LEVERDRIVE MANUAL

LEVERDRIVE wheelchair propulsion systems are machined from thick-walled aircraft aluminum, hardened steel, and engineering plastics for long service lifetimes. However, salt water will corrode virtually everything. The axle is high-grade stainless; surgical steel axles are available for corrosive environments. We do not recommend their use in marine environments. All parts are replaceable, either individually or as assemblies.

DRIVE. The Leverdrive system is very simple to master – the only moving part is the lever ! There is a linkage rod, attached to the bottom of the plastic handle, that travels down through the lever. When the handle is pressed all the way down, the rod goes through the axle, which has been cross-drilled for that purpose. This is the DRIVE position, press against the handle to propel the chair forward.

DO NOT press the rod down through the axle while the chair is in rapid motion, for example, when rolling downhill. While we have used corrosion-resistant, hardened stainless steel, it might still be possible to raise a burr on the axle, by jamming the rod through the cross-drilled holes when the chair is in motion. Please do not do this - we want you to enjoy a trouble-free experience. Come to a COMPLETE STOP FIRST, then press the handle down while you are doing a slow forward roll, and the rod will easily engage the axle. While you are moving forward, the rod that penetrates the axle will remain engaged unless you pull up on the handle.

NEUTRAL. When you want to disengage the drive – you want to put the chair in " neutral ", or be able to use manual reverse, all you need to do is pull up on the handle. The wheel will now freely rotate in either direction. Slide the handle up – it will be held in place above the axle by spring plungers in the handle and a grooved detent around the top of the lever, keeping the handle in neutral. Notice the small slotted setscrews near the bottom of the handle – this is the adjustment point for the spring plunger. Threading them inward causes a slight increase in the effort required to shift into neutral, while loosening it has the opposite effect. The setscrews are adjusted at the factory, but you can adjust them yourself.

REVERSE. There is no specific reverse gear supplied with this mechanism – it would have added cost and complexity, as well as requiring a wider mechanism that would have a greater difficulty getting through narrow doorways. While in NEUTRAL, move your chair in reverse as you would if there was no Leverdrive attached. In NEUTRAL, you get some reverse traction by pressing the levers inward – brakes contact the drive ring. Users with normal arm strength will be able to move in reverse by this method.

BRAKING / STEERING. Press or lean in against the lever, and the brake shoe will contact the manual drive ring. Brake one side, and you will turn in that direction. By raising the handle and shifting into neutral on one side, then using that side for reverse and the opposite, you can PIVOT in place. Available replacement brakes install with a Philips head screwdriver, and are available from the factory.

WARRANTY. It is virtually impossible to bend or break any of the components under normal use. The only parts really subject to wear are the factory-sealed wheel bearings. Under indoor use, or outdoor use in good weather, the bearings will last almost indefinitely. However, if you use your chair to travel through snow, mud, sand, gravel, etc., you can wear out the bearings. Should this happen, replacement wheels are available at your dealer. We will replace wheels, at our option, at no charge, for 90 days. Brake shoes will need periodic replacement; we use a relatively soft compound to provide good traction against the wheel rim.

FIVE YEAR WARRANTY on all other items. This warranty does not cover abuse – we can tell if you've been trying to shift at speed ! or use of the chair for anything other than propulsion by a single individual. Other than shifting at speed. It is not yet rated for individuals weighing over 250 pounds. We'll make a bariatric version – please let us know if you're interested.

INSTALLATION INSTRUCTIONS. The Leverdrive mechanism is designed to work with a partial armrest; these are widely available. Let us know if you need one for a specific chair. The Leverdrive mechanism is designed into a standard 24" wheel, and mounts accordingly. You'll need a wrench for the locknut, and an Allen wrench, which is provided.

REMOVE the existing wheel, and replace it with the Leverdrive. There is a "right" and a "left" – these indicate how the mechanism gets installed, from the user's perspective – the "right" wheel goes on the user's right side.

KEEP all the spacers you remove – they get reinstalled in the same location when you put the Leverdrive wheels on. The Leverdrive mounts up with a single axle bolt. An Allen wrench is provided to mount the axle. Slide the spacers on the Leverdrive axle, then thread the axle into the frame of the chair. If the thread is wrong, contact the factory – we can accommodate all threads in either 1/2" or 7/16" diameter. Tighten the locknut, on the end of the axle, on the inside of the chair frame. It's very important to set the tightness of the axle bolt properly. Tighten it so it won't turn, then loosen very gradually until it spins freely. It's only a small fraction of an inch from too tight to too loose, so adjust accordingly. When you like the spin, tighten the locknut to hold the axle in that position.

You're ready to go. Follow the instructions above, and see how much easier it is now to go up ADA ramps, get from the street to the sidewalk, cross lawns and thick carpets, move and steer without getting your hands dirty. This is a new product for us; we made it robust, but we want your feedback. Please tell us how it works for you!