

Electric Wheelchair Trailer Lift

Operations & Parts Manual

Maintenance Schedule



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• Overview •



The KCI Electric Wheelchair Trailer Lift eliminates the need for ground handling personnel to lift wheelchairs on to the belt loader during ground operations. The lift bed is electrically operated and utilizes limit switches to automatically stop the lift bed when it reaches critical points such as the upper height limit as well as when it encounters the belt on the belt loader. The Electric Wheelchair Trailer Lift is solar powered and can also be plugged in to a standard 115 Volt GFCI protected outlet if necessary, to recharge the batteries.

• Safety •

Please read and understand this operations manual and observe posted precautions and warnings prior to using the Electric Wheelchair Trailer Lift.

1. THE BATTERIES WILL CHARGE UNDER SOLAR POWER, IF NECESSARY, CONNECT the power cord to a standard 115 VAC receptacle to recharge the battery.
2. ONLY plug the power cord into outdoor receptacles equipped with a ground fault circuit interrupt device (GFCI).
3. NEVER connect the power cord to a 115VAC receptacle while standing in water or other liquids.
4. KEEP HANDS, hair, and all loose fitting clothing away from lift cables while lowering or raising the lift bed.
 - NEVER place your feet or hands under the unit while lowering the lift bed.
 - NEVER activate any controls while other personnel are performing maintenance on the equipment.
 - Read and follow all warning labels on the machine and all DANGER, WARNING, and CAUTION notices in the instruction manual.

• Specifications •

With the creation of the Electric Wheelchair tRAILER Lift, ramp personnel no longer have to lift heavy loads from the baggage lifts or belt-loaders on the AOA. The Electric Wheelchair Trailer Lift facilitates moving powered wheel chairs, baby strollers, and luggage around the tarmac with ease.

The lift bed of the Electric Wheelchair Trailer Lift is electrically operated. Limit switches located in the machine, automatically stop the lift bed when it reaches critical points such as: The upper height limit; the lower height limit; and when it encounters objects such as the belt on a belt-loader or the tarmac surface.

The unit is solar powered and can also be plugged into a standard 115 VAC outlet with GFCI protection, when not in use, to recharge the battery. The battery charger will not over charge or damage the battery if plugged in with a full charge or left plugged in for an extended period of time.

• *Electrical Specifications* •

Power Data	
Input Power Supply	115VAC/6 A receptacle with GFCI protection
Enclosure	In-frame construction with bolted cover
Battery Charger	12 Volt
Circuit Breaker	50 amps.
Battery	12 Volt 33AH AGM VRLA
Switches	3-position toggle from center (off)/up/down control (3) Limit switches, (2) cable limit and (1) carriage limit
Winch	12 VDC 150 amps. Max

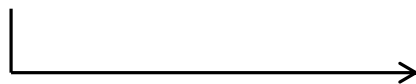
• *Mechanical Specifications* •

Frame	Welded Aluminum Construction
Guards	Bolted Covers
Payload	500 lbs.
Motor Power	1.5 H.P.
Wheels	Rigid front, swivel rear
Wire Rope	5/32" 7X19
Brake	Lever Foot Lock Type
Design Spec	ASME A18.1b-2001
Weight	850 lbs.
Max Lift Height	42"

• Operations •

• *Tow Bar and Towing* •

1. While pushing the Towbar towards the wheels, lift the yellow safety latch.



2. With the safety latch lifted, lower the towbar, attach to towing apparatus.



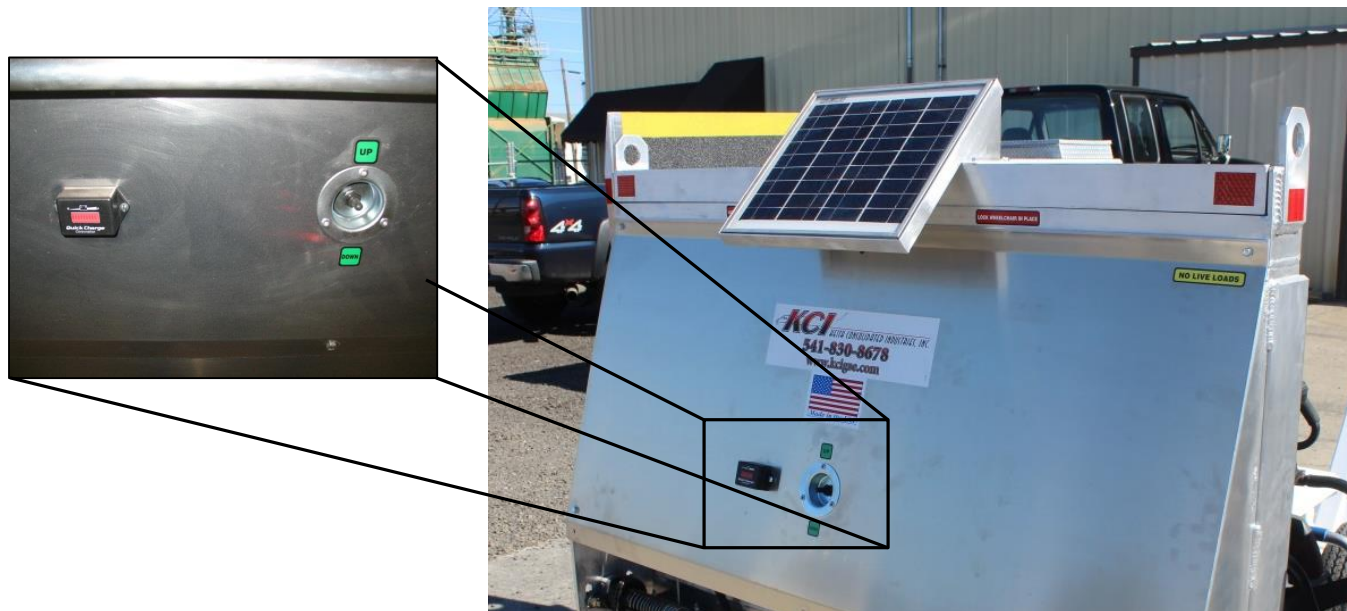
3. When towing is complete, disconnect the towbar from the towing apparatus and lift until yellow safety latch engages.



The towbar must always be in the up and locked position when not attached to a towing apparatus.

• Operations •

• *Raising and Lowering the Lift* •



1. From the 3 position toggle switch on the operators' panel, hold the switch in the up position to raise the lift bed to the desired height.
2. To lower the lift bed, hold the switch in the down position until the bed has lowered.



The lift bed must be fully lowered when loading powered chairs from the ground.



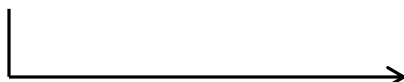
• Operations •

• *Operating the Loading/Unloading Ramp* •

1. Once the main ramp has been fully lowered, grasp the small underside handle and lift so as to deploy the flip extension.



2. Grasping the flip extension with both hands, continue to lower the extension to the ground.



3. Gently rest the extension on the ground. Do not allow the extension to fall or drop of its own weight.

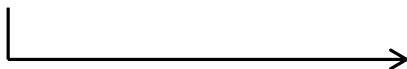


• Operations •

• *Operating the Loading/Unloading Ramp* •

Once the main ramp has been deployed, it is necessary to prepare the transition ramp for use.

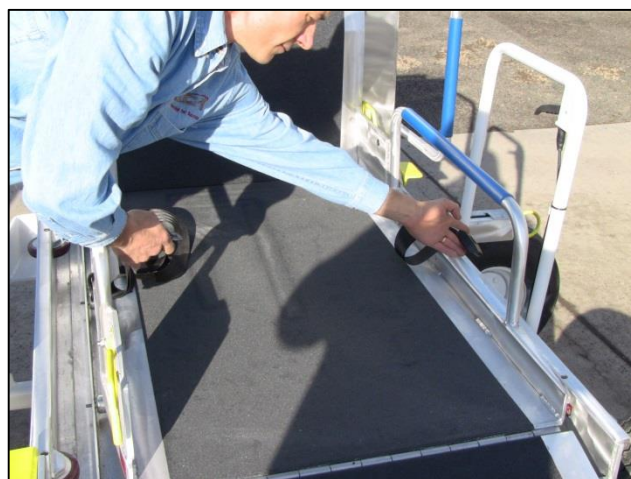
4. Lift up on the yellow safety latch and begin lowering the transition ramp



5. Lower the transition ramp until it rests on the main loading/unloading ramp.



6. Unbuckle and place the wheelchair restraint belt outside of the transition ramp or wheelchair barge



• Operations •

• Loading the Wheelchair •


Prior to loading any wheelchair, verify it has been placed in neutral.

1. Standing behind the wheelchair, firmly push it up the ramp. →

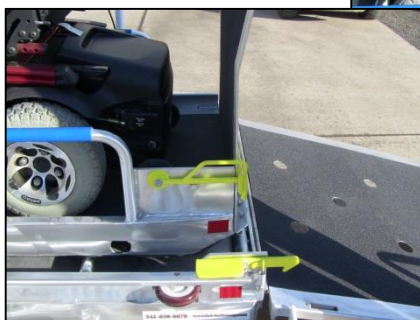


2. Continue up the ramp until the wheelchair is completely within the barge and is centered for proper use of the restraint belt. →



Caution should be exercised during loading of the  Wheelchair as it will be in neutral. Maintain a secure grasp and firm footing until barge ramp is in the up and locked position.

3. While holding the yellow safety latch up, lift the transition ramp to its upright position. Lower the yellow safety latch to secure the transition ramp. →



• Operations •

• *Loading the Wheelchair* •

4. Lift the flip extension off the ground and over onto the ramp. →



5. Lift the ramp with both hands to the vertical position. This will allow the yellow safety latch to reengage. →



6. Ensure that the yellow safety latch is locked in place before releasing the ramp. →



• Operations •

• *Securing the Wheelchair* •

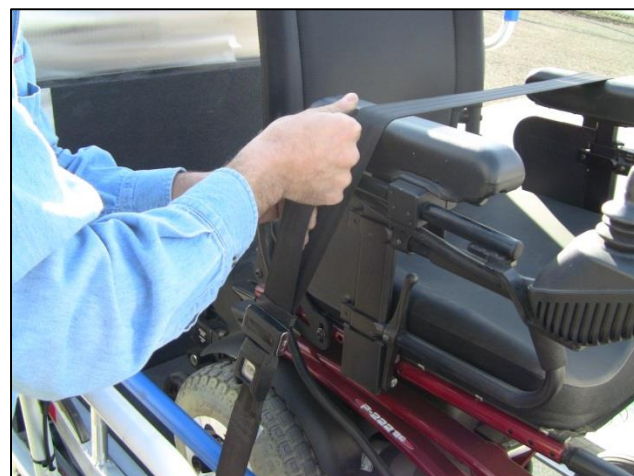
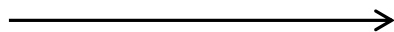
1. Extend the restraining belt to provide adequate length to go completely over the wheelchair.



2. Place the restraint belt over the wheelchair in a secure location, such as over the armrests or seat.



3. Once the restraint belt is in the proper position, place the small metal flap into the buckle until it clicks. Remove any excess slack by pulling the loose end of the belt until it is tight.



The wheelchair is now secure and ready for travel.

• Operations •

• Loading onto Aircraft •

1. With the trailer attached to a tug, approach the belt loader from the rear of the plane (if the belt loader is deployed on the port side, when the belt loader is deployed starboard, approach from the front.) This will ensure the proper transition ramp is facing the belt loader.
2. Align the transition ramp with the belt loader approximately one foot away from the end of the belt loader. Raise the lift until it is approximately 6 inches above the belt loader height.
3. Unbuckle the restraining belt and place the loose ends inside the barge. Ensure the power chair is in neutral.
4. Depress the yellow safety latch so as to release the transition ramp. →



CAUTION- The belt loader must be stopped prior to completing step 5 below.

5. Ensure the lift is adjusted to the proper unloading height. Lower the transition ramp to the surface of the belt loader. →



• Operations •

• Loading onto Aircraft •

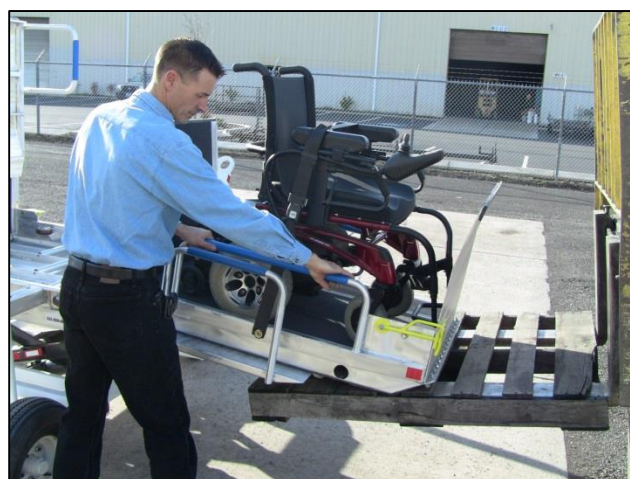
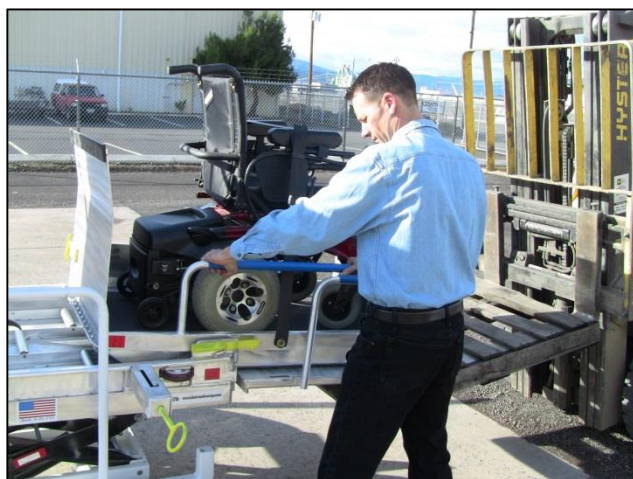
6. Pull the yellow locking pin so as to unlock and release the barge. →



7. Twist the yellow locking pin into the key slot to lock into the open position. →



8. With the belt loader running upwards, grasp the barge handrail with both hands and pull onto moving belt.



• Operations •

•Loading onto Aircraft •

9. Once the barge reaches the belt loader, the belt loader will assist in pulling the barge out of the trailer. As this is happening, ensure proper alignment onto the belt. ***It is imperative the barge not be crooked as it ascends/descends the belt loader.***
10. When the wheelchair reaches the top of the belt loader, the belt must be stopped to prepare for unloading into the cargo compartment of the aircraft.
11. Once the belt loader comes to a stop, depress the yellow safety latch to release the transition ramp.
12. Pull the wheelchair out of the barge and into the cargo compartment of the aircraft.
13. Lift the transition ramp until it locks with the yellow safety latch.
14. Lower the trailer to properly receive the unloaded barge.



Transition ramp shown level with trailer in preparation to unload



Trailer shown slightly lower than belt loader to receive unloaded barge.

15. Change the direction of the belt loader to descending and turn the belt loader on to send the barge back to the lift.
16. Pull the barge back into the lift and secure by releasing the yellow locking pin.
17. Raise the transition ramp until it locks with the yellow safety latch.
18. Lower the lift to its lowest position. The lift is now ready for travel.

• Operations •

•Unloading from the Aircraft •

1. With the trailer attached to a tug, approach the belt loader from the rear of the aircraft, (if the belt loader is deployed on the port side of the aircraft, when the belt loader is deployed starboard, approach from the front.) This will ensure the proper transition ramp is facing the belt loader.
2. Align the transition ramp with the belt loader approximately one foot away from the end of the belt loader. Raise the lift until it is approximately 6 inches above the belt height.
3. Unbuckle the restraining belt and place loose ends inside the barge.
4. Depress the yellow safety latch to release the transition ramp.



CAUTION-The belt loader must be stopped prior to completion of step 5 below.



5. Lower the transition ramp to the surface of the belt loader, ensuring the lift is adjusted to the proper height.



• Operations •

• *Unloading from the Aircraft* •

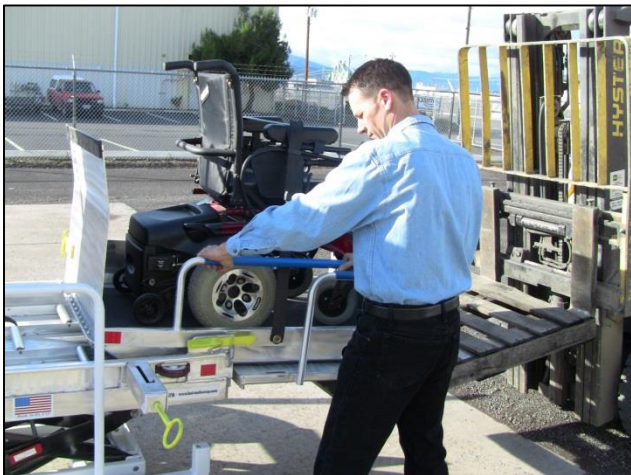
6. Pull the yellow locking pin and twist into the key slot to unlock and release the barge. →

7. With the belt loader running, grasp the handrail of the empty barge with both hands and pull onto the moving belt. Once the barge reaches the belt, the belt loader will assist in pulling the barge out of the trailer. As this is happening, ensure proper alignment of the barge onto the belt.



8. Once the barge has reached the top of the belt loader, the belt must be stopped to prepare for unloading the wheelchair from the cargo hold of the aircraft.

9. Once the belt loader has come to a stop, depress the yellow safety latch to release the transition ramp.



10. Remove the wheelchair from the cargo hold of the aircraft and load into the barge. Secure wheelchair using restraint belt, lift the transition ramp and ensure yellow safety latch is engaged.

11. Adjust the height of the lift to receive the now loaded barge. →



• Operations •

• *Unloading from the aircraft* •

12. Change the direction of the belt loader to descending and turn the belt loader on to send the barge and wheelchair down to the lift.
13. Pull the barge and wheelchair into the lift and secure by releasing the locking pin.
14. Raise the transition ramp until the yellow safety latch is fully engaged.
15. Ensure the restraining belt is secure; lower the lift to its lowest position. The lift is now ready for travel.

• Preventative Maintenance Checklist •

• *Periodic Maintenance Schedule* •

The following table outlines the required periodic maintenance for the Electric Wheelchair Trailer Lift

COMPONENT	SUGGESTED ACTION	SCHEDULE			
		Daily	Monthly	Quarterly	Bi-Annually
WHEELS	Check wheels for excessive wear and replace as needed.				
WINCH CABLES	Visually check for damage, wear and debris. Replace as needed.				
COVERS/GUARDS	Visually check all covers and guards are in place and hardware is secure.				
BEARINGS	Lubricate as needed				
WINCH BRAKE	Visual check.				
SAFETY DECALS	Visually check all safety placards are in place				

• Lock Out / Tag Out •

• *Lock Out/Tag Out Procedure* •



WARNING: Follow Lock Out/ Tag Out Procedures When Servicing this Unit.

Before performing any maintenance on the electrical system or the mechanical components for this machine, make sure that the power cord is disconnected from a 115 VAC GFI receptacle. Also disconnect the battery cables from the battery.

If the machine is to be left unattended in an uncompleted service or maintenance condition, the battery cables must remain disconnected from the battery and the power cord must not be connected to a 115 VAC GFI receptacle.

An out of service tag must be attached to the machine at all times during any maintenance and until the machine is returned to normal service.

The service technician will recharge and test the functionality of the machine before removing the out of service tag and returning the machine to normal service.



Risk of electric shock exists, only trained and qualified personnel should access the electrical components of the Electric Wheelchair Trailer Lift!



Pinch points exist when servicing cables, pulleys and the winch. Exercise caution when servicing these areas!

• Preventative Maintenance •

• *Cable Replacement Procedure* •

1. Lower tray to the floor.
2. Open bottom panel by removing five ¼-20 screws – 3 front; 2 bottom.
3. Remove cable guards (black plastic) un-bolt two ¼” bolts through mounting panel.
4. Loosen ¼-20 set screw in shaft – remove cable.
5. Thread new cable through hole in lift carriage and over the cable sheave.
6. Pull down on cable to take out the slack from the spring assembly.
7. Starting from the third row from away from the set screw hole, wrap the cable tightly.
8. Shaft includes a through hole for the cable and a threaded hole with a setscrew. Insert cable in through hole and tighten set screw, tie wrap excess cable to shaft.
9. Always replace both cables at the same time.
10. Raise tray to top limit switch and remove top cover (four ¼-20 screws).
11. Adjust cables by loosening or tightening the ¼-20 sheave bolts so the tray is even at the top. Verify proper adjustment and operation of cable limit switches.
12. Lower tray and replace guards and covers.



Risk of electric shock exists, only trained and qualified personnel should access the electrical components of the Electric Wheelchair Trailer Lift!



Pinch points exist when servicing cables, pulleys and the winch. Exercise caution when servicing these areas!

• Preventative Maintenance •

• *Limit Switch Adjustment Procedure* •

1. Raise the tray to a level that insures that the full weight of the tray is supported by the cables.
2. Set the brake by pressing the green pedal.
3. Remove the top cover to expose the limit switch actuators.
4. Loosen the jam nuts on the switch actuators located under the top cover on the left and right hand side.
5. Adjust the spring tension on the switch actuators by tightening or loosening the nuts compressing the spring until the tray is level to the ground.
6. Tighten jam nuts to lock the spring tension.
7. Test to insure that the tray maintains a level position during up/down travel.
8. The center limit switch is the maximum up limit switch for the carriage and is not adjustable.



Risk of electric shock exists, only trained and qualified personnel should access the electrical components of the Electric Wheelchair Trailer Lift!



Pinch points exist when servicing cables, pulleys and the winch. Exercise caution when servicing these areas!



• *Warnings and Restrictions Summary* •



1. It is the responsibility of the operating staff to ensure that the aircraft, beltloader or powered chair is not damaged when using the KCI Electric Wheelchair Trailer Lift.
2. IF NECESSARY, ONLY plug the power cord into outdoor receptacles equipped with a ground fault circuit interrupt device (GFCI).
3. Only trained and authorized personnel should raise, lower, or load powered wheelchairs onto the electric wheelchair lift.
4. NEVER connect the power cord to an 115VAC receptacle while standing in water or other liquids.
5. KEEP HANDS, hair, and all loose fitting clothing away from lift cables while lowering or raising the lift bed.
6. Under no circumstances should the electric wheelchair trailer lift be raised, lowered, or moved with any person on it.
7. Water, ice, snow or any other natural or foreign substance should not be allowed to accumulate on the lift.
8. The lift tray gate should always up and locked when not in use.
9. The electric wheelchair trailer lift has a maximum capacity of 500 lbs. Do not exceed the maximum load rating.
10. NEVER place your feet or hands under the unit while lowering the lift bed.
11. NEVER activate any controls while other personnel are performing maintenance on the equipment.
12. ENSURE that the RED brake pedal is properly engaged when the lift is parked for lifting or lowering the lift bed.
13. Read and follow all warning labels on the machine and all DANGER, WARNING, and CAUTION notices in the instruction manual.
14. The lift bed must be fully lowered to the ground for loading powered chairs.
15. Do not set the gate on the circumference of the end of the belt pulley.
16. Make sure the beltloader is NOT running when setting up to load the electric wheelchair lift.



• *Warnings and Restrictions Summary* •



17. Before performing any maintenance on the electrical system or the mechanical components for this machine, make sure that the power cord is disconnected from a 115 VAC GFI receptacle. Also disconnect the battery cables from the battery.
18. An out of service tag must be attached to the machine at all times during any maintenance and until the machine is returned to normal service.
19. Risk of electric shock exists, only trained and qualified personnel should access the electrical components of the Electric Wheelchair Trailer Lift!
20. Pinch points exist when servicing cables, pulleys and the winch. Exercise caution when servicing these areas!
21. Do not use the winch on this equipment for any purpose other than the manufacturers original intention.
22. Do not rely on the winch to maintain a load in the up position for an extended period of time.
23. Before performing any maintenance on the electrical system or the mechanical components for this machine, make sure that the power cord is disconnected from a 115 VAC GFI receptacle. Also disconnect the battery cables from the battery.
24. If the machine is to be left unattended in an uncompleted service or maintenance condition, the battery cables must remain disconnected from the battery and the power cord must not be connected to a 115 VAC GFI receptacle. An out of service tag must be attached to the machine at all times during any maintenance and until the machine is returned to normal service.

•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.

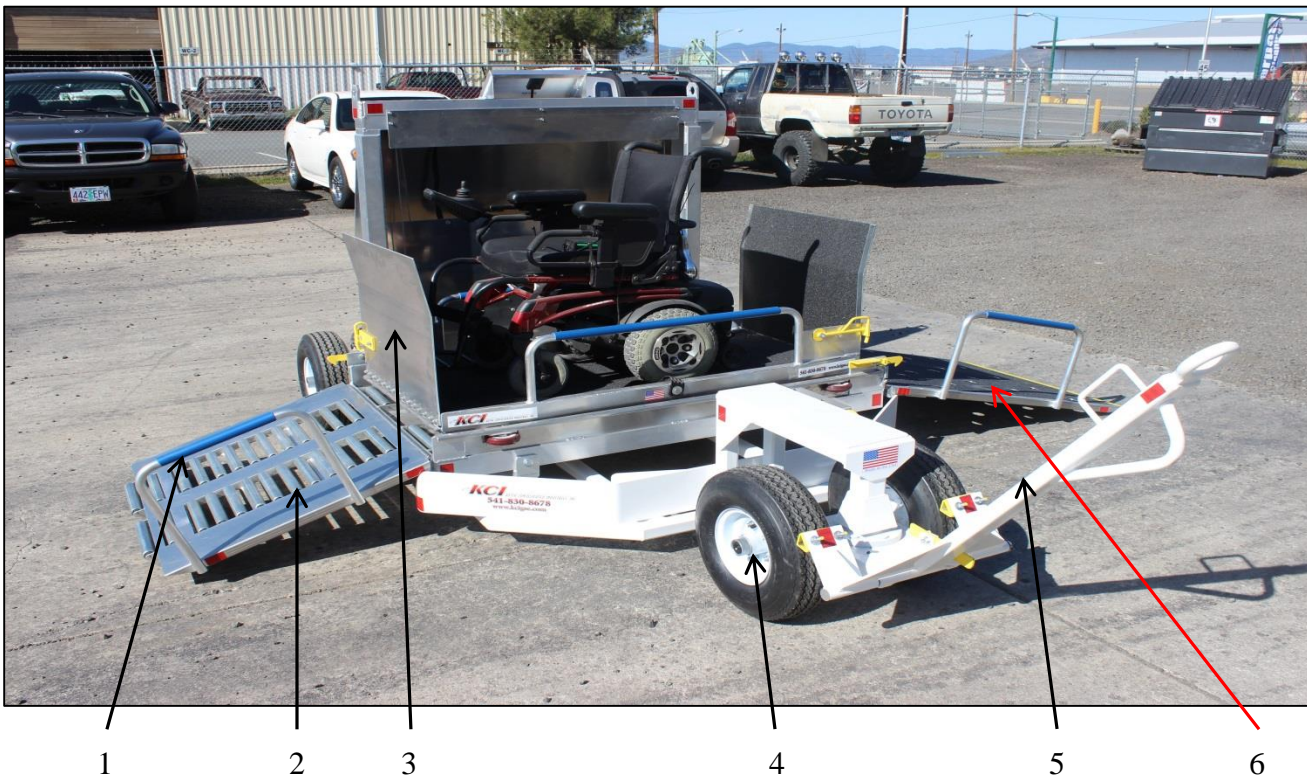


Serial Number
(The ID Plate is located on the frame.)

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

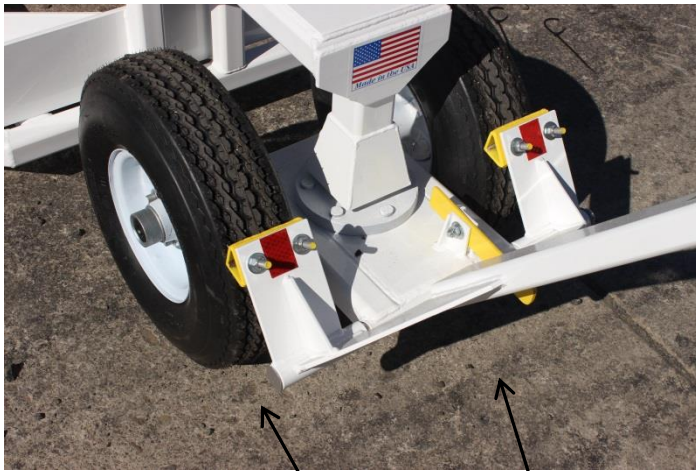


• Parts Breakdown •



<i>Item</i>	<i>Description</i>	<i>Part Number</i>
1	Blue Handrail Cover	P00064
2	Transition Ramp	K00741
3	Wheelchair Barge	K00742
4	Wheel	P00243
5	Towbar	K00743
6	Wheelchair Loading Ramp	K00744

• Parts Breakdown •



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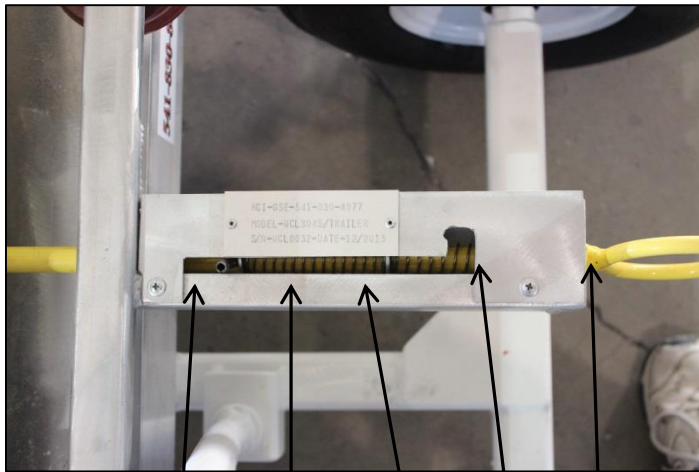
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<i>Item</i>	<i>Description</i>	<i>Part Number</i>
6	Brake Pads	K00746
7	Tow Bar Safety Latch	K00735
8	Solar Panel	EWTL-SP001
9	Barge Ramp Release Latch	K00740
10	Barge Guide Wheel	P00242
11	Gate Latch Catch, Barge	GLC001
12	Ramp Release Latch	K00739

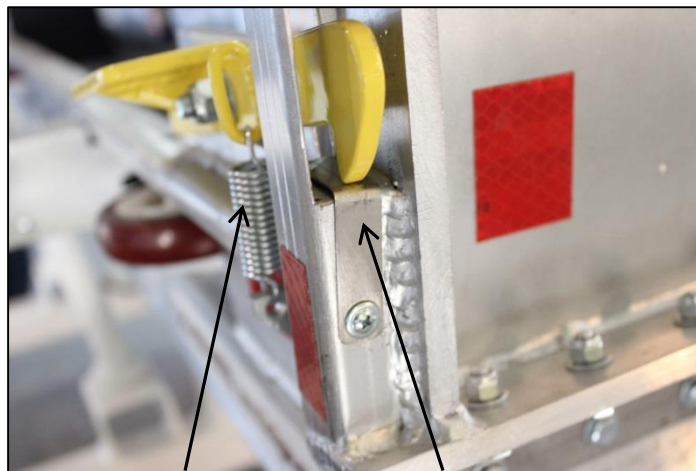
• Parts Breakdown •



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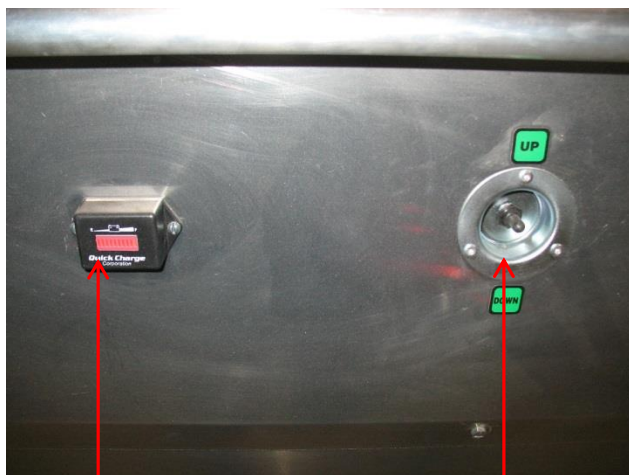
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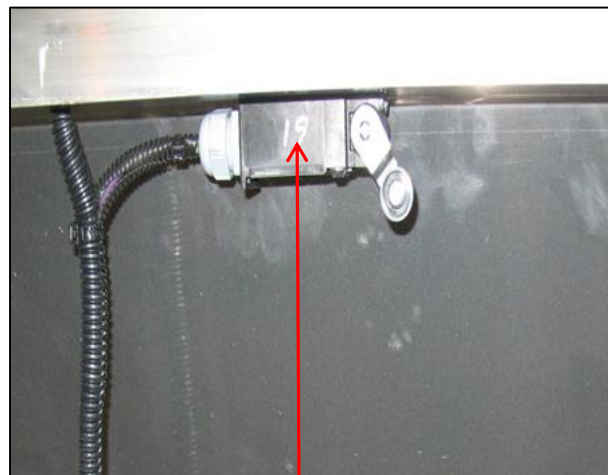
<i>Item</i>	<i>Description</i>	<i>Part Number</i>
13	Rolled Pin	P00094-065
14	Spring	P00244
15	Washer	P00011-009
16	Cover	K00741
17	Barge Release Handle	K00738
18	Wheelchair Restraint Belt	P00245
19	Latch Spring	P00023
20	Guide Clip	K00742

• Parts Breakdown •

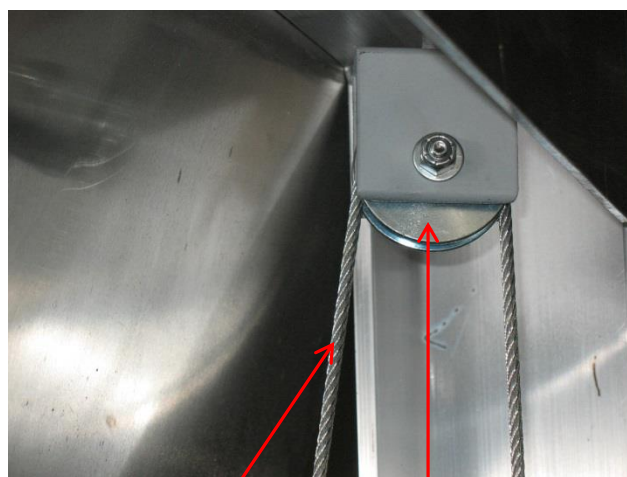


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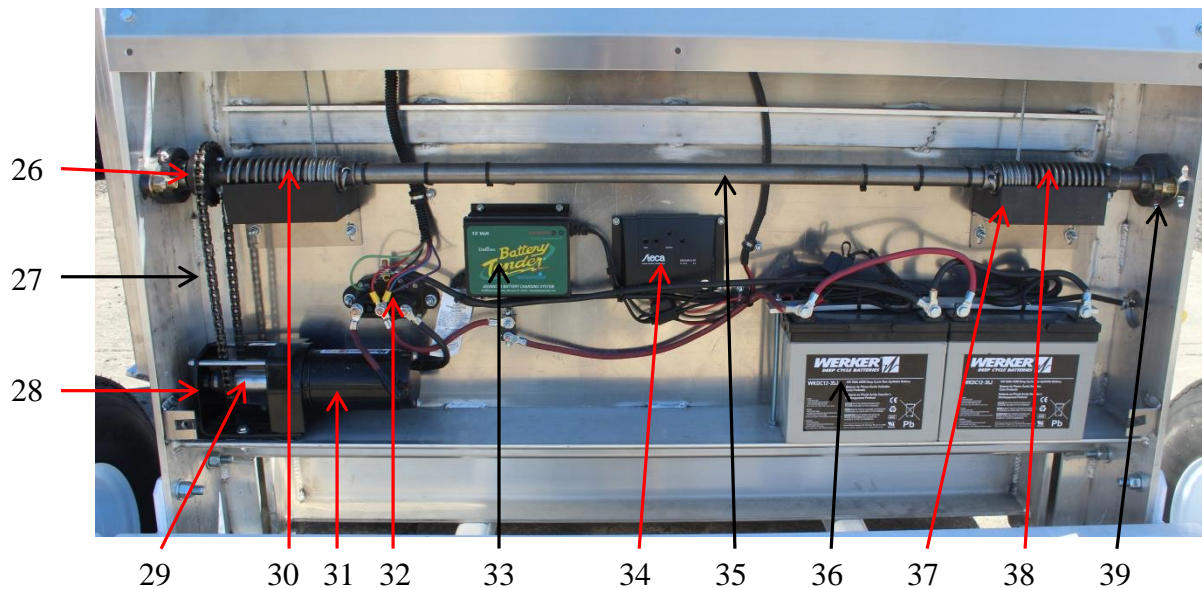


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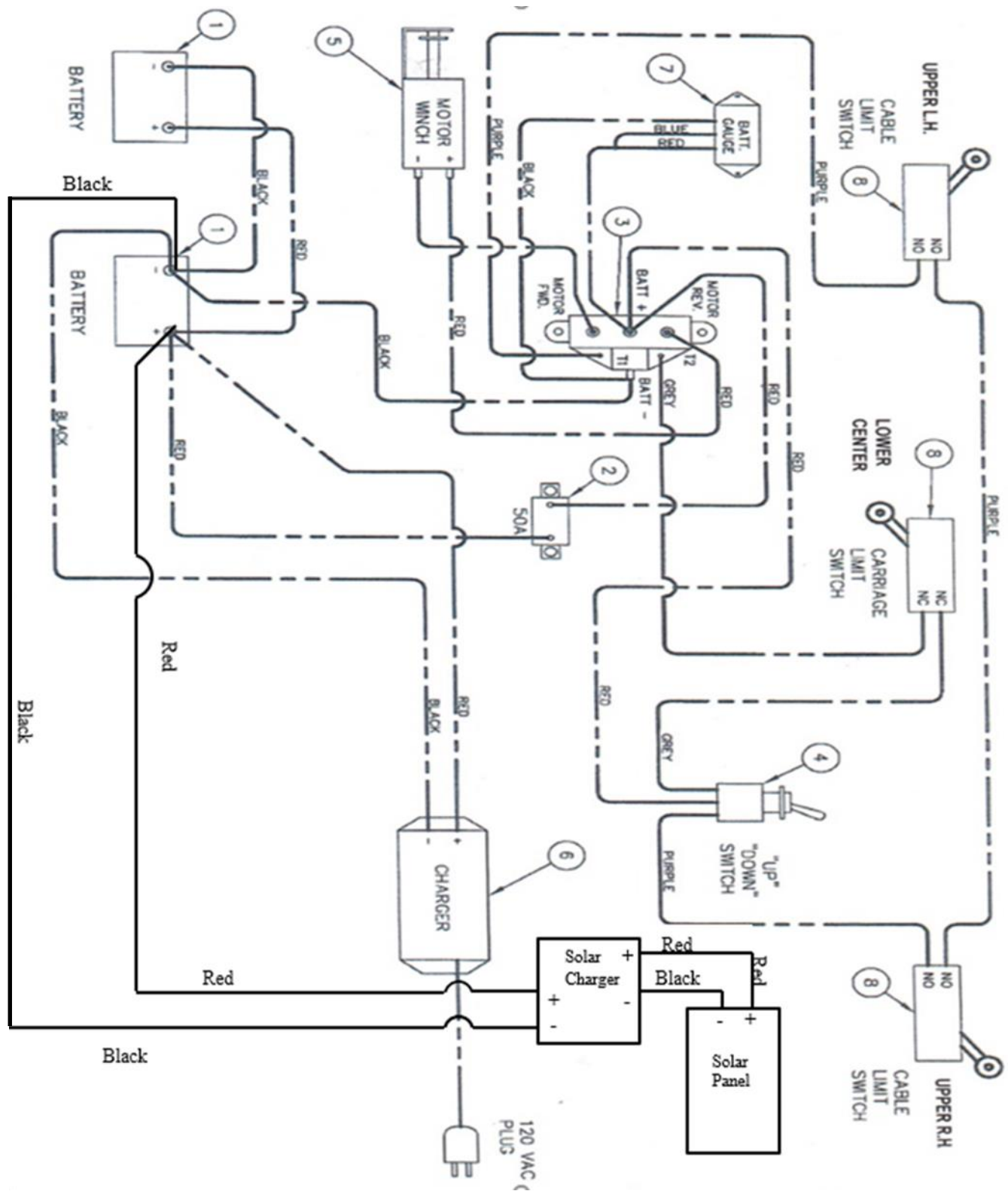
<i>Item</i>	<i>Description</i>	<i>Part Number</i>
21	Battery Charge Gauge	P00156
22	3 Position ON/OFF Toggle Switch	P00154
22A	Toggle Switch Black Boot	P00155
23	Roller Switch	P00157
24	Lift Cable	P00055
25	Cable Pulley	WCL-DP02

• Parts Breakdown •



<i>Item</i>	<i>Description</i>	<i>Part Number</i>
26	Sprocket, Upper	P00148
27	Drive Chain	P00163
28	Sprocket, Lower	P00147
29	Winch Spindle	K00435
30	Cable Guide, Left Side	K00424
31	Winch	P00149A
32	Solenoid	P00150
33	Battery Charger	P00152
34	Solar Charge Controller	P00305
35	Cable Guide Bar	K00850
36	Battery	P00158
37	Cable Guide Block	P00433
38	Cable Guide, Right Side	K00425
39	Cable Guide Bar Bearing	P00146

• Parts Breakdown •



• Troubleshooting •

<i>Problem</i>	<i>Action</i>
The lift bed does not move when the toggle switch is actuated.	<i>Check battery charge meter, charge as needed. Check battery cable connection. Check for debris that would prevent movement of the lift bed Check winch cable.</i>
The lift bed is stuck in the up/down position.	<i>Check to insure that the bed is not higher on one side causing the limit switch to be engaged. Check all limit switches are functioning properly.</i>
Battery will not charge or will not hold a charge.	<i>Check all cable and wiring connections. Check solar charger, battery charger. Replace battery.</i>

• 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