

TECHNABILITY

Sweet
E.motion



By Justin Moninger

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I've been using power-assist wheels on my manual wheelchair for about four years now, and as a C5-6 quad, I've found they make all the difference in my strength and flexibility. Prior to the power-assist wheels, I used a power wheelchair, which was nice, but didn't afford the regular exercise one gets from pushing. I also get a rush from cruising down moderately steep hills unimpeded by the transmission of a power chair. I should note that freewheeling down steep hills comes with a "don't try this at home" caveat, as I have flipped myself out of my chair twice.

When originally looking for power-assist wheels, I only had two options — E.motion from Frank Mobility or the Quickie eXtender (iGlide was already closing up shop). I chose the E.motion wheels because I could bolt them onto a TiLite frame, so for the last four years I've been pushing around on E.motion M12s. After going through about six sets of batteries at \$800 a pair, I was getting pretty frustrated and was considering the Quickie option. Then I found out the new E.motion M15s were coming out, promising new features and extended battery life.

Battery life was the crux of my problem with the M12s. I could get through only about half a workday before I needed to switch batteries (difficult without hand function), and

batteries would go bad just after the six-month warranty was up. I found myself making plans around how much battery power I had between the set in my wheels and the extra set I carried. Zoo trips were out, and my wife was always pushing me in order to conserve power — obviously not the freedom I was looking for.

I've had my demo set of M15s for about a month now, and the improvements are staggering. The literature claims the new lithium-ion batteries have twice the power of the old nickel-metal hydride batteries, but I found them to have something more like four times the range. This is good because the batteries aren't easily interchangeable and must be charged through the wheels rather than plugging in the batteries directly. I was concerned about this at first, but I have yet to come home from a workday with my batteries less than half full.

This improvement alone makes the M15s a great product, but the engineers at the German manufacturer, Alber, had a few more surprises. The wheels are now about a half-inch thinner, closer to a traditional wheel, plus they are mounted without camber, allowing clearance through doorways. They also come with a wireless remote that can be used to turn the wheels on and off, switch between high and low settings, and allow therapists to customize the wheels to the individual. Each

wheel can be independently programmed for start time (how long it takes the power assist to kick in after you hit the push rim), power (strength of the assist), and duration (how long the assist continues for each push). There is also a setting to prevent you from rolling back down hills when going up a steep incline.

These wheels are pricey — more than \$8,000 after adding a few basic options. The battery warranty has been increased to one year, and the lithium-ion technology should allow batteries to maintain 85 percent of initial charge capability after several years of use. I certainly have no idea how the wheels or batteries will hold up in the long run, but the initial indications are promising. There's also been some debate about FAA rules regarding flying commercially with the wheels. I haven't been able to get a definitive answer, but the batteries may need to be removed and put in an overhead bin during flight.

Many insurance companies now cover power-assist wheels because of potential increased health benefits, which is worth playing up if writing an insurance justification letter. And for paras or other wheelers with more strength than the standard quad, they may be a good option for preventing shoulder problems.

So kudos to German engineering. Now when will Audi or Mercedes release their affordable wheelchair van? **MI**