

OPERATIONAL GUIDE - RLS800A- AUTOMATED LOADER

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WARNING: AS WITH ANY EQUIPMENT, CAUTION MUST BE USED WHEN OPERATING THIS EQUIPMENT. FAILURE TO READ ALL THE OPERATIONAL INSTRUCTIONS AND TO FOLLOW THE PROCEDURES EXACTLY AS OUTLINED WITHIN MAY RESULT IN SERIOUS INJURY, BODILY HARM OR EVEN DEATH.

- **ALWAYS STAND TO THE SIDE OF THE CARRIER CAGE DURING DEPLOYMENT.**
- **NEVER STAND UNDER OR BEHIND THE CARRIER CAGE.**
- **WHEN LOADING - DO NOT ENTER THE REAR CARGO AREA OF VEHICLE.**
- **DO NOT RIDE ON THE CARRIER CAGE.**
- **DO NOT OPERATE/MOVE VEHICLE WHILE THE CARRIER CAGE IS DEPLOYED.**
- **PUT THE CARRIER CAGE IN THE “LOCKED DOWN” POSITION PRIOR TO TRANSPORTING.**

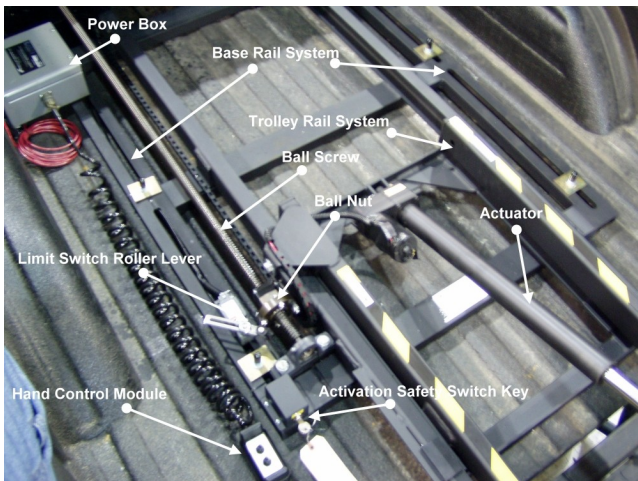
Robotic Lift Systems (RLS) recommends that all lift systems be installed by a qualified, professional lift installation entity in order to ensure a **safe** installation process. RLS can assist you in finding a qualified installer - call 608-643-5000. We recommend installers listed with the **National Mobility Equipment Dealers Association (NMEDA)**. For more information about NMDEA, go to nmeda.org.

SYSTEM DEPLOYMENT

DEPLOYING CARRIER CAGE – *OUT*

To deploy the Carrier Cage **OUT** of the vehicle, always follow these five steps:

1. Locate the corded Hand Control Module attached on driver side of lift system.
2. Toggle the **UP/DOWN** Switch **UP** and raise the Carrier Cage approximately 2” up and off the rail system until it is parallel with the rails.



Raise the Carrier Cage to Parallel to Rail System to “Un-park” it to Travel Out of the vehicle.

3. Toggle the **IN/OUT** Switch **OUT** until the Carrier Cage stops all the way out to the end of the rail system.
4. Next, toggle the **UP/DOWN** Switch **DOWN** and tilt the Carrier Cage down until it is level with floor.

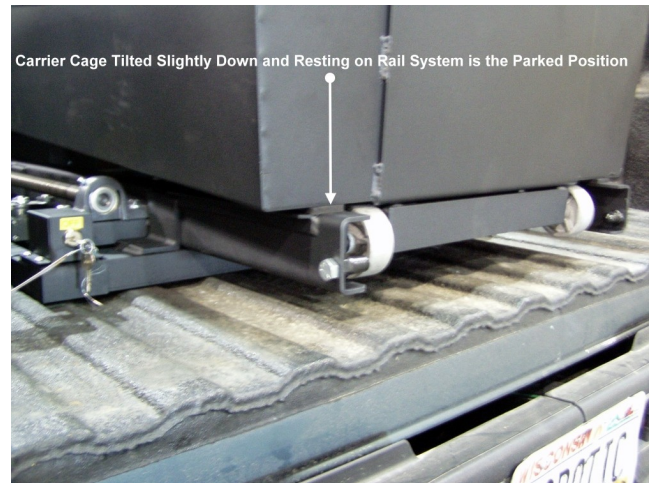
CAUTION: Hyper-extending the Carrier Cage beyond perpendicular to the ground may damage the Actuator.

SYSTEM DEPLOYMENT - CONTINUED

DEPLOYING CARRIER CAGE – *IN*

To deploy the Carrier Cage **In** of the vehicle, always follow these four steps:

1. Locate the corded Hand Control Module attached on driver side of lift system.
2. Toggle the **UP/Down** Switch **Up** and raise the Carrier Cage up until it stops and is parallel with the rail system.
3. Toggle the **IN/OUT** Switch **IN** until the Carrier Cage goes all the way into the vehicle and stops at the end of the Base Rail System.
4. Next, toggle the **Up/Down** Switch **Down** and gently lower the Carrier Cage approximately 2” down until it rests on the padding on the rail system.



IMPORTANT: ALWAYS PLACE THE CARRIER CAGE IN THE “PARKED” POSITION PRIOR TO MOVING THE VEHICLE. THIS “LOCKS” THE CARRIER CAGE DOWN AGAINST THE RAIL SYSTEM AND IS ESSENTIAL TO MAKING THE UNIT READY FOR TRANSPORT.

MAINTENANCE

Bolts & Nuts - Periodically check all bolts and nuts for tightness, including those that secure system to vehicle. **Special attention should be paid to the pair of nuts & bolts that hold the Carrier Cage to the Upright Support Beam at its’ pivot point to the swivel plates. These bolts should be checked during every use.**

Base Rail & Carrier Cage Trolley Track System - Liquid graphite has been used in your new rail system for long- term low maintenance lubrication. Check for rust or scraping noise as an indication of tracks needing lubrication. Liquid graphite, which can be purchased under the brand name *Slip Plate*®, applies like paint. Please follow manufacturer’s application instructions. Robotic Lift Systems selected liquid graphite as its optimal lubrication because it lasts longer, operates cleaner and allows the lift to operate at its optimal level during the operation of the lift.

NOTE: IT IS NORMAL TO HAVE A WEAR LINE IN THE CENTER OF BOTH INSIDES OF THE BASE RAIL SYSTEM. IT IS RECOMMENDED THAT THE BASE RAIL SYSTEM BE RE-COATED EVERY 36 MONTHS, SOONER IF USED MORE THEN 10 TIMES PER WEEK.

Grease – Ball Screw Pillow Blocks should be greased each six months via the grease fitting located in each ball screw. Ball-screw bolts should be checked for tightness each month. If ball-screw is dry, please apply a light spray of silicone spray.

CAUTION: NEVER USE WD 40 AS A SUBSTITUTE SILICONE SPRAY THIS WILL DRY OUT THE BALL SCREW.

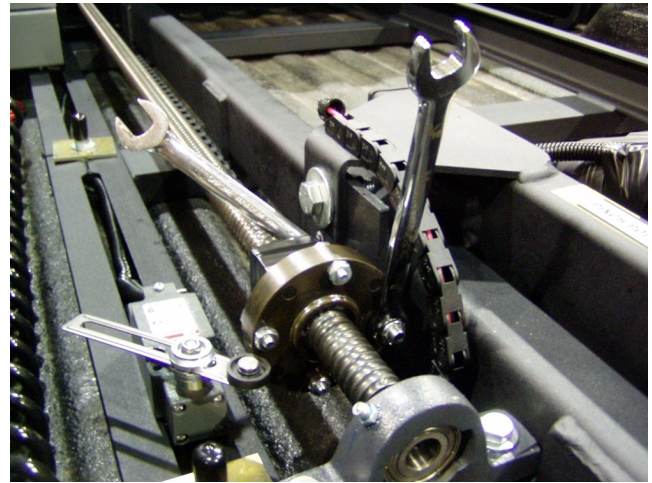
TROUBLE SHOOTING

Carrier Cage Does Not Travel Out of Vehicle -

Using the Hand Control Module, command the Carrier Cage **UP** approximately 2” from the “parked” position on the Base Rail System to ensure it is parallel to the Base Rail System. It should be ready to travel **OUT** of the vehicle from this position. Now toggle the **In/Out** switch to **OUT**. In the event the Carrier Cage fails to travel along the Base Rail System and out of the vehicle, check to see if the roller lever on the Limit Switch moves freely. (The Limit Switch is mounted approximately 6” from the key operated System Activation Safety Switch on the driver side of the Base Rail System near the rear cargo opening of the vehicle.)

If the Limit Switch roller lever seems to move easily, you should also hear a slight clicking sound. After following these steps, the Carrier Cage still fails to respond to commands from the Hand Control Module the system should be taken to an authorized NMEDA dealer for service.

SEE WWW.NMEDA.ORG FOR DEALER LOCATIONS OR CALL 608-643-5000.



Limit Switch Roller Lever Automatically Stops the Carrier Cage at the End of the Trolley Rail System.

ADVANCED TROUBLE SHOOTING

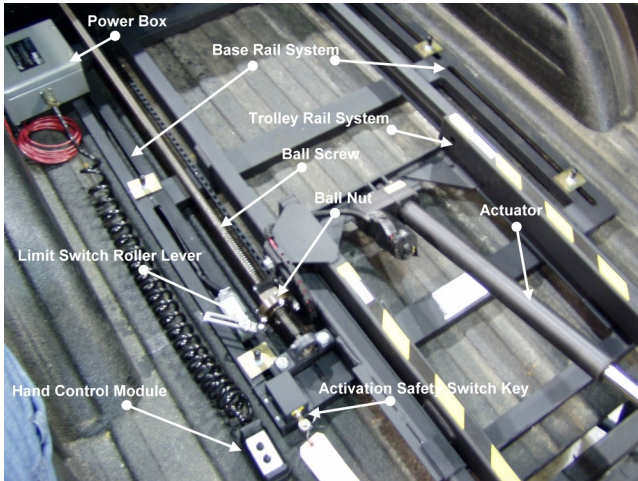
Carrier Cage Does Not Tilt UP or DOWN - If there is *no audible clicking sound* when toggling the **UP/DOWN** Switch on the Hand Control Module, check the connections to the Actuator.

(This is a hydraulic, “piston like” looking device located on the back of the Carrier Cage that tilts it up and down.)

If there is a clicking sound, the Actuator may have been hyper-extended and its internal clutch may need to be reset. Prior to attempting to reset the actuator, ensure that the Carrier Cage is empty. Next, manually lift upward and inward from the bottom of the Carrier Cage. (Using an implement to apply some leveraged assistance

may help.) If this solves the problem, cycle the Carrier Cage Up and Down several times.

**TO ORDER A REPLACEMENT ACTUATOR
CALL 608-643-5000.**



ADVANCED TROUBLE SHOOTING - CONTINUED

Carrier Cage Is Deployed Out of the Vehicle But Will Not Tilt Back Up - In the event the Carrier Cage is down and outside of the vehicle and there is *no audible clicking sound* when toggling the **Up/Down** switch on the Hand Control Module, check the connections to the Actuator. (*This is a hydraulic, “piston like” looking device located on the back of the Carrier Cage that tilts it up and down.*) To manually tilt the Carrier Cage back up to a parallel position to the Base Rail System in order to slide it back into the vehicle, the Actuator will have to be disconnected and the Carrier Cage *must be empty*. To disconnect the Actuator, use two 3/4” wrenches; one to hold the nut in place and the other to turn and remove the 1/2” bolt from the back of the Carrier Cage.

Disconnect the Actuator from the Back of the Carrier Cage.

The Carrier Cage can now be tilted up to a position that is parallel to the Base Rail System. Once it is in this position, toggle the **IN/OUT** switch on the Hand Control Module to **IN** to automatically return it back into the vehicle.



Open Carrier Cage

WARNING - THE CARRIER CAGE IS HEAVY AND WILL REQUIRE MORE THAN ONE PERSON TO SAFELY LIFT AND TILT IT UP A POSITION PARALLEL TO THE BASE RAIL SYSTEM.

DANGER - WHEN THE ACTUATOR IS DISCONNECTED, THE CARRIER CAGE COULD FALL DOWNWARD WITH SEVERE FORCE - WHICH COULD RESULT IN SERIOUS INJURY, BODILY HARM OR EVEN DEATH.

**TO ORDER A REPLACEMENT ACTUATOR
CALL 608-643-5000.**

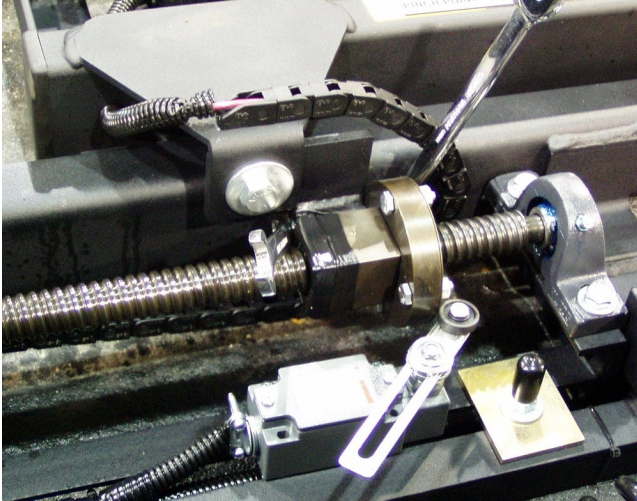
Hand Control Module Does Not Operate
Check all connections to the Power Box. This is the gray metal compartment located nearest the driver side and front corner of the Base Rail System. Check to ensure a positive connection exists between the coiled cord and the Power Box connector. Check the Wiring Harness connections to the vehicle battery and unit circuit breaker. If all connections look good, the 40-amp circuit breaker may need to be replaced. (This is normally located next to vehicle battery.) To test this, bypass the circuit breaker. In the event the system fails to slide back into the vehicle, one may also use the bypass as a temporary measure to transport the lift to a professional, qualified lift technician.

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ADVANCED TROUBLE SHOOTING - CONTINUED

Carrier Cage Does Not Travel Back In to the Vehicle – In the event the Carrier Cage tilts UP and parallel to the Base Rail System, but then fails to travel back into the vehicle, check the Micro Switch to see if its small metallic plunger pin moves freely in and out of its housing. (The Micro Switch is located on the center portion of the cross member of the base rail system nearest to the cab; [nearest the driver seat area for van installations]). Check this by manually pushing inward toward the Micro Switch housing. It should spring in and out of the housing. If this does not restore function, then check wire connections on the back side of the Micro Switch to ensure that they are connected and crimped snugly. If this does not restore function, then check the wire connection of the Hand Control Module inside the gray metal Power Box to make sure all wires are connected and crimped snugly. If after performing all of the above listed measures and the Carrier Cage still will not travel back into the vehicle, then lower the Carrier Cage back to the ground and remove any equipment and toggle the **UP/DOWN** switch to **UP** on the Hand Control Module to tilt the Carrier Cage up and back into the vehicle. Then follow these steps: remove the cover from the gray metal

Power Box. Take a non-conductive object like a piece of wood, or the plastic handle of a screw driver and lightly tap on each of the four relays two or three times to ensure that none are frozen or stuck in the closed or open position. In the event that all of the above fails, it may become necessary to temporarily disconnect the ball screw.



Disconnect Ball Screw from the Carrier Cage.

To do this, locate the 3/8" bolt that goes through the ball nut connector plate to the actuator connector plate. Use two 9/16" wrenches, one to hold the bolt steady and the other to turn the nut.

Once the 3/8" bolt and nut have been removed the 3" diameter Ball Nut needs to be turned or screwed by hand to a location next to the limit switch as shown in picture.

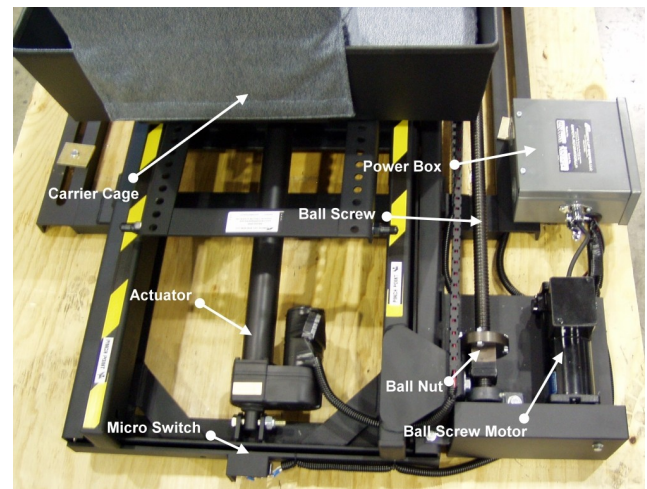
This will now allow you to pull in and pull out the lift system. After pushing the lift system back into the vehicle, turning the ball screw nut back and reinstalling the 3/8" bolt will keep the lift system from sliding in or out during transport. Once removed, the Carrier Cage should slide in and out.

WARNING - ONCE DISCONNECTED, THE CARRIER CAGE HAS NOTHING STOPPING IT FROM GOING FORWARD OR BACKWARD DURING BRAKING OR ACCELERATION OF THE VEHICLE.

ADVANCED TROUBLE SHOOTING - CONTINUED

CARRIER CAGE DOES NOT TRAVEL IN OR OUT OF VEHICLE - If the Carrier Cage is parallel to the Base Rail System and it can not be commanded to travel either **IN** or **OUT** of the vehicle and there is no audible clicking sound when toggling the **IN/OUT** switch, and Ball Screw Motor starts; check to see if Belt from Ball Screw Motor to Ball Screw is loose or broken.

The Ball Screw Motor and Belt are located on driver side toward cab and under the Belt protection cover connecting Ball Screw to the Ball Screw Motor.





WARRANTY STATEMENT

Robotic Lift Systems (RLS) products are warranted to their original purchaser for a period of one year from the date of purchase against defects in the workmanship or material. This warranty is expressly limited to the replacement of components having defects. All product returns must be accompanied by a *Return Materials Authorization* issued by RLS. RLS is not responsible for return freight to the factory. If a lift system component is defective and within the terms of the warranty, RLS will ship a replacement component to an authorized installer.

This warranty is void in the event that any of the following actions occur:

1. if unauthorized repairs, attempted repairs or modifications are made by persons other than RLS personnel, exception would be written permission from RLS;
2. if the product is operated in an abusive manner;
3. if the system is damaged due to an automobile accident;
4. if the product is used after component or partial failure;
5. if defects have resulted from intentional damage, negligence, unreasonable operation or exposure;
6. if the lift is not installed by a professional, qualified lift installer, ie: NEMDA dealer.

No other warranty, written or verbal, is expressed, implied or authorized.