. (Test according to the instructions below.)

If the opener reverses properly with a 2" x 4" laid flat on the garage floor (as the test below) and stops in the fully closed position, proceed to Adjustment #5.

If the door reverses when it comes into contact with the floor, move the close limit stop, located on the left side (inside looking out, see figure Adjustment #1), towards the power head unit. It is advised that you move the close limit stop one link at a time and run opener through another close cycle, until the door stops when it comes into contact with the floor.

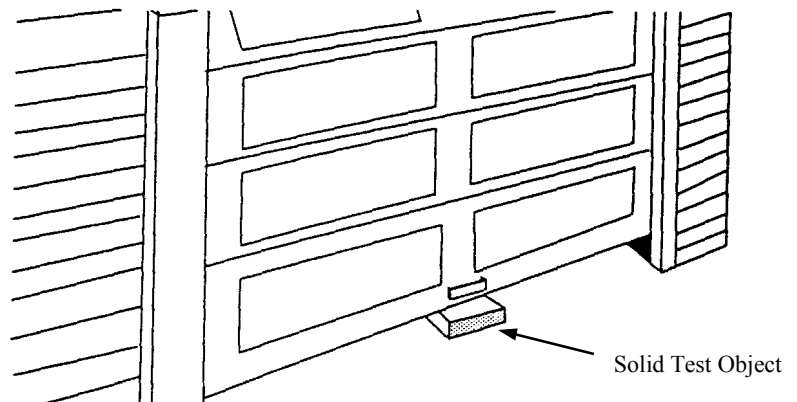
When the door comes into contact with a 2" x 4" laid flat on the garage floor and stops intends of reversing, move the close limit stop away from the power head unit. It is advised that you move the close limit stop one link at a time and run opener through another close cycle, until the door reverses when it comes into contact with the 2" x 4".



Important Test: Opener Obstruction Sensing Feature for Doors (both Sectional and One Piece)

- Activate door to the Open position.
- Place 2" x 4" laid flat on garage floor under path of the door. See Figure.
- Activate door to close position; upon contacting solid object, the door should stop, then reverse direction within 2 seconds and travel to the full open position.

Note: If the fails to pass this test, see Adjustment 3 above and move the Close Limit Stop one increment towards the door to increase down travel. Also review Steps 8 and 9, Page 10 for Sectional Doors or Step 10, Page 11 for One Piece Doors.



110055-3

REPEAT THIS TEST MONTHLY!

E: OPERATION AND ADJUSTMENT INSTRUCTIONS



Adjustment #5: Alignment and Initial Test of Safe Finish Photosystem

- Keep a portable transmitter with you to control the garage door opener. The red light on the receiver unit should now be on. *If not, recheck that the mounting screws are tight then, if necessary, align the photosystem by slightly bending the wall bracket until proper operation is obtained.*
- Place an object (packing insert box or a similar object approximately six inches high) one foot in front of the transmitter or receiver. The red LED should go **OFF** and remain **OFF** until the object is removed. **NOTE:** *There may be a slight delay in returning to normal depending upon how long the photosystem was blocked. If the light fails to go off when the object is placed in the path of the beam check the wire connections and the installation height of the units (see Page 13).*
- Move to the center of the door. Make sure the red LED light is on. Move a solid object slowly through the beam. The LED should go OFF and then ON.**
- Using the pushbutton or transmitter, activate the opener and check that it will operate through the full open and close cycles. *If not, re-align the photosystem by slightly bending the wall bracket until proper operation is obtained.*
- Tighten all mounting screws and bolts, loop and secure any extra wire.

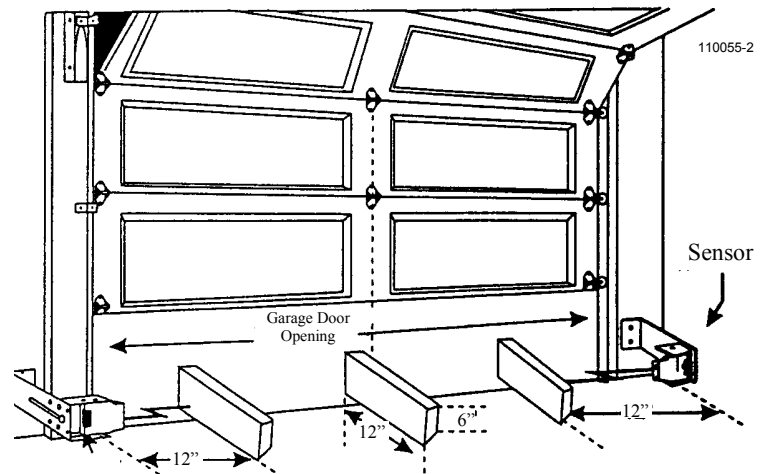
Important Test: Photoelectric Obstruction Test

Test Procedure

Place an object 6" x 12" on the floor (as illustrated) progressively on foot from the left side of the door; center of the door and one foot from the right side of the door. The object must prevent an open door from closing in any other mode other than constant pressure on the wall button. The object should also cause a closing door stop and reverse to the open position. If it doesn't, the Safe Finish photoelectric system must be adjusted lower and the test repeated until the door responds properly to the 6" object.

If adjustments are needed, refer to preceding adjustment.

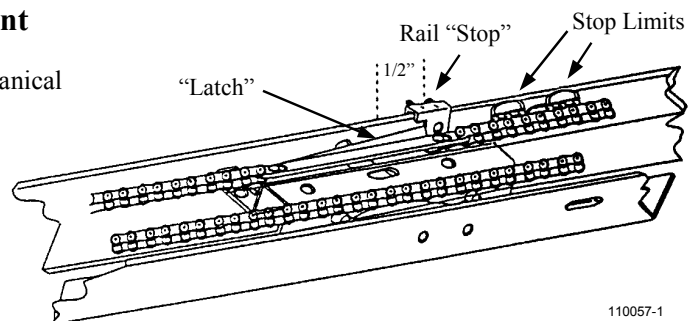
If the unit still will not respond and fails this obstruction sensing beam test, the door may cause severe injury or death. Have a qualified service person make repairs.



Adjustment #6: Positive Mechanical Lock Adjustment

The garage door opener is designed with an automatic mechanical locking system. This lock secures the door in the fully closed position.

To adjust, activate your opener and allow the door to go to its fully closed position. Loosen the two screws on the rail stop and move it behind behind the chain latch assembly with a gap of 1/2" between "stop" and "latch".

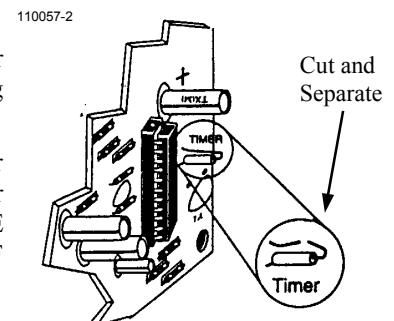


Adjustment #7 :Resetting the Travel Timer

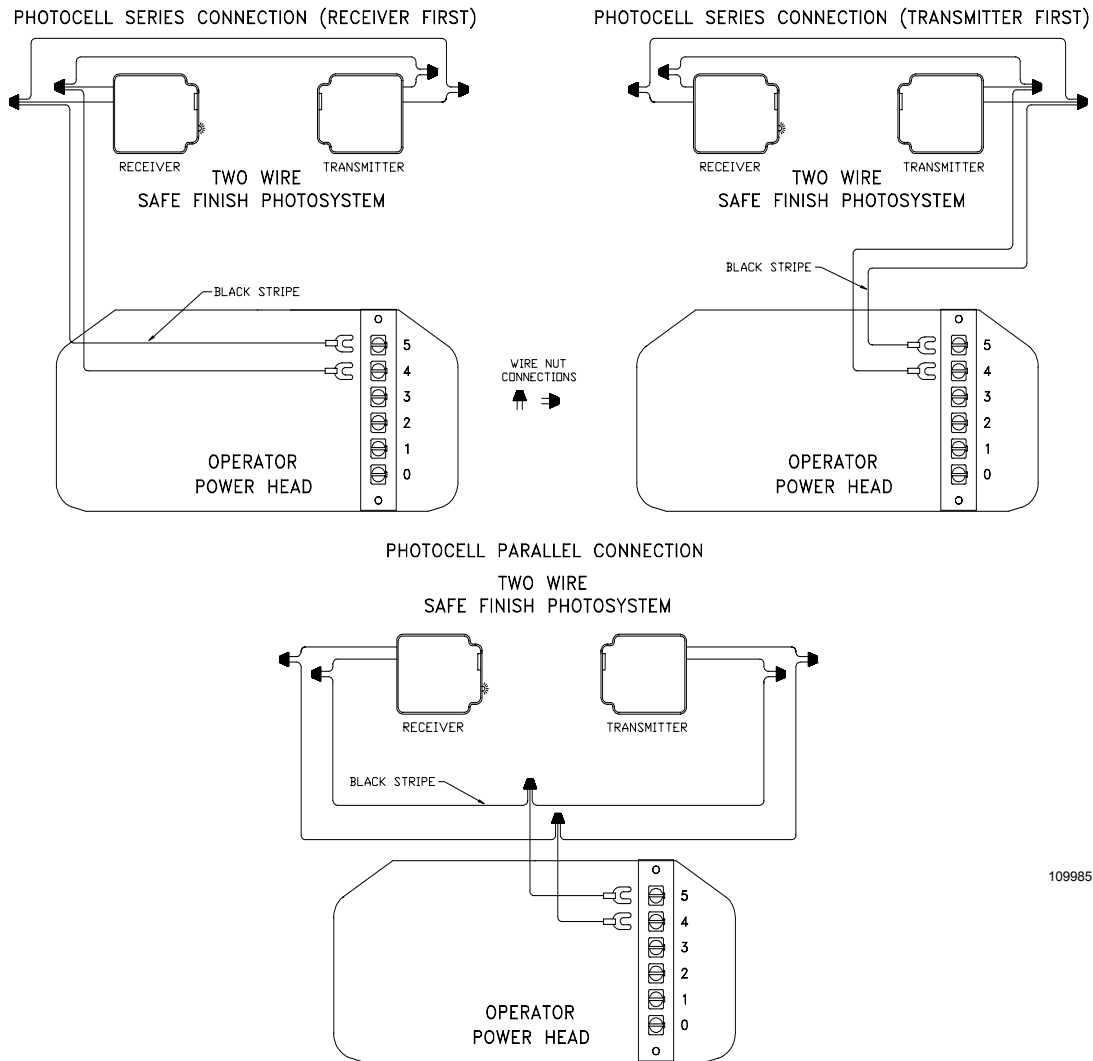
Your opener is shipped with the jumper connected, allowing the operator to run continuously for 17 seconds, then stop in the Open cycle or reverse in the closing cycle, activating the flashing light mode.

On all doors having over 9 feet of travel, it is necessary to cut the run timer jumper on the motor control board to allow the opener to run for 29 seconds. Disconnect the power from the opener before removing cover and cutting the jumper. **MAKE SURE YOU DISCONNECT THE POWER BEFORE CUTTING THE JUMPER. THE RUN TIMER WILL NOT CHANGE IF THE JUMPER IS CUT WITH THE POWER CONNECTED.**

This jumper is located under operator cover on the control board, as illustrated.



SAFE FINISH PHOTOSYSTEM WIRING - SERIES AC9000



MAINTENANCE OF YOUR OPENER

Once a Month:

1. Test for reversal on a 1-1/2 inch high object or a 2 x 4 board laid flat on the floor (see “Important Test: Opener Obstruction Sensing Feature”, page 18). If adjusting either the force or the limit of travel, retest the opener. Failure to adjust the opener may cause serious injury or death.
2. Test for reversal with a 6 inch high by 12 inch wide object breaking the Safe Finish™ Photosystem beam (see “Important Test: Photoelectric Obstruction Test”, page 19).
3. Manually operate the door (ensure door is in the closed position before attempting to engage manual operation, see Cautions on page 16). If it is unbalanced or binding, call a professional garage door service person.
4. Check to be sure the door opens and closes fully. Adjust limits or force of travel if necessary.
5. Repeat safety reverse test (No. 1 above). Make any necessary adjustments.

Twice a Year:

1. Check chain tension. Adjust if necessary.

Once a Year:

1. Oil door rollers, bearings and hinges (silicone lubricant spray).



BEFORE PLACING DOOR OPERATOR IN REGULAR SERVICE, MAKE SURE THAT:

- 1. THE FRONT AND REAR MOUNTS FOR THE OPENER ARE SOUND AND SECURE AND THE RAIL IS POSITIONED CORRECTLY ABOVE THE HIGH ARC OF THE DOOR, AND THAT THE OPENER IS POSITIONED OVER THE DOOR ACTION CENTERLINE.**
- 2. FOR SECTIONAL DOORS AND ONE-PIECE DOORS WITH TRACKS, THE POSITION OF THE DOOR ARM, WITH THE DOOR CLOSED, IS SUCH THAT ITS CONNECTING POINT ON THE TROLLEY IS 5" TO 8" BEHIND ITS CONNECTING POINT ON THE DOOR BRACKET. THE DOOR ARM SHOULD NEVER BE PERFECTLY VERTICAL WHEN THE DOOR IS IN THE CLOSED POSITION.**
- 3. FOR ONE-PIECE DOORS WITHOUT TRACKS, THE POSITION OF THE DOOR ARM, WITH THE DOOR CLOSED, IS SUCH THAT ITS CONNECTING POINT ON THE TROLLEY IS 30" TO 32" BEHIND ITS CONNECTING POINT ON THE DOOR BRACKET.**
- 4. THE EMERGENCY RELEASE HANDLE AND CORD ARE SECURE TO THE EMERGENCY RELEASE LEVER. THE HANDLE IS LOCATED 6 FT ABOVE FLOOR LEVEL AND REQUIRES NO MORE THAN 50 LBS. PULL TO ACTUATE. THE TROLLEY AND RELEASE MECHANISM ARE PROPERLY LUBRICATED.**
- 5. THE STANDARD WALL PUSH BUTTON OR THE DELUXE WALL PUSHBUTTON STATION IS IN SUCH A POSITION AND OF SUCH A HEIGHT THAT IT CAN ONLY BE ACTUATED BY AN ADULT OF AVERAGE HEIGHT. THE CAUTION LABEL IS PROMINENTLY DISPLAYED NEXT TO THE PUSH BUTTON OR WALL STATION.**
- 6. ALL WIRING IS CORRECT TO CODES OR BETTER. THERE IS GROUND CONTINUITY IN THE SUPPLY. THE GROUND PRONG ON THE POWER CORD IS INTACT.**
- 7. ALL ROPES HAVE BEEN REMOVED FROM THE DOOR. THE DOOR MOVES FREELY WITHOUT BINDING WHEN RAISED OR LOWERED MANUALLY. THE DOOR IS CORRECTLY BALANCED AND LUBRICATED. ALL DOOR HARDWARE IS SECURE AND SOUND. THE SENSITIVITY HAS BEEN ADJUSTED TO MINIMUM FORCE FOR THE APPLICATION.**
- 8. THE DOOR REVERSES ON OBSTRUCTIONS TO WITHIN 1-1/2" OF THE FLOOR. THE CONCRETE OR OTHER SURFACE BENEATH THE CLOSED DOOR PROVIDES UNIFORM CONTACT.**
- 9. THE PLASTIC ENVELOPE FOR THIS MANUAL IS ATTACHED TO THE WALL NEAR THE PUSH BUTTON OR WALL STATION AND THIS MANUAL IS PLACED THERE FOR OWNER USE AND REFERENCE.**
- 10. ON DOORS WITH EXTENSION TYPE COUNTERBALANCE SPRINGS, RESTRAINT CABLES HAVE BEEN INSTALLED THROUGH THE SPRINGS.**
- 11. THERE IS GFI PROTECTION ON THE LINE TO POWER THE OPENER OR IN THE RECEPTACLE. THIS IS PARTICULARLY IMPORTANT ON INSTALLATIONS INVOLVING DOORS OF STEEL CONSTRUCTION.**
- 12. ON DOORS WITH ADJUSTABLE BOTTOM EDGES, LOCK EDGES HAVE BEEN LOCKED AFTER ADJUSTMENT**

★ TROUBLESHOOTING GUIDE



WARNING

USE EXTREME CAUTION AT ALL TIMES WHEN ATTEMPTING TO DIAGNOSE AND RECTIFY PROBLEMS WITH YOUR GARAGE DOOR OPENER. BEFORE ATTEMPTING ANY SERVICE ON UNIT, DISCONNECT OPENER FROM POWER SUPPLY. YOUR GARAGE DOOR IS THE LARGEST MOVING OBJECT IN YOUR HOUSE, AND THE SPRINGS, PULLEYS, CABLES AND MOUNTING HARDWARE UTILIZED TO BALANCE ITS OPERATION ARE UNDER EXTREME TENSION AT ALL TIMES AND CAN CAUSE SERIOUS PERSONAL INJURY, EVEN DEATH, IF DISTURBED. CALL AN EXPERIENCED SERVICE PERSON TO MOVE, LOOSEN OR ADJUST DOOR SPRINGS OR HARDWARE.

SYMPTOM:

Opener does not activate.....	(1) (2) (3) (4) (5) (6) (7) (15)
Operates with Push Button but not with radio control.....	(8) (9) (21) (12) (23)
Stops before reaching full Open or Closed position	(3) (5) (6) (10) (11) (13) (14) (23)
Reverses before reaching Full Close position	(6) (11) (14)
Reverses after door closes and contacts floor	(16) (17)
Door opens and closes by itself.....	(3) (18) (23)
Light will not come on.....	(19) (7)
Light will not turn off after Opener runs.....	(20) (7)
Transmitter has short range.....	(8) (21) (12) (23)

PROBABLE CAUSE/SOLUTION:

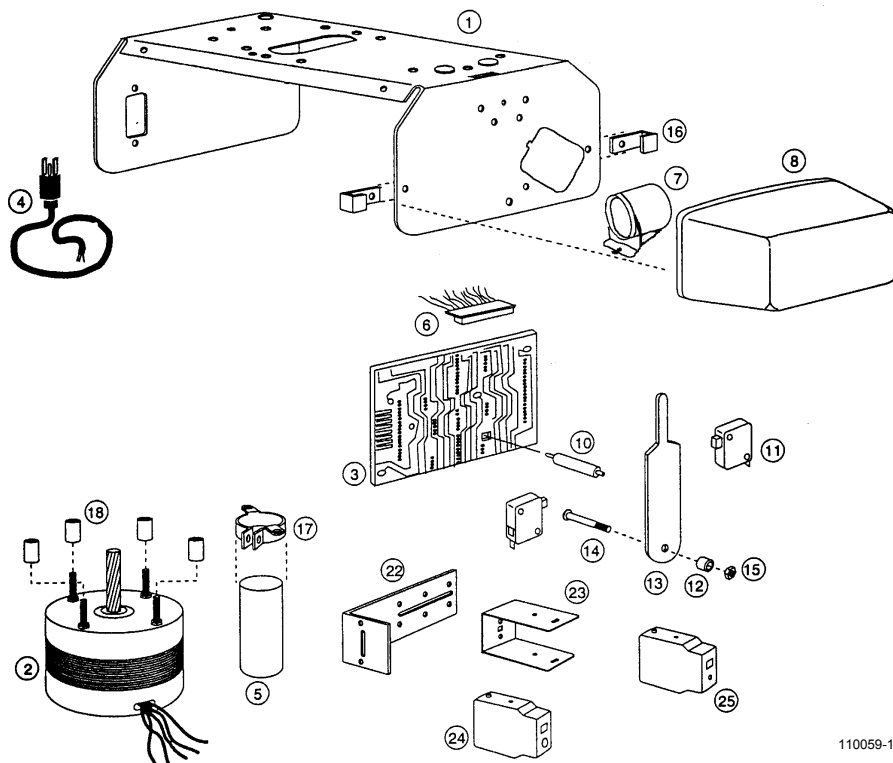
PROBABLE CAUSE:

1. Mechanical door lock enabled
2. 120 Volt power not present at outlet
3. Broken or shorted Push Button, wiring or radio receiver
4. Grid lock on Motor Control Board
5. Motor Thermal Overload Protector opened
6. Door jammed due to broken or incorrectly adjusted spring
7. Defective Motor Control Board
8. Weak Battery in Transmitter
9. Radio Coding Switches mismatched
10. Improper placement of Limit Stops on Chain
11. Door obstructed
12. Defective Transmitter or Receiver
13. Up sensitivity force improperly adjusted
14. Down sensitivity force improperly adjusted
15. Bottom of door frozen to ground
16. Ice and snow built up under door
17. Floor risen or sunk from weather change
18. Someone in area with identical code
19. Defective or burned out lamp bulb
20. Radio Receiver not receiving signal
21. Transmitter location in car

SOLUTION:

1. Disable or remove all door locks.
2. Check wall switch, fuse box, circuit breaker, etc.
3. Remove Push Button wiring and Radio Receiver from the terminal strip on the back panel of the operator. Activate Opener by momentarily connecting Terminals 1 & 2 with a test wire. If Opener runs, reconnect items one at a time to find defective circuit. Replace.
4. Unplug Opener, then reconnect.
5. Wait 30 minutes for Motor to cool, try again.
6. Ensure that door is in a closed position. Activate Emergency Release Mechanism. If Opener will run without door attached, contact your Allstar garage door professional to repair door.
7. Contact your local Allstar garage door professional.
8. Replace Battery.
9. Reset Switches to identical codes (See instructions).
10. See instructions for proper placement of Limit Stops.
11. Remove all obstructions from door area.
12. Contact your Allstar garage door professional.
13. Adjust sensitivity. See instructions.
14. Adjust sensitivity. See instructions.
15. Activate Emergency Release, clear away ice.
16. Clear away ice and snow to allow door to close.
17. See instructions to reset Down Limit Cam.
18. Reset all radio controls to new code.
19. Replace with rough service bulb (60W max.)
20. Ensure that antenna wire from Opener is pointing straight down toward the floor.
21. Ensure Transmitter is clipped to sun visor. If it is clipped to dashboard or in ashtray, etc., range will be diminished.

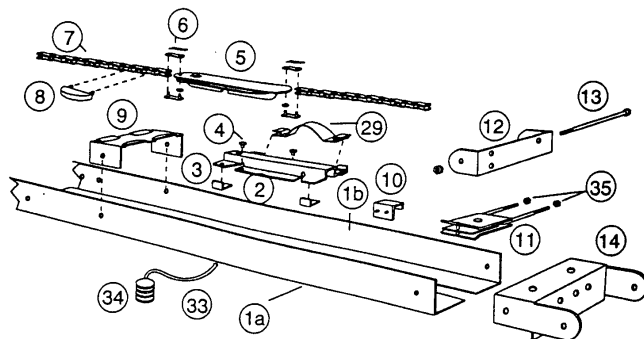
PARTS BREAKDOWN & LISTING



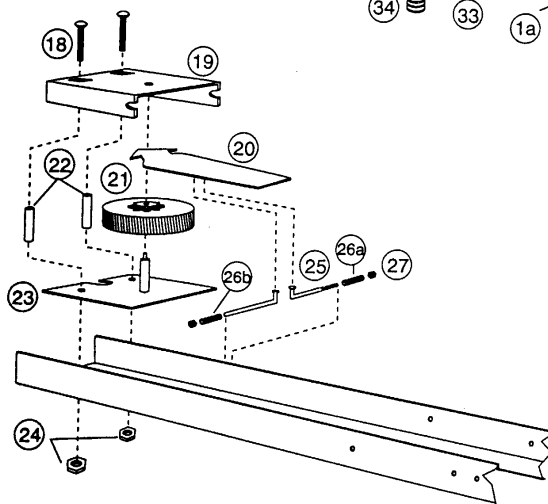
#	Part #	Description
1	109874	Frame
2	260587	Motor, 1/3HP, AOS F42C55A29
	260584	Motor, 1/2HP, AOS F42C56A29
3	109938	Motor Control Board
4	005320	Power Supply Cord
5	260572	Capacitor, 43-52 MFD, 250V
	260570	Capacitor, 53-64 MFD, 250V
6	109948	Wire Harness, Low Voltage
	109947	Wire Harness, High Voltage
7	109845	Lamp Socket
8	220981	Light Diffuser
10	157149	MCB Spacer
11	229863	Limit Switch
12	221012	Nylon Washer
13	220992	Limit Lever
14	109843	Shoulder Screw
15	157501	12-24 Nylon Insert Nut
16	109932	Diffuser Clips
17	249257	Capacitor Clamp
22	102618	Sensor Wall Mounting Bracket
23	102641	Sensor Mounting Bracket
24	109369	Safe Finish Sending Unit
25	109370	Safe Finish Receiving Unit

110059-1

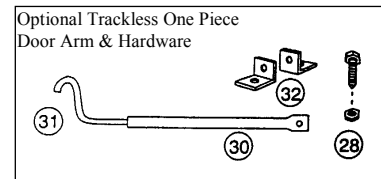
110059-2



#	Part #	Description
1a	282900	Rail Angle, Idler, R.H.
1b	282899	Rail Angle, Idler, L.H.
2	198077	Trolley Assembly
3	221020	Trolley Wing Foot
4	220961	Nylon Button
5	252109	Chain Latch Assembly
6	009224	3 pc. Chain Master Link
7	009011	Chain (specify length)
8	160366	Limit Stop
9	220960	Rail Spacer Bracket
10	229865	Rail Stop w/Set Screws
11	252110	Front Chain Guide ASSY
12	220959	Front Wall Bracket
13	006114	1/4-20 x 4 Hex Bolt
13a	157561	1/4-20 Lock Nut
14	220958	Front Rail Bracket
15	220956	Door Bracket
16	229858	Arm Rod
17	252107	Tube Arm
18	220953	5/16-18 Carriage Bolt
19	220986	Gear Cap
20	252105	Load Leverw/Retainer
21	220315	Combo Gear & SPRKT
22	221014	Spacer Tube
23	252098	Gear Base w/Shaft
24	006043	5/16-18 Keps Nut
25	221010	Load Adjusting Screw
26	221016	Load Spring
27	157561	1/4-20 Nylon Insert Nut
28a	006115	3/8-16 x 1-1/4 Hex Bolt
28b	006076	3/8-16 Nylock Nut



29	220987	Molded Chain Guard
33	220977	Release Cord
34	157143	Release Knob Handle



35	157666	Chain Adjusting Nut
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Manufacturer's Limited Warranty

Allstar warrants its AC9000 Series Challenger residential vehicular garage door operators as follows:

A. The drive train to be free from defects in materials and workmanship for:

Models AC9300/AC9500/ACJ9500: for 10 years from the date of purchase by the original purchaser.

The drive train includes the motor, rails, frame and chain.

B. The controller circuit board, capacitor, photobeams and all other parts in all models will be free from defects in materials and workmanship for a period of two (2) years from the date of purchase by the original purchaser.

Contact your dealer to obtain service for your operator .

To obtain service under this warranty the buyer must obtain authorization instructions for the return of any goods from Allstar before returning the goods. The goods must be returned with complete identification, with copy of proof-of-purchase, freight prepaid and in accordance with Allstar's instructions or they will not be accepted. In no event will Allstar be responsible for goods returned without proper authorization or identification.

Goods returned to Allstar for warranty repair within the warranty period, which upon receipt by Allstar are confirmed to be defective and covered by this limited warranty, will be repaired or replaced at Allstar's sole option, at no cost and returned pre-paid. Defective parts will be repaired or replaced with new or factory rebuilt parts at Allstar's sole option.

This limited warranty does not cover non-defect damage, damage caused by unreasonable use, damage caused by improper installation or care, vandalism or lightning, fire or excessive heat, flood or other acts of God (including, but not limited to misuse, abuse or alterations, failure to provide reasonable and necessary maintenance), labor charges for dismantling or reinstalling a repaired or replaced unit, or replacement batteries.

These warranties are in lieu of all other warranties, either expressed or implied. All implied warranties of merchantability and/or fitness for a particular purpose are hereby disclaimed and excluded. Under no circumstances shall Allstar be liable for consequential, incidental or special damages arising in connection with the use or inability to use this product. In no event shall Allstar's liability for breach of warranty, breach of contract, negligence or strict liability exceed the cost of the product covered hereby. No person is authorized to assume for Allstar any other liability in connection with the sale of this product.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Warranty effective after March 1st, 2000.