

Regional Express Ramp Operations & Parts Manual

Maintenance Schedule



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- Overview •



The Regional Express Ramp is a universal ramp designed to serve commuter size aircraft. The Regional Express Ramp allows easier access for all passengers, disabled and non-disabled. This ramp, with its adjustable slope and pivoting bridge, lays over existing aircraft stairs and provides a faster, more comfortable means of boarding and deplaning. The Regional Express Ramp is comfortably sloped, non-motorized, and easy to operate.

• Operations •

• *Towing the Ramp with Removable Tow Bar* •

1. Remove the tow bar from the holding tube located on the left side of the Express ramp. Install in mount at the swivel castor end of the ramp below the lower bridge and secure with the hitch pin provided.
2. When towing, do not exceed 10 MPH as damage to the swivel castors can occur.
3. Do not back up using the tow bar.
4. The tow bar should always be stowed in the holding tube when not in use.



• Operations •

•Towing the Ramp with Fixed Tow Bar •

1. Lift the safety latch to release the tow bar, lower and connect to towing apparatus. (Lowering the tow bar will release the brakes).
2. When towing, do not exceed 10 MPH as damage to the swivel castors can occur.
3. Do not back up using the tow bar.
4. The tow bar should always be raised and securely latched when not in use.



Image showing tow bar raised and latched



Image Showing Tow Bar Safety Latch



A visual check must be performed prior to towing to verify the brake plate has been fully released, damage can occur!

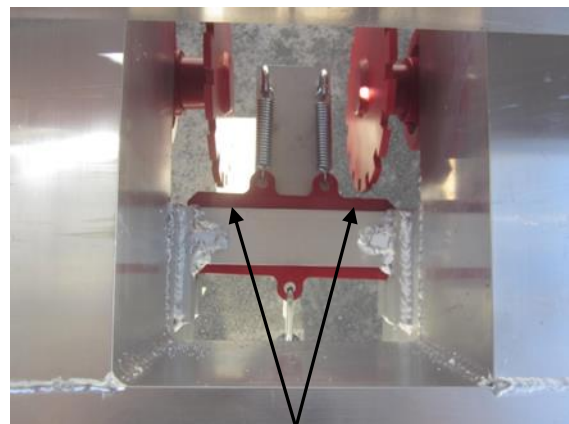


Image showing brake plate fully disengaged


• Operations •

• *Setting the Ramp Height* •

1. Prior to the arrival of an aircraft, adjust the upper end of the ramp so that the upper bridge will be slightly higher (2-4") than the expected height of the doorsill of the arriving aircraft. If the frame has not been marked, attach decal for type aircraft.
2. To set the ramp to the height of the aircraft being used, use the ram crank to raise or lower the ramp to the appropriate level. Turn the crank in a clockwise motion to raise the height.



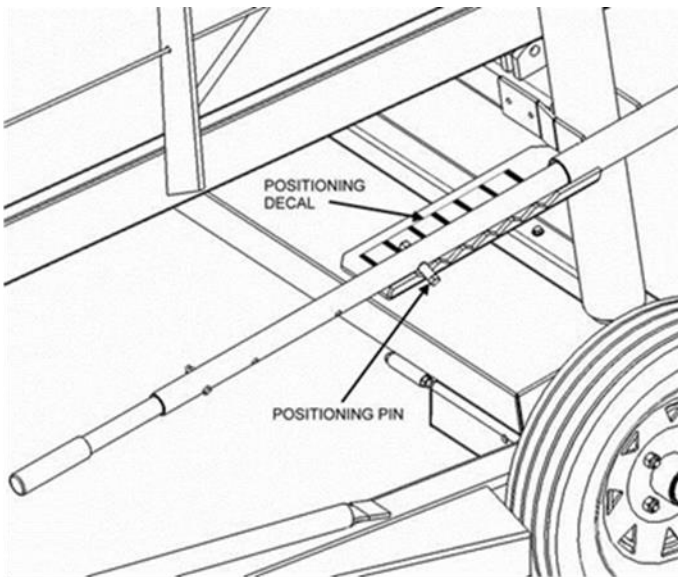
3. To lower the ramp, turn the ram crank in a counter-clockwise motion to reach the desired height.
4. Always return the ramp height to its stowed position when not in use.

 **Note:** *The height may fluctuate slightly from airplane to airplane depending on the physical circumstances of the aircraft on that day – the load, tire inflation, etc. A minor adjustment of the ramp height may be necessary when it is positioned at the plane. The maximum height the ramp may be set at for use is 76 1/2".*

• Operations •

•Locator Rod Initial Setup•

On the right side of the ramp is a locator rod with a positioning ball at the end. Once the ramp has been put in place the rod should be extended until the positioning ball touches the side of the aircraft or is closest to the fuselage with the positioning pin in the nearest corresponding notch. This will be a one-time calibration for each type aircraft to be serviced. There is a blank positioning plate provided with a new ramp, mark the plate with a black permanent felt pen. Once this has been done the rod should be deployed for the aircraft it will be used on prior to positioning the ramp. The individual at the push station should keep the locator rod just right of the aircraft door when pushing and stop when the positioning ball is just clear of the aircraft fuselage (light contact is acceptable in some cases – refer to your company's policies)



Locator Rod must be stowed when not in use to prevent injury to personnel and equipment.

Caution should be used to keep the Locator Rod Clear of Aircraft Propellers

• Operations •

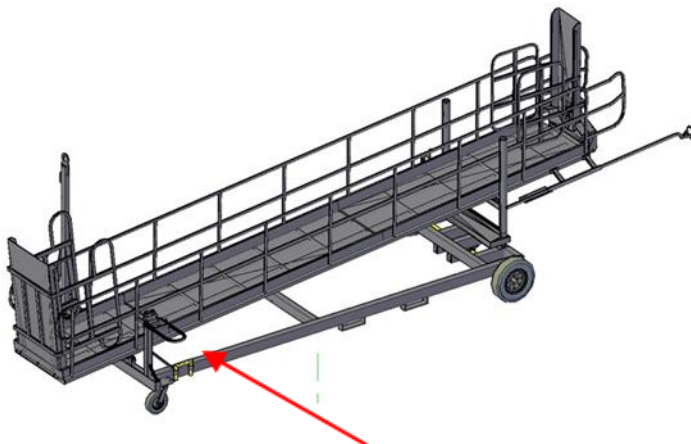
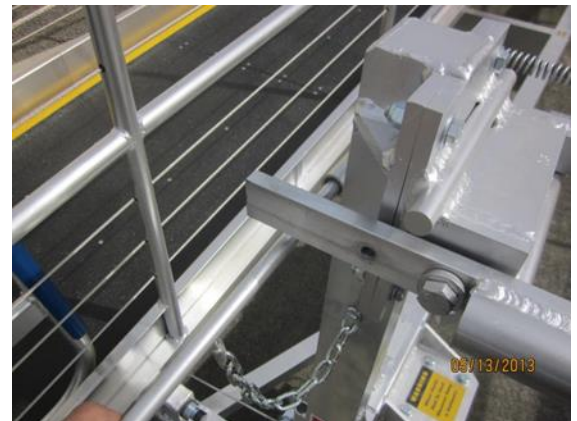
• Maneuvering the Ramp •



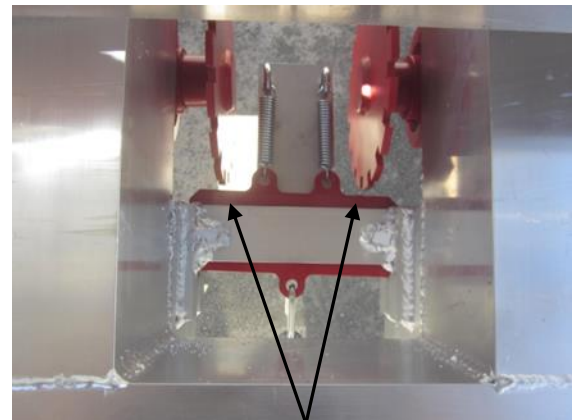
Before towing, it is imperative that the brake handle be pressed down to release the brakes, and pinned in place using the attached stainless steel pin. A Visual check must be performed to verify the brake plate is fully disengaged prior to towing.



1. The ramp is to be maneuvered from the end with caster wheels; this end will be farthest from the aircraft when in place.
2. The operator must be positioned at the push station located at lower right end of ramp when pushing the ramp into place. If a second person is available to help, position them on the same side toward the front of the ramp to watch aircraft clearance. The ramp will not move unless brake lever is depressed and held in that position for movement.



Released Brake



Brake plate shown fully disengaged

Note: A visual check must be performed to verify the brake plate is fully disengaged prior to moving the ramp.

• Operations •

•Pushing the ramp up to the aircraft•

1. After the aircraft door is open, carefully push the ramp toward the aircraft and align the ramp with the door.
2. Bring the ramp within approximately five (5) feet of the aircraft doorsill. Allow for 4-6" of the upper bridge to extend into the aircraft door.
3. The upper bridge is 63" long and will extend into the aircraft and rest on the aircraft floor. The upper bridge will also lie between the handrails of the doorsill.



It is the responsibility of the operating staff to ensure that the aircraft is not damaged when using the Regional Express Ramp.

• Operations •

•Wheel Chocks•

1. When the ramp is in place, chock the left swivel wheel.

Note: Do not allow chain attaching chock to frame to become lodged underneath the chock and wheel.

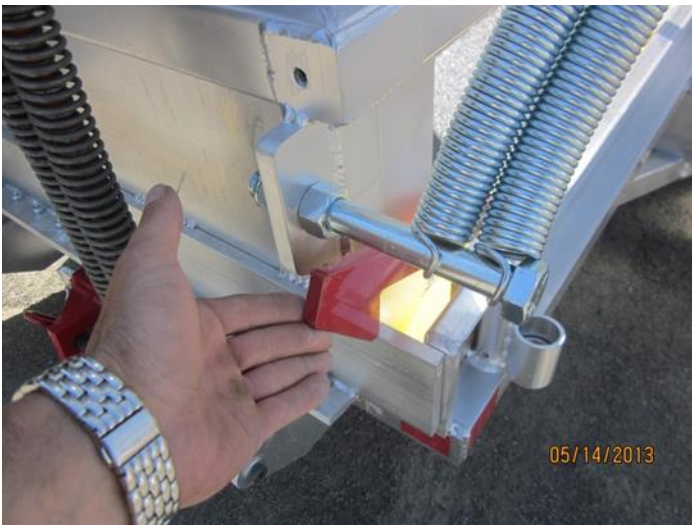


The wheel chock must be in place and securing the caster wheels whenever the ramp is stationary.



•Lower Bridge•

1. Release the latch and carefully extend the lower bridge to the ground.
2. The latch will automatically engage when the lower bridge is raised.



• Operations •

•Lowering the Upper Bridge Into the Aircraft•

1. Once the ramp is positioned at the aircraft chock the swivel wheel.
2. Grasp the welded O-ring and pull to release the upper bridge latch.
3. Lower the upper bridge into the aircraft doorway using both handrails.
4. The upper bridge moves from left to right and pivots allowing a wide range of motion for positioning into the aircraft without moving the entire ramp.
5. To slide the upper bridge from left to right, you must lift or lower the bridge slightly and push or pull in the desired direction. The bridge will not slide from a straight vertical or horizontal position; it must be at a slight angle.



Do not let upper or lower bridge drop of its own weight.

The upper bridge should NEVER rest upon the aircraft door steps or door sill; it must rest on the floor of the aircraft cabin.



Grasp the welded O-ring



Lower the upper bridge into the aircraft cabin as shown

• Operations •

• *Lowering the Upper Bridge Into the Aircraft Continued* •

Some ramps are equipped with an upper bridge that can be deployed from the upper end of the ramp or from ground level.

1. From the upper end of the ramp, grasp the release bar and push down to release the upper bridge.
2. From ground level, grasp the release bar and push forward to release the upper bridge.
3. Lower the upper bridge into the aircraft doorway using both handrails.
4. The upper bridge moves from left to right and pivots allowing a wide range of motion for positioning into the aircraft without moving the entire ramp.
5. To slide the upper bridge from left to right, you must lift or lower the bridge slightly and push or pull in the desired direction. The bridge will not slide from a straight vertical or horizontal position; it must be at a slight angle.



Do not let upper or lower bridge drop of its own weight.

The upper bridge should NEVER rest upon the aircraft door steps or door sill; it must rest on the floor of the aircraft cabin.



Release handle to be used when positioned on upper end of ramp.

Release handle to be used when positioned at ground level.

Upper Bridge shown in deployed position

• Operations •

•Boarding and Deplaning Passengers•

Once the ramp is in proper position, boarding/deplaning passengers may enter/exit the aircraft.



The ramp has a maximum capacity of 3,000 lbs., the upper bridge 750 lbs., and the lower bridge 1,000 lbs.



No passengers are allowed on or near the ramp except when it has been properly positioned at the aircraft and wheel chocks are in place.

•Assisting Disabled Passengers•

1. When assisting disabled passengers, great care and caution must be used.
2. The operator must slowly ascend and descend the ramp when assisting passengers in an aisle chair.
3. Passengers needing an aisle chair must be securely fastened into the chair using all safety belts provided on the chair.



Passengers in aisle chairs must never be left unattended on the Regional Express Ramp



• Operations •

•*Removing the Ramp*•

1. When boarding/deplaning is completed, prepare the ramp to be pulled away from the aircraft.
2. Raise the upper bridge until latch is engaged.
3. Raise the lower bridge and latch it.
4. Remove the chock from wheel and stow.
5. Stow the aircraft locator rod.
6. With the operator positioned at the push station, release brakes and slowly pull the ramp away from the aircraft and away from the wing. Continue to pull it away from the aircraft until the unit is in designated parking area.
7. Always be aware of the position of the ramp to avoid contact with the wing or propellers.
8. When the ramp is clear of the aircraft, park it off to the side, and chock wheel.



Water, ice, snow, or any other natural or foreign substance should not be allowed to accumulate on the ramp's surface.



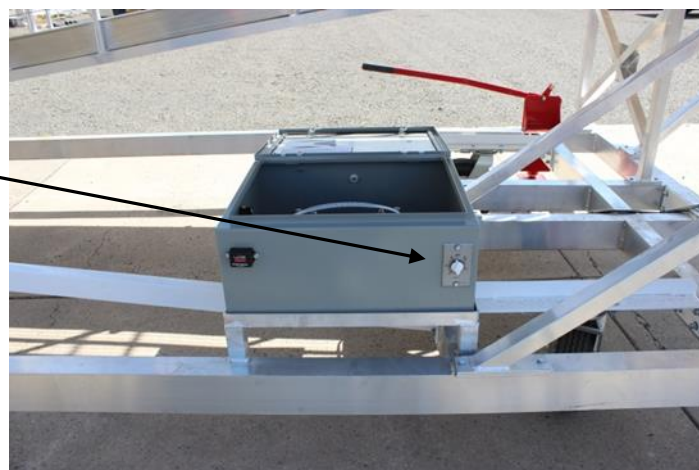
The upper and lower bridges should always be latched when not in use.

• Optional Light Kit •

• *Light Kit (If Equipped)* •

If selected as an option, the SGR Ramp can be equipped with LED Lighting. →

Located under the level deck is the battery/drive control enclosure. On the front panel of the enclosure is the ON/OFF switch for controlling the lights.





Warnings and Restrictions Summary



1. It is the responsibility of the operating staff to ensure that the aircraft is not damaged when using the KCI Passenger Ramp.
2. To ensure the aircraft is not damaged, the ramp should never come in contact with the aircraft.
3. Only trained and authorized personnel should raise, lower, or adjust the ramp, operate the hydraulic mechanism, or adjust the ramps height.
4. The ramp is to be maneuvered from the end with swivel wheels; this end will be farthest from the aircraft when in place.
5. Disabled passengers in an aisle or wheel chair must never be left unattended on the ramp.
6. Two attendants are required to assist disabled passengers who are overweight or of large stature.
7. Under no circumstances should the ramp be raised, lowered, moved, or towed with any person on it.
8. Water, ice, snow or any other natural or foreign substance should not be allowed to accumulate on the ramps surface.
9. The ramp should be inspected before each use to ensure a clean and unobstructed pathway.
10. The weight of the ramp, when in use, must always rest on the safety chain and not be dependent upon the hydraulic cylinder to support it.
11. The ramp is not to be towed at speeds exceeding 10 MPH and should always be stowed when not in use. Do not back up using the tow bar.
12. Prior to towing the ramp, a visual check of the brake plate must be performed to verify the brake plate is fully disengaged.
13. The lower bridge should always up and locked when not in use.
14. The ramp has a maximum capacity of 3000 lbs. for the main ramp, upper bridge 750 lbs., and the lower bridge 1000 lbs.
15. The adhesive non-skid surface affixed to the ramp will lose its traction enhancing properties over time, depending on the extent of usage and climactic conditions, which exist at each airport. Replacing non-skid surface is the responsibility of the ramp owner; material can be obtained directly from KCI.



Warnings and Restrictions Summary



16. Do not let the lower bridge drop of its own weight.
17. The canvas canopy should be inspected for rips or tears. Replacing the canopy is the responsibility of the ramp owner. The canopy material can be obtained directly from KCI.
18. Qualified airport ground crew personnel or airline personnel should always be present when the ramp is in use.
19. No passengers are allowed on or near the ramp except when it has been properly set up at the aircraft and wheel chocks are in place.
20. The ramp and bridges have been designed solely for the usual and customary operation of loading and deplaning of qualifying aircraft. Any other use is strictly forbidden, and voids any and all warranties relating to the passenger ramp.
21. It is recommended that the outriggers be deployed during storage and when ramp is in service. It is required to deploy outriggers where winds or jet blast may exceed 45 MPH. The ramp should be stowed in the full down position.
22. Outriggers must be stowed during ground movements.
23. Where winds are forecasted over 70 MPH it is strongly recommended that the canopy be removed. Should this not be feasible, then some type of wind protection should be taken, at a minimum, position the lower end of the ramp into the wind.
24. Never tow the ramp in a raised or slightly raised position. The ramp must be lowered to the lowest setting prior to towing.

• Preventative Maintenance Checklist •

The following is a general maintenance checklist which covers the major components of your Regional Express Ramp. It is recommended that the following be checked regularly as scheduled to ensure proper function and safety of your Q-400 Boarding System.

COMPONENT	SUGGESTED ACTION	SCHEDULE		
		Monthly	Quarterly	Bi-Annually
WHEELS	Grease swivel wheels and pillow block bearings.			
STRUCTURAL	General Check: Loose bolts, etc. tightened. Cracks, broken areas.			
TIRES	Inspect for serviceability.			
BRAKES	Inspect for proper function, adjust as needed.			
WALKING SURFACE	General check for adequate traction, No loose rivets in Safeguard panels.			
HANDRAIL CABLES	General check, adjust or replace as needed.			

• How to Order Replacement Parts •

Please have model number and serial number available when ordering replacement parts

When ordering replacement parts:

- Contact the KCI parts dept. at (541) 830-4877 or email msankey@kci.nu
- Give the Model Number, Serial Number, and Mfg. Date) to the parts representative.
- If possible, give the part number and a description from the parts list. Or describe the needed part(s) to the best of your ability.
- If you are in a breakdown situation, please tell us, we will try to get your unit operational as soon as possible.



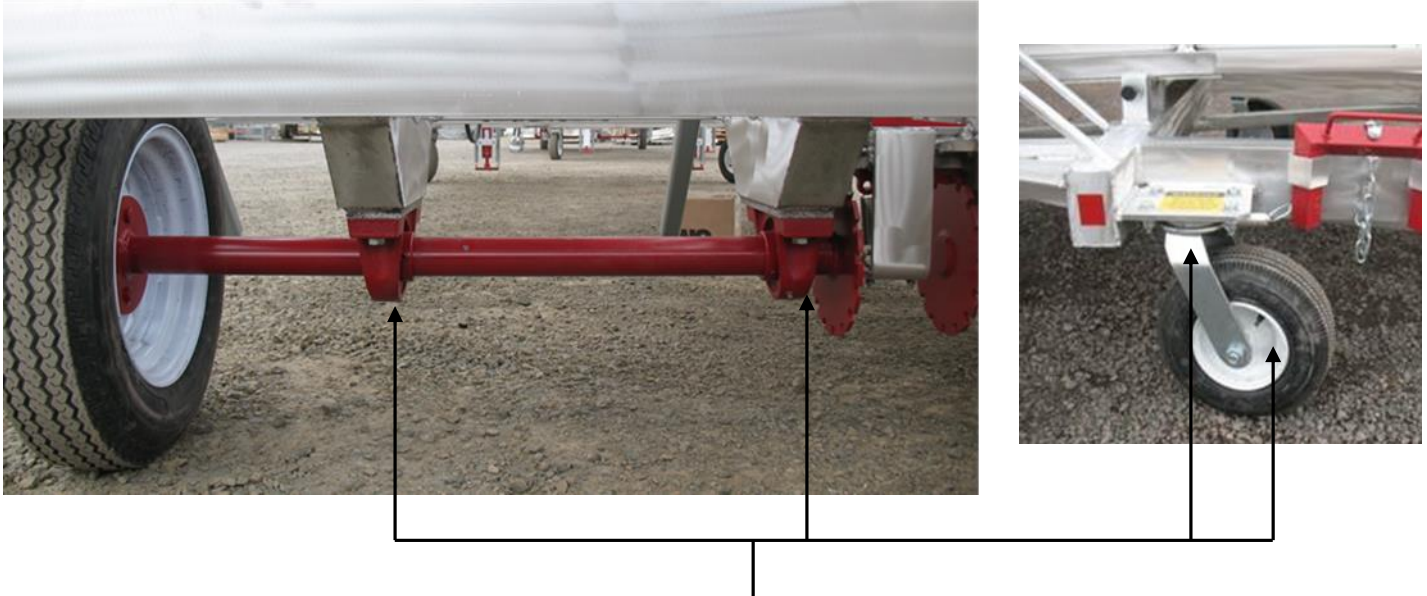
Serial Number
(The ID Plate is located on the frame.)

Mfg. Date
(You may be asked the Mfg. Date of your unit, have it ready if you are asked for it)



• Preventative Maintenance •

• *Lubrication Points* •



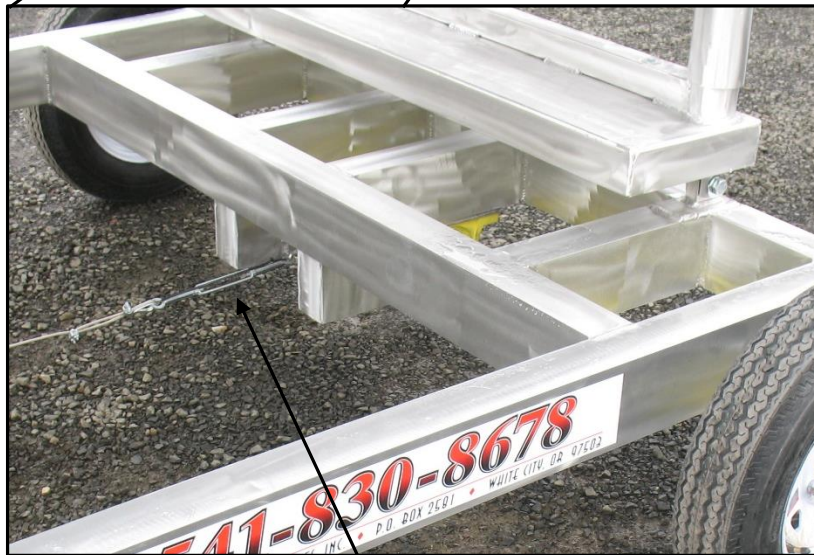
Wheels and bearings should be lubricated with multi-purpose grease such as Lubriplate® 1552 NLGI 2 Grease.



Lifting Ram Lubrication Points

• Preventative Maintenance •

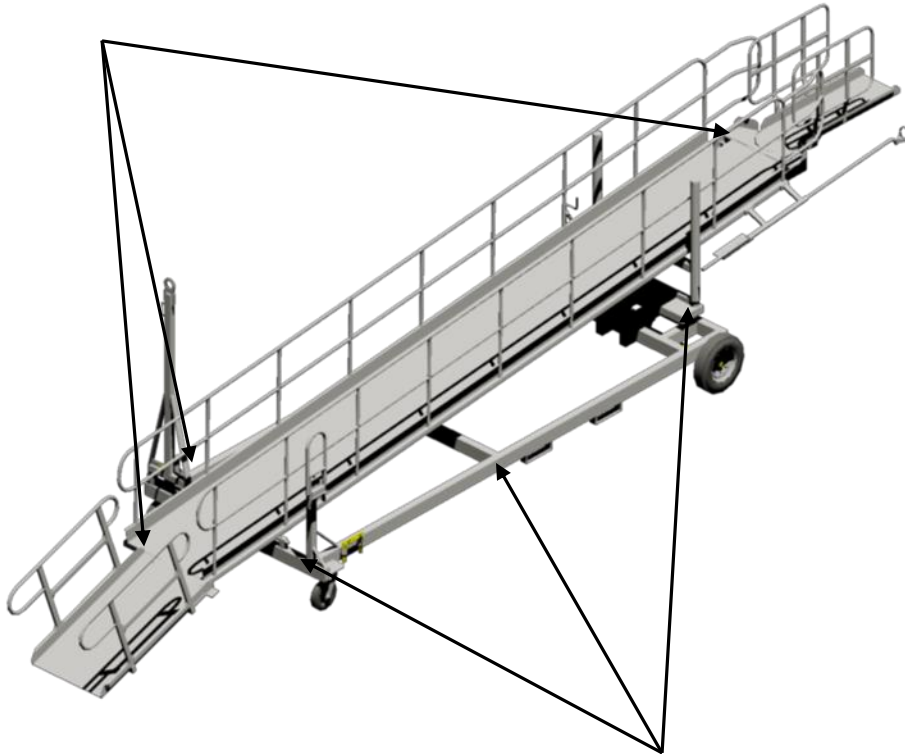
• *Adjusting the Brakes* •



To adjust the brakes, loosen the backing nuts at the turnbuckle. Adjust the tension as needed. Re-tighten the backing nuts and install zip ties to prevent unintended loosening of the backing nuts.

• Preventative Maintenance •

• *Structural Check* •



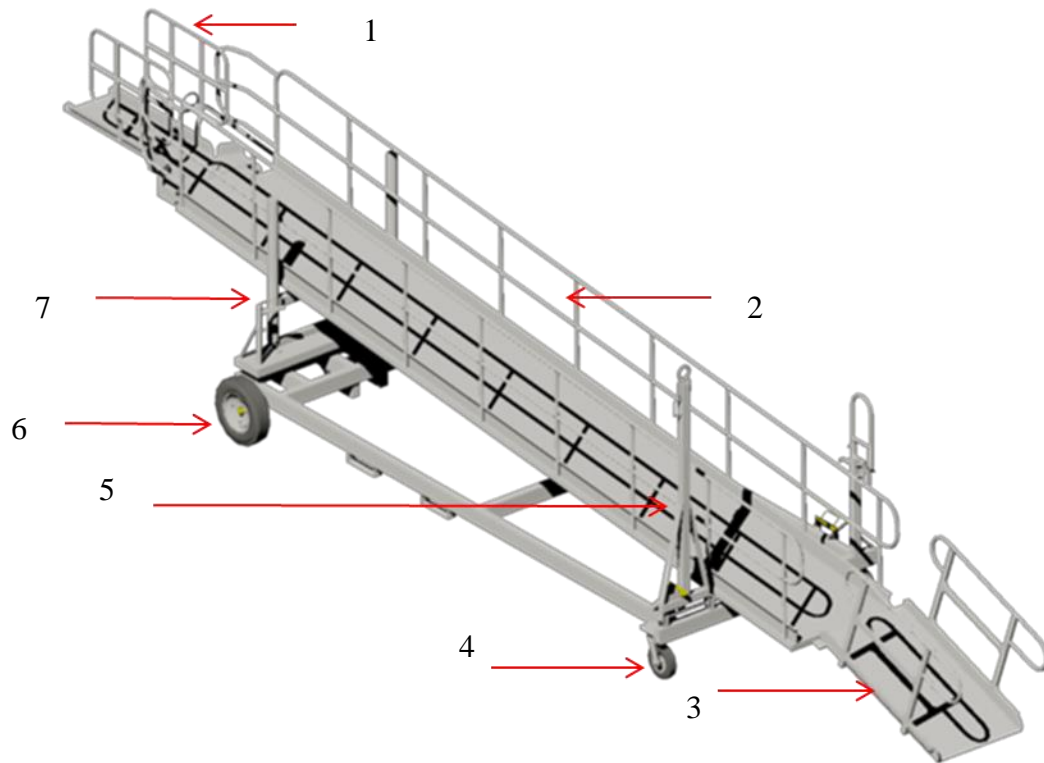
• Preventative Maintenance •

• *Canopy Check* •



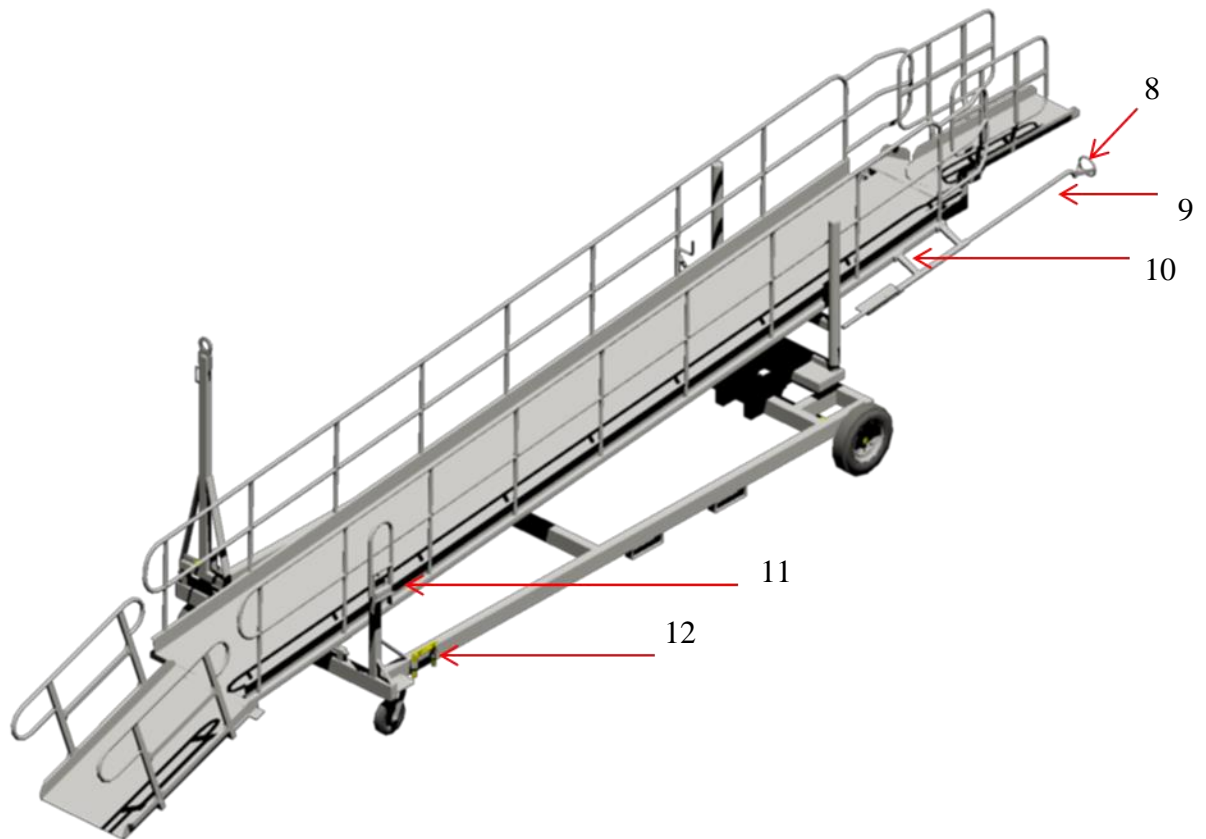
Canopy cover should be tight and free from cuts or tears

• Parts Breakdown •



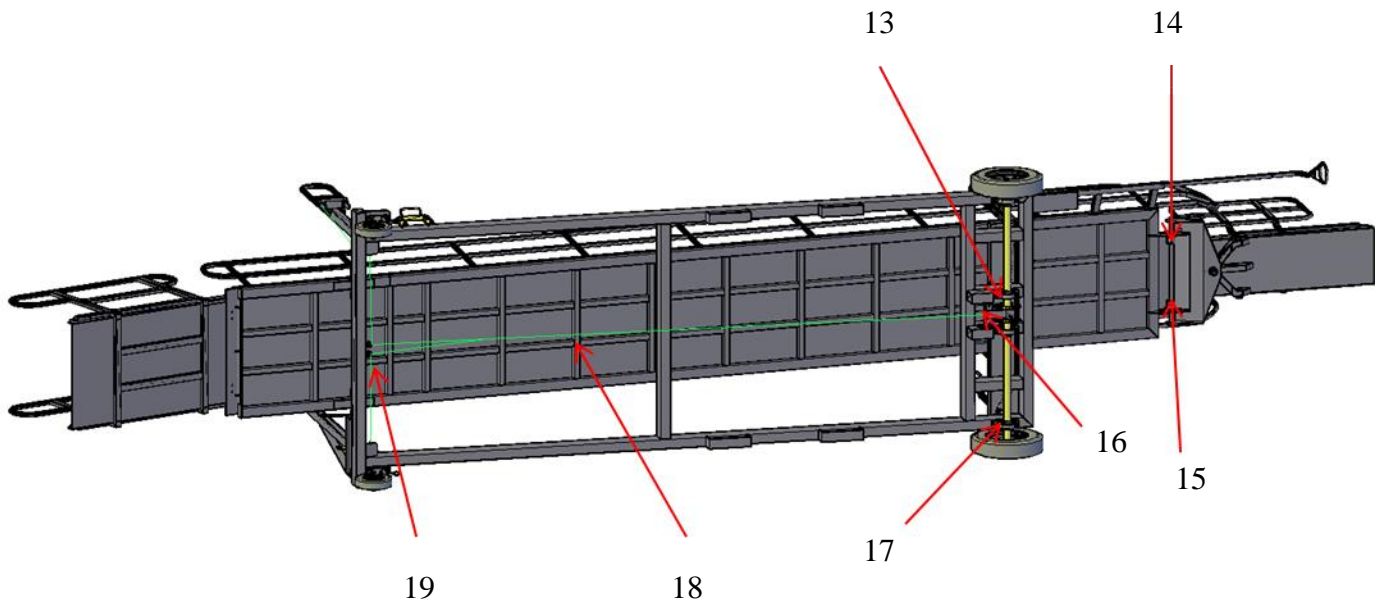
<i>Item</i>	<i>Description</i>	<i>Part Number</i>
1	Upper Bridge	EXR-UB001
2	Handrail Cable (Not Pictured)	P00055
3	Lower Bridge	022038
4	Swivel Wheel	P00014
5	Tow Bar (Varies by model specify Serial Number of Ramp)	EXR-TB-003
6	22" Foam Filled Wheel	P00096
7	Height Ram Drive (Adjustable Ramp Only)	EXR-015992

• Parts Breakdown •



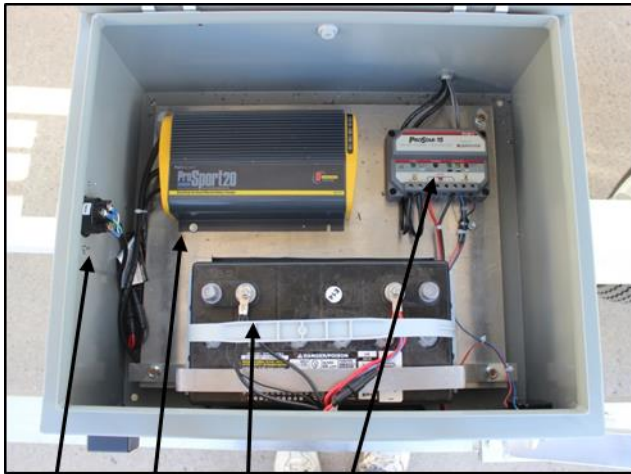
<i>Item</i>	<i>Description</i>	<i>Part Number</i>
8	Positioning Buoy (Not Pictured)	P00107
9	Locator Rod	022002
10	Locator Rod Mount	019585
11	Brake Release/Hand Push Station	EXR-BPH2350
12	Wheel Chock	K00310

• Parts Breakdown •



<i>Item</i>	<i>Description</i>	<i>Part Number</i>
13	Brake Plate	WJ-S375-41
14	Upper Bridge Bearing	P00112
15	Upper Bridge Bushing	P00113
16	Brake Springs	5353
17	Pillow Block Bearing	P00032
18	Brake Cable	23006
19	Brake Pulley	1558-SN

• Parts Breakdown •



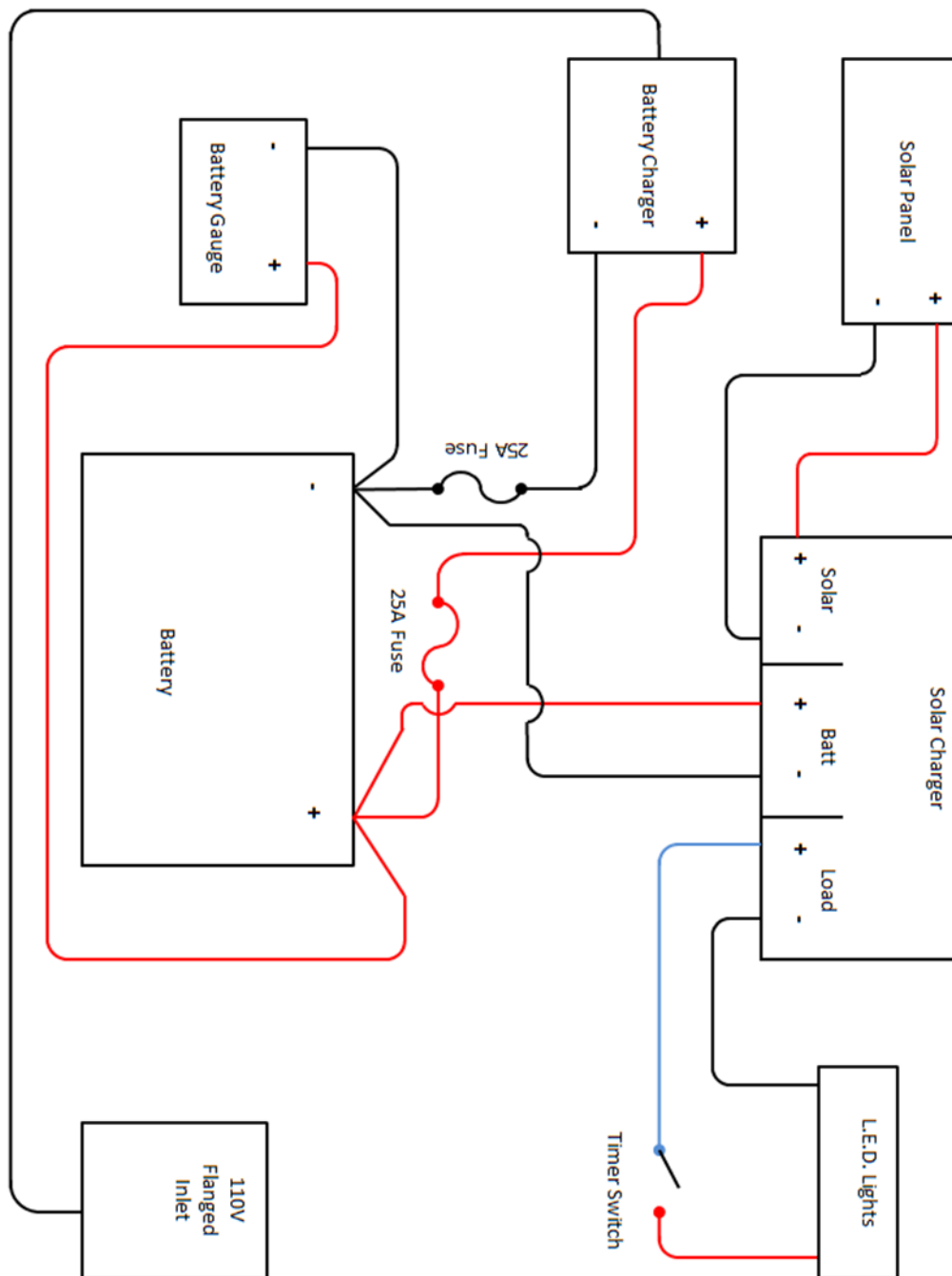
61 62 63 64



65 66 67

<i>Item</i>	<i>Description</i>	<i>Part Number</i>
61	Flanged Power Inlet	P00333
62	Battery Charger	P00312
63	Battery	P00277
64	Solar Charger Control	P00338
65	Battery Charge Indicator	P00156
66	Locking Enclosure Box	P00341
67	Timer Switch	P00362
68	Solar Panel (Not Pictured)	P00337
69	Solar Panel Frame (Not Pictured)	K00824
70	Solar Panel Support Arm (Not Pictured)	SPA0047

• Electrical Schematic •



• Warranty •

This warranty is in lieu of all other warranties, either expressed or implied.

What is Covered:

This warranty covers equipment manufactured by KCI, Inc. from any defects in materials, workmanship and/or installations performed.

Period of Coverage:

This warranty lasts for a period of two years, electrical component coverage is for one year from the date the product ships, or until the original ownership of the ramp is transferred to another party, whichever comes first. Any repairs or modifications without the express written consent of KCI, Inc. will be grounds to immediately void all or part of this warranty.

What is Not Covered:

This warranty does not cover the following:

1. Accidental damage.
2. Misuse or abuse.
3. Damage caused by adverse weather, disasters, or other forces of nature.
4. Worn out adhesive skid walk.
5. Worn out tires/wheels.
6. Worn out/faded canvas canopies.
7. Any other wear or damage caused by the equipment's general use.
8. Any consequential or incidental damages to include:
 - a. Any loss of profit.
 - b. Loss by reason of airport or flight line shutdown.
 - c. Non-operation or increased expense of operation.
 - d. Loss of passengers or business.

What KCI Will Do:

Repair or replace any original part, component or piece of equipment that is found to have defects from time of shipment through the end of the period of coverage.

How to Make a Service Claim:

Provide a claim in writing within the period of coverage to the address listed below or email to msankey@kci.nu. We will then determine if the problem is a defect with the product. Once the nature of the problem is ascertained, we will notify the buyer of our planned resolution. This may include an on-site visit by KCI, Inc. for repairs, or that the buyer ships the defective part or component to us for inspection and replacement at KCI's expense.

KCI GSE Inc.
1718 Antelope Road
White City, Oregon 97503