

GET ON YOUR MOTORSEAT

There are many ways to adapt a motorcycle for someone with a spinal-cord injury to ride.



ILLUSTRATION BY KERRY RANDOLPH/
COURTESY OF JOSUE CORDOVA

The beginning of spring

often heralds thoughts of more temperate weather and various ways to get out of the house and enjoy it. For some, that means cruising the open road on a motorcycle.

by Brittany Martin

While adapting a motorcycle to fit the needs of someone with a spinal-cord injury (SCI) isn't easy or inexpensive, for many riders, the end result and feeling of freedom makes going through the process worth it.

From trikes and sidecars to Can-Am three-wheelers and motorcycle "landing gear," the possibilities and types of adaptations are as varied

as the people who ride them. And depending on someone's injury level, what works well for one person may be completely useless for another.

It's About The Cruising

For people like Paralyzed Veterans of America National Vice President Josue Cordova, who served in the Air Force from 1994 to 1996, it took nearly two years to find exactly what he wanted.

The 47-year-old, who lives in New Lenox, Ill., sustained a level T10-12 complete SCI in a June 1995 car accident. He grew up around motorcycles and wanted the experience again

OUR BAD COOTER



after his accident. In 2008, the TV drama *Sons of Anarchy*, centering on an outlaw motorcycle club, gained popularity, and Cordova says that spurred him to start researching his options.

"I grew up on these fast bikes and doing all that," Cordova says. "I think, for me, I kind of got that speed craziness out of me, so I wasn't looking for that type of ride. I was looking for something to really enjoy, so that's why I went with a trike. To me, it was about the cruising. It wasn't about how fast I could get there."

He ran into a lot of dead ends and couldn't find something he could connect with until Harley-Davidson launched its Street Glide Trike in 2010.

Paralyzed Veterans of America National Vice President Josue Cordova, left and below, rides an adapted Harley-Davidson Street Glide Trike.



COURTESY OF JOSUE CORDOVA



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Josue Cordova, right, has space to carry his wheelchair and a passenger — pictured left, his wife, Veronica — on his trike.

But first, Cordova had to have a mechanic adapt it so he could ride without using his feet. He found an electric push-button shifter called Kliktronic and a K-Lever2 brake system that enabled independent operation of both the front and rear brakes using one hand. The Kliktronic is set up on his left side, with buttons to up-shift and down-shift, and he brakes with his right hand.

Cordova had heel guards installed on his footplates to keep his feet from sliding off and mounted heavy-duty Velcro to the footplates and his riding boot soles to further stabilize his feet. He also purchased a different seat and backrest to give him more stability, had a leatherworker move the thick seam that ran along the middle of the seat to the outside and put a 2-inch-thick gel pad inside the seat to help prevent pressure sores. To secure his solid-frame wheelchair, he places it upside down on the passenger seat and straps it in using a bungee cord. If he's riding with a passenger, the wheelchair gets strapped to his luggage rack.

He says the trike alone cost \$30,000, plus the modifications were \$3,000-\$5,000.

Cordova tries to ride his trike as much as he can and has put about 15,000-20,000 miles on it. For him, it's about freedom, relaxation and therapy. He says

it's important for others with disabilities to take time to figure out the setup that works for them and to never give up.

"People [are] driving by me, giving me the thumbs up as I'm riding down the roads or interstate with my wheelchair strapped to the back of it," he says. "I did it because I wanted to get back out there and have that experience again, but if it's there to help motivate someone or show them an opportunity or option, that indirectly was able to do that as well, so I was very honored to be able to have that opportunity."

Going Pink

Reggie Cake also opted for a trike after surgery to remove a small tumor on her spinal cord in 2007 paralyzed her left side from the waist down.

The 70-year-old Madera, Calif., resident rode a 2003 Harley-Davidson Heritage Softail prior to her injury and her husband, Cliff, a motorcycle mechanic, converted it into an adapted trike using a Champion trike kit. She says just the parts cost about \$8,000 for the conversion.

"It was quite a change," Reggie says. "In a two-wheel motorcycle, you lean it into corners, and I kept trying to lean the trike, and it doesn't lean. You actually have to steer it like you would a snowmobile. And it was quite a challenge because I kept wanting to lean the bike, and it wouldn't turn."



COURTESY OF REGGIE CAKE

She says it took about six months and lots of trial and error to make the trike safe for her to ride. Aside from converting it, Cliff also moved the shifter to Reggie's right side, changed the handlebars so she could reach them, added side handrails to hold her in and put on a new seat to keep her balanced in the middle. He also came up with a rack to secure her pink wheelchair — and painted the trike pink to match.

"It draws attention everywhere I go," Reggie says. "People hang out of their car taking pictures of it. And it really encourages other people. They come up to me and just, 'Wow, if you can do that, I can probably do this.' And it just makes you feel good that you're not just doing it for yourself, but you're doing it possibly to help other people find challenges and overcome them."

Reggie has put over 100,000 miles on her original trike, so she recently bought a Victory trike. Cliff is working on adapting the shifting and braking systems and designing a new setup for the wheelchair rack. And, of course, it will eventually be painted pink.

She says she likes the Victory because it's easier to ride.

"The conversion, since it was built as a two-wheeler, the steering is really hard,"

Reggie says.

"It's not built to turn. It's built to lean, so you have

Reggie Cake had her 2003 Harley-Davidson Heritage Softail converted into an adapted trike.



Reggie Cake, on motorcycle, attracts a crowd at Yosemite National Park in California.

to really use a lot of upper body strength. But the Victory is made as a trike, so it's so much easier and lighter to make those turns. I have to be careful I don't make them too fast and do wheelies."

After her injury, she dealt with a great deal of pain and took opiates, but now after 10 years, she's finally off of them and says riding helped her start living again.

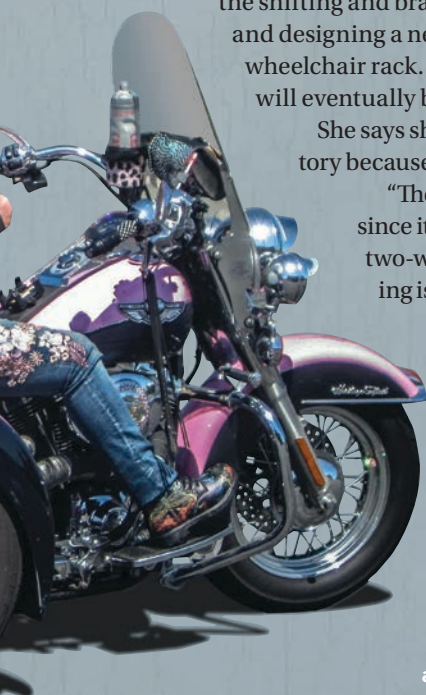
"I suffered in pain for so long, but when I was on my bike and I rode, I didn't feel the pain," Reggie says. "So, when you're doing something that your mind and your body love doing, it just changes everything. It's just finding that love of life. I would recommend it to anybody. Even if it's not motorcycle riding, you know, just find something that they love. But bike riding is fun."

Sidecar Style

Another option for someone with SCI is a motorcycle with a sidecar. Like with a trike, a rider doesn't have to worry about balance or putting his or her feet down when coming to a stop. Sidecars also provide the ability to transport a wheelchair or service dog, and for people who already own a motorcycle, a sidecar can be a cost-effective adaptation.

There are many types of sidecars, from fully enclosed to a traditional bucket to chariot-style with a platform.

Claude Stanley, who owns Freedom Sidecars LLC in Middleburg, Pa., has built several adaptive motorcycles with sidecars over the last 20 years and says the main downside to



John McAdams modified the motorcycle's footplates so his son's feet wouldn't fall off while riding.



PHOTOS THIS PAGE COURTESY OF JOHN MCADAMS

On Sean McAdams' sidecar, there are three lower attachment points that use grade 8 bolts with self-locking nuts. There are also two upper attachment points. The front one has an adjustable nut to make the bike drive straight with the addition of the third wheel on the sidecar.

The heel-to-toe shifter was removed from its pivot point and replaced with this lever for shifting.



The EZSteer, made by John Sweet, reduces the trail on the bike, making it drive like it has power steering. It must be removed if the sidecar is removed to convert the motorcycle back to a two-wheeler.

Because of the EFM Auto Clutch, the motorcycle will roll on an incline, so it needed a simple parking brake. It was taped and tie-strapped because it can blow off on long trips.



trikes and Can-Ams, which have two wheels in front and one in the back, is that they have a limited lifetime.

"There are a lot of sidecars out there that literally have been in the same family or circle of friends for more than one or two generations because they were put on one bike, then taken off and put on another and so on," Stanley says.

For Sean McAdams, cost was a deciding factor. The 21-year-old, who lives in Quitman, Miss.,

sustained a level T4-5 SCI in a motorcycle accident about two years ago.

"Before I went into surgery the night I was airlifted to Jackson [Miss.], I was telling my parents, 'Whether I get my legs back or not, I want to ride again,'" McAdams says.

He investigated landing gear — which consists of small wheels on either side of the bike that fold down with actuators to keep the bike upright when it comes to a stop — but it was expensive. McAdams' father, John, says a trike conversion was also out of their price range.

"And once you convert it to a trike, there is no going back, whereas a sidecar can be taken on and off. Ours is five bolts," John says.

They found a 2012 Yamaha V Star 950, which they bought with 2,000 miles on it. John made the adaptations to the motorcycle, and they had

John Sweet of Johnny Sweet Designs in Greer, S.C., build a custom sidecar.

“Pretty much until we found him [Sweet], we were trying to get landing gear, and nobody would do it because I was fully paralyzed, and insurance for these businesses won’t let them do it because if I go down and get hurt, it’s a problem for them,” Sean says.

After a multitude of tests, John says they settled on a suicide shifter, which has a lever that comes up the bike’s side that Sean pushes to shift down and pulls to shift up, and an EFM Auto Clutch, like one on a four-wheel all-terrain vehicle, instead of a push-button electronic shifter.

“We opted not to do that [electronic shifter] because I talked to several older guys that had run them, and they said they were great when they were working,” John says, adding that he didn’t want to worry about installing a backup for a potential malfunction.

Other modifications included upgrading the intake and exhaust to get a little more performance with the additional 100-pound sidecar, swapping out the rear motorcycle tire for a car tire for better traction and adding a metal stirrup and fins to the footplates to keep Sean’s feet on them if he has spasms. Meanwhile, the sidecar itself has a go-kart-style front end and a platform with a floor that lowers to become a ramp. Sean can roll his wheelchair onto it, strap it down and then transfer to the motorcycle.



Sean McAdams rides his adapted Yamaha V Star 950 with a sidecar that carries his wheelchair and his sister, Karey Jacks, on the back.

Sean also has a Kawasaki Ninja 650 to which he plans to add landing gear at some point. He says he won’t have a place for his wheelchair on the Ninja, so it’ll just be for riding around town for a while and coming home.

“This bike I’m working on now, the Ninja, is not going to be something to go fast on. It’s going to be something to take down a curvy road and just have a little fun,” Sean says.

For those with SCI who are considering riding a motorcycle, he says to “hop on it.”

“It isn’t for everyone, but if anybody is like me, it’ll get in your blood and you’ll find it to be the most freeing thing there is, especially from something like not being able to get up and walk out of the house,” Sean says. ■