

Rowheels HX & LX Troubleshooting Guide 1.0

Purpose:

To provide you with a set of quick tips and suggestions to improve your Rowheels experience, and fix some problems that may arise during use. Please read and refer to the Rowheels REV Series Owner's Manual before attempting any self-maintenance on your pair of Rowheels.

Table of Contents:

1. One, or both, of the latches make a rattling noise when the chair is moving.
2. The wheel, or wheels, are not sliding out of the axle receiver easily.
3. The wheels do not seem to be rolling properly.
4. The center of gravity of the chair seems off.
5. The tires are rubbing against other parts of the chair.

Section 1: Adjusting the Universal Frame Clamp to eliminate rattling/play

Issue(s):

- There is a rattling noise coming from the latch each time the you pull on the handrim.
- There is too much "play" in the wheel. Play is the feeling you get when you pull on the handrim but it takes a moment for the wheel to move accordingly.

Cause(s):

- The Torque Arm Bolt connects to the Universal Frame Clamp using a latching system. If the Torque Arm Bolt is not secured in the latch you can experience some of the issues listed above. In this case, the fit between the Torque Arm Bolt and the Universal Frame Clamp is too loose.

Solution(s):

The solution to reduce play in the wheel and rattling between the latch and the Torque Arm Bolt is to use a 3/16 inch hex key to adjust the position of the clamp. The clamp needs to move slightly closer to the axle receiver along the frame of the wheelchair. The Torque Arm Bolt should be able to successfully swing into the latch without having to engage the latch release knob. The Torque Arm Bolt should sit securely between the latch and the latch housing. Once the Universal Frame Clamp is in the desired position, slowly tighten the two central screws, alternating between screws, until the clamp is secure. Give the wheel as pull to verify that it is secure, and that the rattling and/or play has been removed. Repeat the process until the desired fit is achieved.

Notes:

- If the need arises, you can move the Torque Arm Bolt to a different position on the Torque Arm for a better fit. Use two 9/16" standard wrenches, one around the hex nut on the bottom of the Torque Arm and one on the Torque Arm Bolt on the top side of the arm. Loosen and remove the nut, and move the Torque Arm Bolt to another position on

the Torque Arm. Replace the nut and tighten as securely as possible. Wiggle the bolt to ensure that it is securely fastened.

- For more information, refer to the Rowheels REV Series Owner's Manual and watch this instructional video on Frame Clamp Installation found on the Rowheels youtube page:
- https://www.youtube.com/watch?v=Ew0Mgp61628&list=PLaV6zi1FxZyzOC_mPcweEIXSBBZHbvb2&index=5

Section 2: Adjusting the Universal Frame Clamp so the Wheel can be more easily removed using the Quick Release

Issue(s):

- When attempting to remove the wheel, it does not slide out of the axle receiver easily after the quick-release is engaged.

Cause(s):

- The Torque Arm Bolt is wedged too tightly between the latch housing and the latch in the Universal Frame Clamp.

Solution(s):

- Short Term: Use the latch release knob located on the Universal Frame Clamp to relieve the pressure on the Torque Arm Bolt so the wheel can be removed using the quick-release.
- Long Term: The Universal Frame Clamp needs to be adjusted. Using a 3/16" hex key, loosen the two bolts in the center of the clamp to make it adjustable. Move the clamp slowly along the frame of the chair away from the axle receiver. The Torque Arm Bolt should be able to successfully swing into the latch without having to engage the latch release knob. The Torque Arm Bolt should sit securely between the latch and the latch housing. Once the Universal Frame Clamp is in the desired position, slowly tighten the two central screws, alternating between screws, until the clamp is secure. Give the wheel as pull to verify that it is secure. Try to removed the wheel using the quick release without engaging the latch release knob. Repeat the process as needed until the desired fit is achieved.

Notes:

- If the need arises, you can move the Torque Arm Bolt to a different position on the Torque Arm for a better fit. Use two 9/16" standard wrenches, one around the hex nut on the bottom of the Torque Arm and one on the Torque Arm Bolt on the top side of the arm. Loosen and remove the nut, and move the Torque Arm Bolt to another position on the Torque Arm. Replace the nut and tighten as securely as possible. Wiggle the bolt to ensure that it is securely fastened.
- For more information, refer to the Rowheels REV Series Owner's Manual and watch this instructional video on Frame Clamp Installation found on the Rowheels youtube page:
- https://www.youtube.com/watch?v=Ew0Mgp61628&list=PLaV6zi1FxZyzOC_mPcweEIXSBBZHbvb2&index=5

Section 3: Maintaining Tire Pressure and Adjusting Toe-in and Toe-out to improve Wheel Performance

Issue(s):

- After a strong pull, the wheels fail to roll a significant amount. Pulling is more difficult and does not feel as efficient as it should.

Cause(s):

- The tires need to be inflated.
- The alignment of the wheels is off, causing toe-in/out. This increases friction inside the hub of the wheel hub and reduces its performance.

Solution(s):

- Rowheels recommends that the tire is inflated to at least 110 psi. If the tire pressure drops lower than that, you will begin to see a decrease in performance. Checking your tire pressure is part of the recommended daily maintenance for your pair of Rev Series wheels.
- If your tires are properly inflated or you have solid tires, your wheels may be out of alignment, causing the dip in performance. To make sure your wheels are properly aligned, use a tape measure or yardstick to measure the distance from the outside of one wheel to the outside of the other while facing the front of your chair. Record this distance. Turn the chair around so you are facing the back of the chair. Measure the horizontal distance between the outside of one wheel to the outside of the other wheel. Record that distance. Compare the two distances. If there is more than a $\frac{1}{8}$ inch difference between the two, then the wheels are out of alignment.
- To adjust the wheel alignment, you have to rotate the axle/camber tube until the difference between the front tire distance and the back tire distance (measured above) is less than $\frac{1}{8}$ inch. The instructions on how to rotate the axle/camber tube varies depending on the brand of chair you have. Refer to your wheelchair owner's manual for directions on rotating the axle/camber tube, or contact your doctor, therapist, or local complex rehab center for help adjusting your wheel alignment.

Section 4: Shifting the Center of Gravity for better posture

Issue(s):

- The chair feels off balance, or you don't feel centered in your chair.
- You feel like you might pull backwards if you pull too hard.
- You have trouble performing a full stroke because your position in the seat is too far forward.

Cause(s):

- When using a Rowheels HX or LX product, the pulling motion will naturally have you sitting up straight and back toward the rear of your chair. This is opposite of the position regular pushing puts you in, which is leaning forward and bent-over towards the front of

your chair. If you have the seat adjusted for an optimal pushing position, this may lead to you feeling unbalanced in your chair when using Rowheels.

Solution(s):

- **WARNING: It is strongly recommended that anti-tipping devices be used at all times. Failure to do so may result in serious injury.**
- The instructions on how to adjust the center of gravity of your chair varies depending on the make and model of your chair. Rowheels recommends you visit your therapist or a complex rehab center to have your seat position adjusted.

Section 5: The tires are rubbing against the side guards, or other parts of the chair

Issue(s):

- The tires of your Rowheels are coming in contact with some part of your chair or body during propulsion.

Cause(s):

- To avoid increasing the overall width of the chair when using Rowheels, the hub of the Rowheel actually sits closer to your chair than the hub of a regular wheel. If you have a wheel with high camber settings there is a chance that this angle will bring the tire of the wheel into contact with other parts of the chair.

Solution(s):

- Rowheels Rev Series products should not be used with camber greater than or equal to 6 degrees. It is recommended that the camber does not exceed 4 degrees.
- The best way to get rid of tire rubbing is to reduce the camber of the wheel. The procedure for changing the camber is dependent on the type of chair you own. Read and understand your wheelchair owner's manual in order to adjust the camber. Rowheels recommends that you contact your therapist or local complex rehab provider for making adjustments to your chair.