Good Gate Inc.

Installation Guide

Residential Sliding Carriage Gate

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1 Warnings

ATTENTION!

This product should be installed and maintained by a qualified elevator technician.

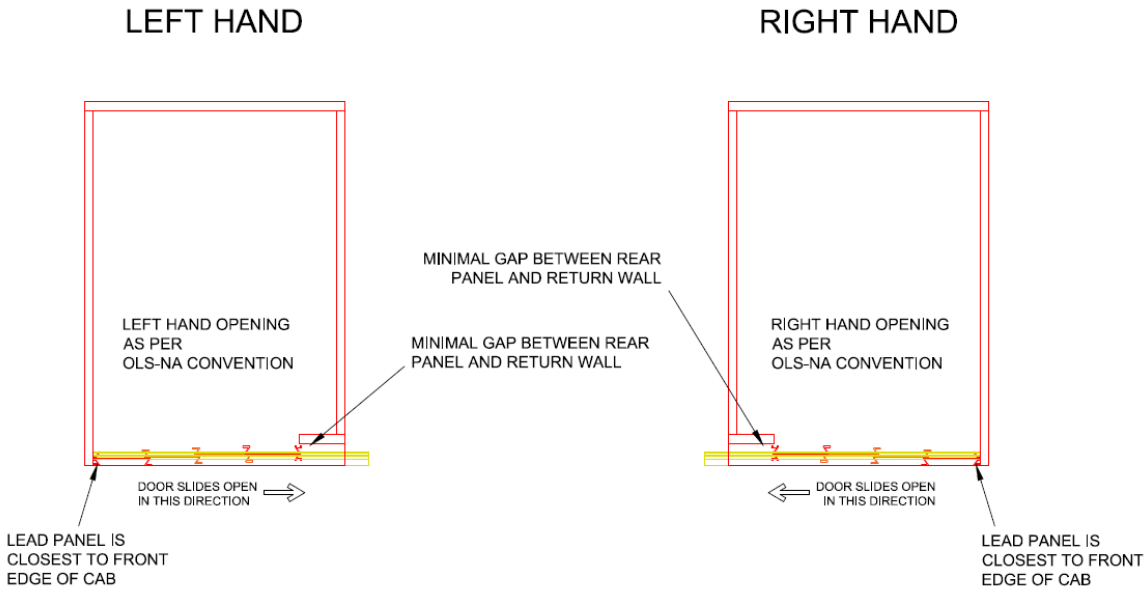
Failure to comply with all of the instructions and "WARNING"(s)in this manual as well as the design manual and the maintenance manual may cause a situation to be present where serious injury or death could occur.

If there is any doubt about the instructions in this or other manuals related to this product, please contact Good Gate Inc. at info@goodgate.ca for clarification.

2 Determining Opening Direction and Pocket Location

A picture below depicts the handing convention used by Good Gate.

This will be important to know and use the correct terminology during specification, ordering and installation.



3 Checking dimensions

3.1 Ceiling to Flooring Height

Depending on the carriage gate height you are working with the following distance between the top of the carriage and support flooring where you mount the lower track/ sill should be observed. Shimming may be required if the carriage is not square or does not provide this spacing. The following assumes a ceiling thickness of 3/4in and a sub-floor that is 0.625in (the same height as the bottom track). Hence the true interior carriage height from finished flooring is 1.375in less than the dimension noted below and indicated in the image.

80in carriage Gate = 81.375 inches

84in Carriage Gate = 85.375 inches

96in Carriage Gate = 97.375 inches

Warning: Failure to observe these measurements may cause the gate to bottom out on the lower track or have a lack of support engagement on the lower edge of the panels. Improper support for the panel at the lower edge may result in injury or death.

3.2 Clearances

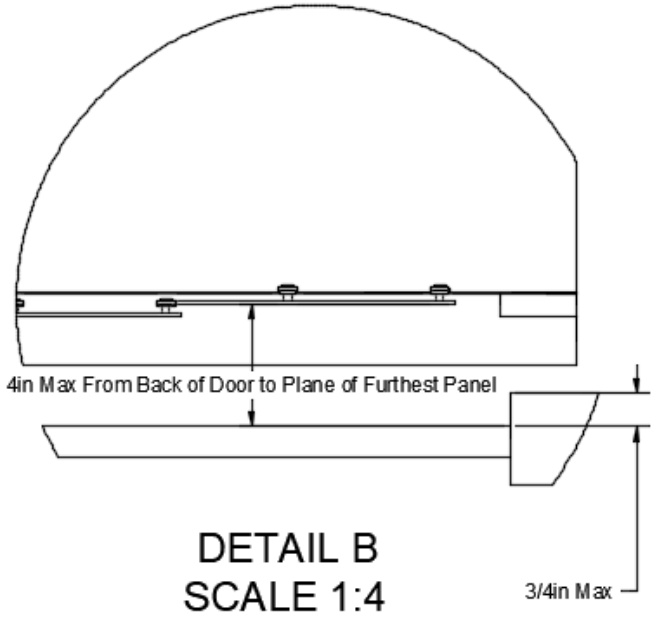
Typical clearance between the shaft and the elevator car opening should be 0.75 – 1 inches along the entire travel distance. This should be checked as part of elevator shaft construction and then prior to operation of the elevator so that the gate is not damaged during testing.

Warning: failure to ensure clearance could cause damage to the equipment or harm to the technician during installation.

3.3 ¾ x 4 x 4

ASME 17.1/ CSA B44 – 2016 Safety code for elevators requires that the 3/4in x 4in rules be followed for installation of carriage gates. The Good Gate product is designed to meet these code requirements, when properly installed.

The following installation drawing shows the ¾ x 4 measurements and the distance from the back of the door to the inside of the shaft wall should be checked prior to final installation of the gate.



Warning: failure to observe the ¾ x 4 measurements could results in injury or death during operation of the elevator.

3.4 Pocket Dimensions

The pocket dimensions for a gate that is capable of covering up to a 36in wide door opening is 13in and should then also have clearance from the shaft wall. The dimensional availability of sufficient pocketing space should be checked prior to installation in the shaft.

3.5 Track Fit inside Shaft

Good Gate provides a track that is capable of providing the maximum opening allowed for the product.

Should you find that your shaft does not accommodate this amount of track, and you have a smaller door opening, the track can be trimmed with an appropriate aluminum saw blade.

Warning: if you are cutting aluminum tracks to a shorter length all appropriate safety precautions for holding the materials securely, eye/ face protection, and hand protection should be taken. Standard circular saw blades for wood are not typically suitable for cutting aluminum.

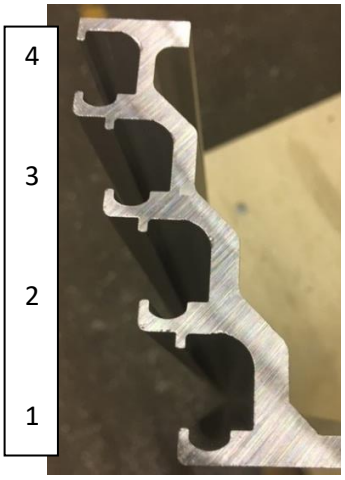
4 Installation of Top Track

The upper track is secured to the top of the carriage with 4 x #10 wood screws with pre-drilled holes along the heel of the lowest track section.

The support method is designed for 3/4in plywood support or equivalent. If you are using other materials that could have tear out concerns (melamine/ MDF) you should consider adding additional screws by simply drilling additional holes in the tail of the upper track where the others are located and it may also need to use appropriate screw anchor inserts.

The front edge of the lowest track element should be proud of the front edge of the ceiling by roughly 1/16in to ensure that panel #1 does not rub.

The side of the upper track placed with the edge of the track 0.5in away from the daylight line/ slampost wall for side to side positioning.



Once alignment along the front edge and side are achieved and the screws are in place the support brackets to fix the top edge of the upper track can be added. An image of the support brackets is shown below.

The support bracket (Z-Bracket) is secured to the top of the upper track with #6 self tapping screws that are supplied by Good Gate. There are three brackets and there will be several sets of pre-drilled pilot holes in the top of the upper track. Hardware for securing into the cab ceiling is not supplied.

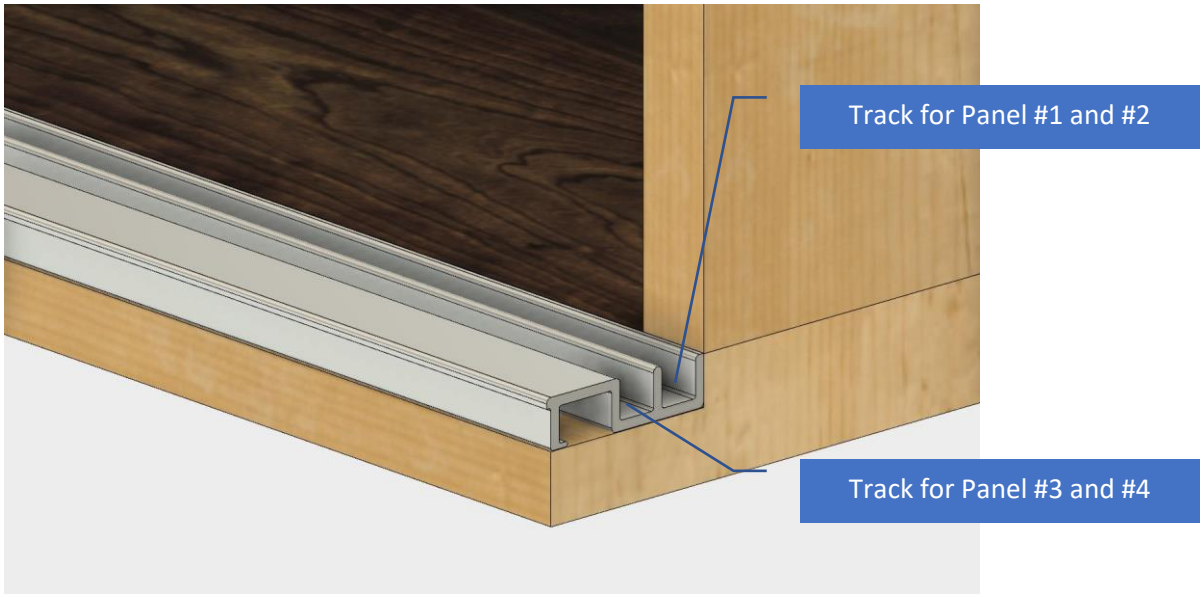
Which end the 3rd bracket is mounted to will depend on the position you need for your gate switch. (**See section 8**)

5 Installation of Lower Track/ Sill

Once the upper track is secure;

Insert panel #1 in appropriate channel of the upper track this should be done using the groove machined roughly at the mid point of the channel. (See section 6 for image)

Put the sill underneath of panel #1 with the panel inserted in the appropriate groove. (Please note that it is intended that panel #1 and #2 share a groove and panel #3 and #4 share the other).



Push panel #1 to the back of the channel such that the lower aluminum cross piece is touching the surface of the track that is furthest from the landing side.

Using a level check to see the that the panel is vertically plumb

Shift the lower track until the panel is vertically plumb

Mark where the lower track / sill should be located

Adjust the position of the track so the lower track / sill travel matches the travel of the upper track and the end sits in the pocket area

Slide the panel out of the way of any screw holes for the lower track

Secure lower track / sill with #10 taper head wood screws.

Ensure that the screws do not touch off on the bottom of the panel – if it does then you may need to torque the screws tighter or shim the upper track higher due to the overall dimensions of your car.

Test to make sure that the panel is plumb in several places along the full travel to ensure that the alignment is good for the lower track.

6 Installation of Panels

6.1 Panel Insertion

Each track has a machined slot for insertion of a single wheel of the appropriate panel in to the track. The process for doing this is as follows:

- Place the lower edge of the panel in to the appropriate groove of the lower track/ sill
- Move the panel in to position so that the wheel on the left side of the panel (looking at it from the landing side) is inserted first by simply pushing it in to the slot
- Move the panel to the left and then insert the other wheel
- Move the panel back to the right so that the full panel is now on the other side of the groove before proceeding with the next panel

Panels should be inserted in the order of #1, #2, #3, #4.

6.2 Installation of mid-panel slot catches

The panels are equipped with slots to secure each gate panel to the subsequent one. **For the sliding action to perform properly and deflection requirements to be maintained slot screws must be installed.**

Insert #10 pan head screws at mid-height of panels from the landing side through the slots. The screws are located in the small parts bag sent with your gate.

There are 6 screws for each gate and they have tamper-proof heads. An appropriate screw bit is shipped with each gate for installation of the screws. The screws are compatible with most tamper proof #10 screw drivers.

The screws should have a light pink film on them. This is a thread locker compound intended to harden once they are installed. If you remove them after a short time then new thread lock compound should be applied.

Tighten the screws so the shoulder is snug against the upright of the next gate panel. This should position the screws such that the head does not touch the panel in which it slides and it also does not contact any other panel as it opens and closes such that binding is avoided.

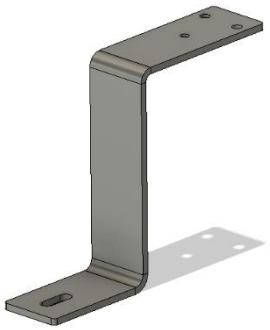
Warning: Failure to insert these screws or installing screws that do not have a thread locking compound on them could cause serious injury or death.

6.3 Checking for plumb and smooth operation

Once the panels are inserted and connected the operation should be checked for any binding, scraping or other problems.

Panels should also be checked for plumbness with a level at several positions.

The most common issue with smooth operation is that the upper track is tilted and the bearings are rubbing on the upper part of the each track instead of just rolling on the bottom surface of the upper track. This can be remedied by simply adjusting the position of the Support bracket. An image of this support bracket and the slot allowing adjustment without drilling new holes in the cab ceiling is shown to the side and videos for adjustment can also be found on our website.

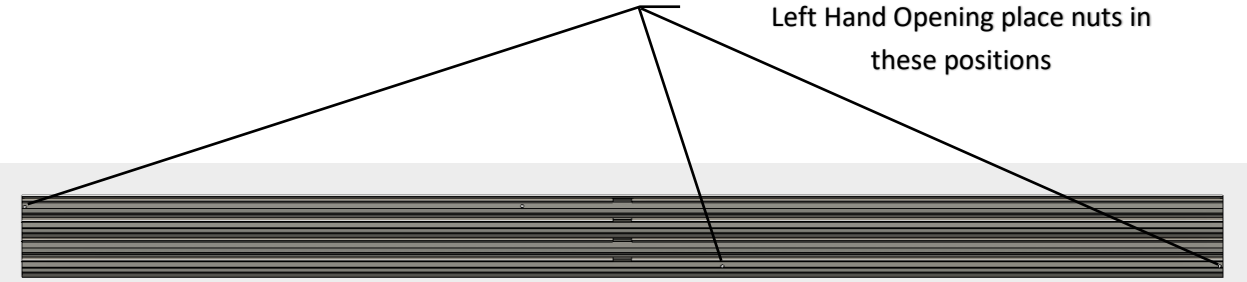


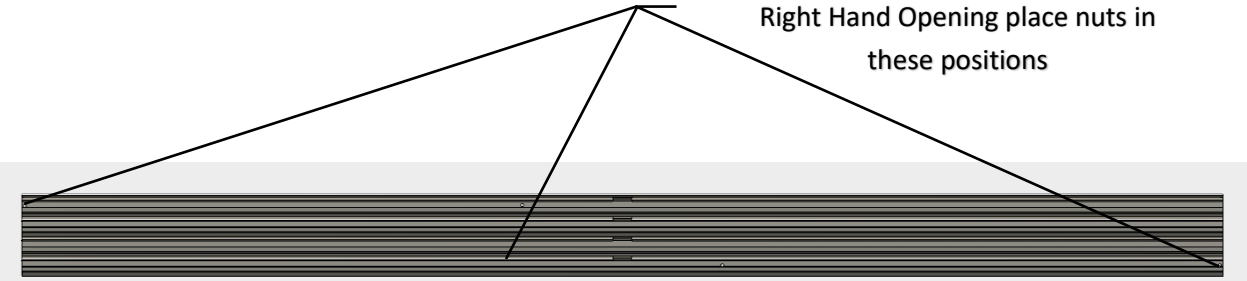
7 Setting Travel Stops

7.1 Standard

The gate upper track assembly comes with three flange nut/ set screws installed in the top track to stop the panels from moving beyond points that would allow for openings that compromise the safety function is provides.

The position for the third flange nut/set screw will vary depending on the gate opening direction but they are easy to install and adjust with a standard hex key. On the bottom track one of the set screws prevents the gate from coming out of the end of the track. The second set screw on the bottom track must be adjusted to stop the trailing edge of panel 1 from traveling past the interior wall of the car on the pocket side. If this is not set properly panel 1 can travel to far in the closed direction creating a gap between the trailing edge of the gate and the wall on the pocket side of the elevator. Failure to properly set the mechanical travel stops could result in serious injury or death.

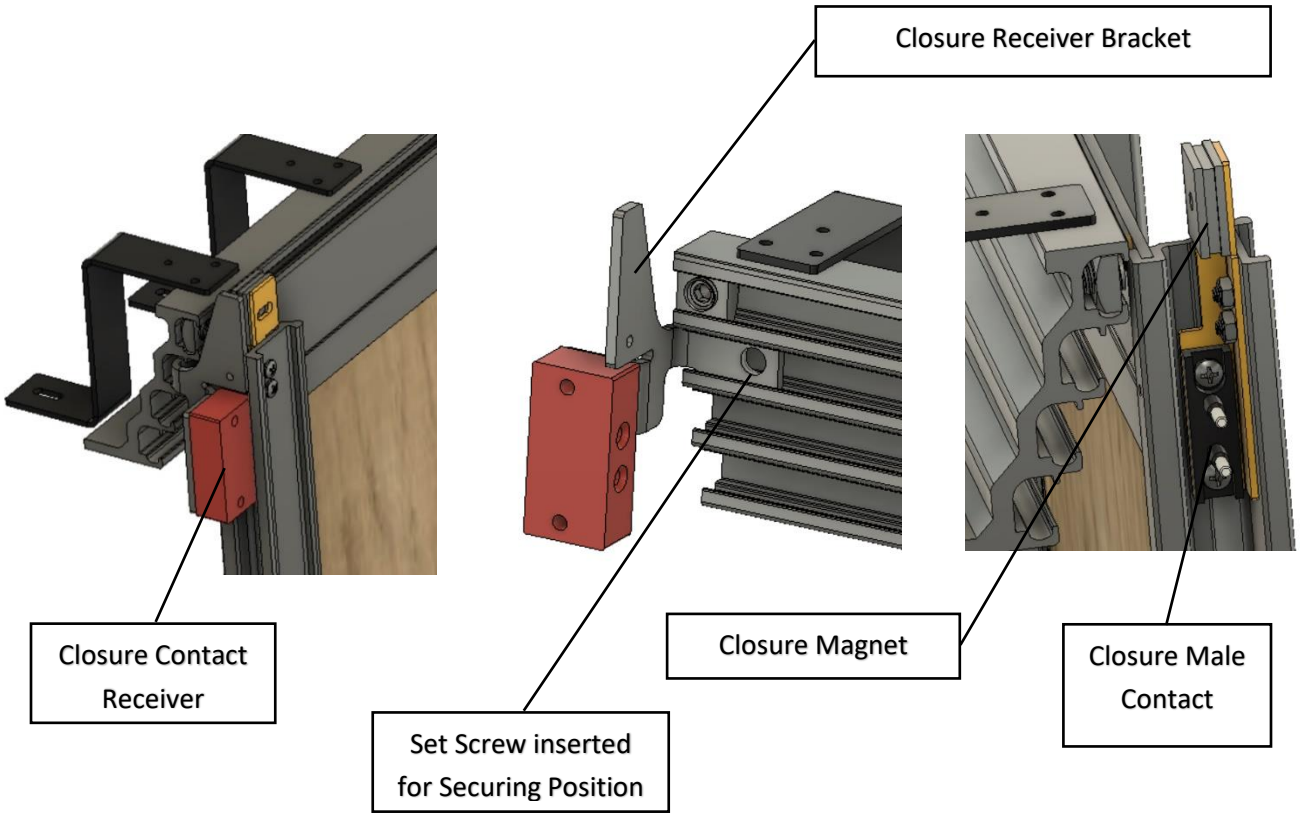




Warning: Failure to properly set the mechanical travel stops could cause serious injury or death.

8 Closure Switch and Brackets

ASME A17.1/ CSA B44 safety code requires that a carriage gate closure switch be incorporated into the controls so that, if the gate is not in the closed position, then the elevator will not be allowed to operate.



The above shows the standard contact switch that is supplied and should be installed as part of the gate set up.

The kit includes CSA/UL certified contact/ switch that is shown in red and there are screw terminals that should be connected to the elevator safety circuit.

The closure contact receiver is attached to a bracket that is inserted into the track for panel #3 on the upper track and secured with set screws in the bracket when the desired position is achieved. The exact position can be adjusted to ensure that the leading edge of the gate touches off on the “slam post” of the carriage while having positive engagement with the magnet and contact to indicate closure.

A magnet and male contact is included in a second bracket and this should be installed on the leading edge of the gate panel at the top. The magnet can be adjusted for desired make up of the contact and magnetic retention.

The kit is “handed” and replacement parts should be ordered accordingly. The kit for gates

intended for use with auto-operators removes the magnet retainer as it is not required on auto-operation assemblies.

Kit Assembly Part Numbers and Descriptions:

CG0063-ASM-LH	Pin Plate, Contact Plate, Magnets, and mounting hardware for Left Hand Manual Operation Gates
CG0063-ASM-RH	Pin Plate, Contact Plate, Magnets, and mounting hardware for Right Hand Manual Operation Gates
CG0066-ASM-LH	Pin Plate, Contact Plate, and mounting hardware for Left Hand Auto Operation Gates
CG0066-ASM-RH	Pin Plate, Contact Plate, and mounting hardware for Right Hand Auto Operation Gates

Warning: The Good Gate product is not intended to operate without a gate closure contact/switch that is connected to elevator controls. Failure to install a code compliant gate closure switch could result ininjury or death.

9 Use on an unenclosed A17.1/B44 Elevator or A18.1/B355 Lift

The Good Gate product was designed to meet the A17.1/B44 section 5.3 residential elevator code for fully enclosed elevators.

Any use in an application that results in a portion of travel for the carriage being unenclosed may require additional safety items to ensure the gate remains fully closed during travel. This may include, but not be limited to, a full safety interlock that keeps the gate closed while the carriage is not at a landing.

In any application of the Good Gate product, the purchaser and installer are responsible to ensure they are complying with all safety code requirements related to the jurisdiction they are working in and that are relevant to the installation.

WARNING: Failure to consider these factors in design or installation could result in serious injury or death.

10 Testing Checklist

Testing Check	Yes/ No
Check that height of carriage is appropriate for gate height and shim if the carriage is not square/ level	
Check that back of landing door is less than 3/4in from inside of shaft	
Check that there is clearance between gate / carriage and travel wall, but not more than 1.25in	
Gate Panels move smoothly and do not bind	
Gate panels are plumb through travel	
Top track support brackets are in place and secured	
Mid Slot Screws are in place and secure	
Gate closure switch is in place and activates/ deactivates correctly to avoid carriage movement if the gate is in the open position	
Gate pocket is blocked off and travel stops are properly set to not allow for users to put hands or tooling into elevator shaft space	
All panels have clearance between the bottom edge and the lower track to avoid rubbing and unintended interference	

11 Troubleshooting Guide

11.1 Gate does not move smoothly or freely

Steps	*Solution*
a. Check for debris and other obstructions in the top track.	Clear debris from track.
b. Check for debris and other obstructions in the bottom sill.	Clear debris from sill.
c. Check clearance at the bottom of the gate.	If a panel is touching the bottom sill, adjust the top track to lift the gate higher.
d. Check mid-screw clearance.	- If the shoulder of the mid-screws are touching the top or bottom of the mid-slot: Top track tilt must be adjusted. - If the back of one or both mid-screws are touching the panel, the panel is twisted or bent: Contact manufacturer for replacement options.
e. Check if bearings are binding in top track	Adjust tilt of top track.
f. Check if panels are binding in the bottom sill	Adjust alignment of top track with sill to ensure panels are vertical.
g. Check each panel individually.	If one panel appears to be the problem, remove it and proceed to step h.

h. Check bearing rollers.	If a bearing has failed or the bearings are loose, drill out bearing and replace.

11.2 Operator having difficulty moving gate

Steps	*Solution*
a. Remove operator and check that gate moves smoothly on its own.	If the gate does not move smoothly, refer to Issue 1.
b. Check that the operator arm and operator are aligned and pulling the gate smoothly.	Adjust operator arm and operator as needed to align them properly.

11.3 Gate makes excessive noise as it opens and closes

Issue	*Solution*
a. Excessive noise when panels meet while opening.	Check mid-slot rubber bumpers. If any are missing or damaged, replace.
b. Excessive noise when picking up the next panel while closing.	Check side foam bumpers. If any are missing or damaged, replace.
c. Noise in both directions while panels are moving.	Check all panels for failed bearings. If a bearing has failed, drill out bearing and replace.

11.4 Gate panels separating from each other

Warning: This situation is a safety risk and the gate and elevator must be taken out of service until the issue is resolved.

Troubleshoot	*Solution*
a. Check that all six mid-screws are present and securely fastened.	If a mid-screw is missing, replace it.
b. Check that each panel is structurally sound.	Things to look for: - Rivets missing - Loose aluminum cross-pieces - Loose aluminum uprights - Damaged panels - Failed bearings If any of these have occurred, remove the affected panel and contact manufacturer about replacement options.

Revision History:

Rev	Date	Description of Changes
NC	22APR2018	Issued
1	26APR2018	- Added comments about thread lock compound in section 6.3 - Added checklist item about clearance of panels to bottom track
2	27JUN2018	- Remove section 8
3	8JAN2019	- Updated slot screws to note spacer being present and that there are 6 screws on a 96in gate - Changed the gate switch actuator arm to be the most recent version - Noted that the J-brackets are not installed for shipping and they can be installed before or after the panels are inserted
4	25MAR2019	- Added text to section 4 regarding a third upper track support bracket being supplied if a gate switch and mounting bracket are ordered from Good Gate to clarify installation. Also included a picture with the third bracket and reference to section 8 for the gate switch.
5	22SEP2019	- #10 holes/ screws for upper track mounting - #10 holes for lower track mounting - Square nuts/ set screws for stops to replace self tapping screws - Noted 5 panel arrangement
6	22MAR2020	- Remove section 6.2 - Add guidance on adjustment of Z-bracket adjustment if the gate panels are not moving smoothly in section 6.3
7	27MAR2021	- Changes in section 2 clarifying handing - Section 3.4 – changed pocketing dimension to 13in - Section 3.5 – removed comment about having to drill holes in track - Section 4, changed pictures to new version of top track - Section 6.2 changed screw type to #10 and added picture reflecting new tamper proof screw. Removed reference to color of thread lock. Removed reference to plastic spacer for screws. - Section 8 new picture to reflect new top track and put notes for part numbers - Updated testing checklist to remove reference to safety catches that are no loner used
8	4MAR2022	- Added troubleshooting guide - Added magnet and pin gate switch details - Added table of contents - Remove old gate switch details
9	17SEPT2022	- Added section on warnings related to use of gate in unenclosed applications.