

Getting Back in the Driver's Seat with Hand Controls

by Penni L. Smith

The symptoms of neuropathy can greatly interfere with one's ability to drive. Poor coordination can diminish responsiveness. Numbness means less feedback from the pedals and perhaps difficulty finding and properly using them. And pain can make pressing on the pedals unbearable.

It was fast becoming that way for me. Ever since I developed neuropathy, my feet have been very sensitive to pressure. Standing or walking for long is difficult, but just having shoes on or having my feet sit on the floor can hurt. The pedals in a car are designed to resist pressure, springing back when a foot is removed, and the brake has to be pressed firmly and fully to bring about a full stop. By the time I got to work each morning at my new job in early 2001, I was in great pain, and I still had a day of feet on the floor and walking some in the office, plus the commute home, ahead of me. Eventually, one of my co-workers talked to me about my condition, and she suggested I consider hand controls. Her daughter was paraplegic and used them, so she was able to tell me about them, and to refer me to a place that installed them. I suppose I was vaguely aware that they existed, but this gave me concrete information and a way to take action. The difference hand controls made in my life as a person with neuropathy cannot be overstated.

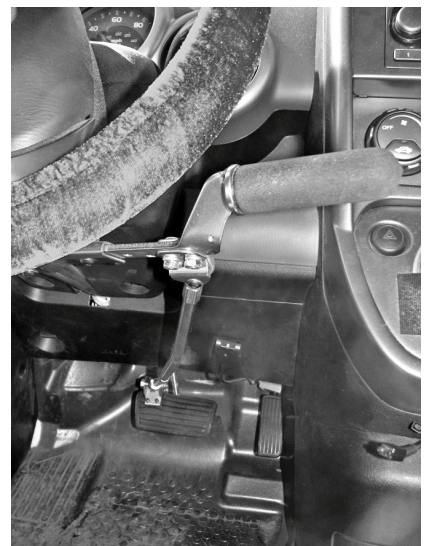
I really had that driven home (ha, ha) when my car was totaled in January 2005. I bought a new car, but I had to wait ten days until I could get the hand controls installed. I wasn't commuting then, but I had errands and such, and had to drive using my feet again. Of course, the pain was bad, and I realized how much less pain I was in by using the hand controls. But my feet had gotten much more numb during the preceding four years, and I found that I wasn't confident using the pedals. The lack of feedback made me more hesitant. Once the controls were installed, I was back to driving with speed and confidence.

How Hand Controls Work

Hand controls actually make no alterations to your vehicle's acceleration and braking systems. I thought that the pedals were removed, or at least that the controls tapped into these systems directly, but that's not the case. Hand controls are actually a complex lever system that attaches to your brake and gas pedals. Because of how they connect, the pedals are fully usable in their regular manner. Anyone can still drive your car, and they probably won't even notice the hand controls. Plus, you'll have the use of your pedals as a backup if you need to free a hand temporarily. The only thing that might be affected is tilt-control of the wheel, though that is not always the case.

Hand controls are attached to your steering column for support, and are bolted to your pedals. To brake, you press forward (a rather natural response when slowing). To accelerate, you move the handle in an arc toward the bottom of the steering wheel.

Hand controls are available with the handle on the right or the left. For some reason, the left is the default. I confess that I don't quite understand



that. I drove a stick-shift for a while, and anyone who has done that will tell you that you steer with your left hand and shift with the right. Even today, the shifts for the various automatic gears remain on the right. Furthermore, you occasionally need your right hand to adjust the ventilation or some other control. I think it's safer to take my hand off the accelerator temporarily than it would be to let go of the steering wheel. Plus, I like to rest my left arm on the window sill as I grip the wheel. For all those reasons, I have only ever driven with right hand controls. If you want right hand controls, however, when getting yours or ordering them on a rental car, you must specify that.

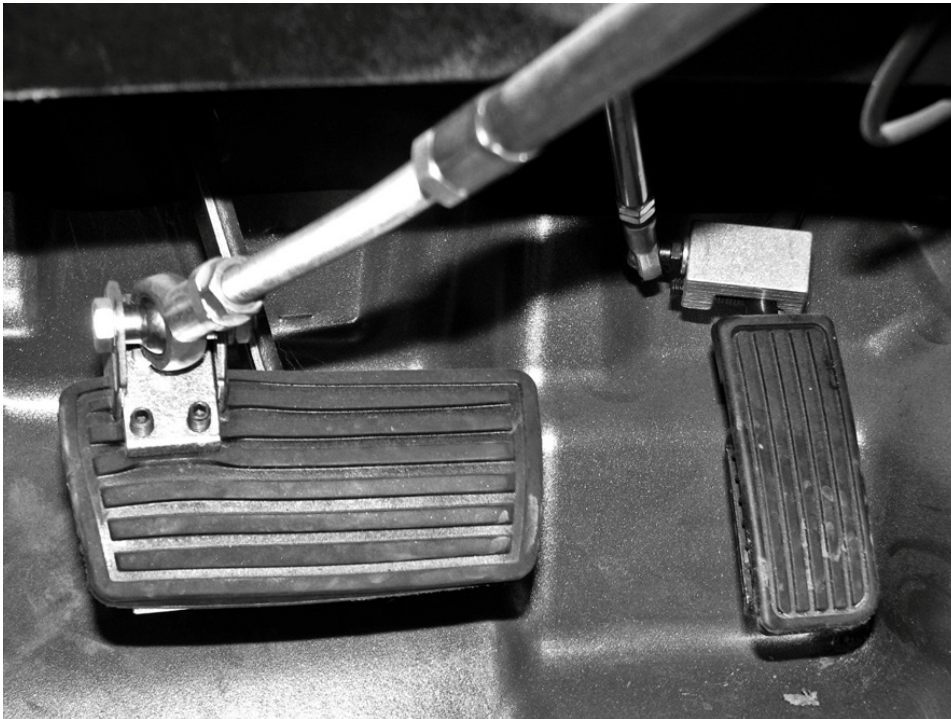
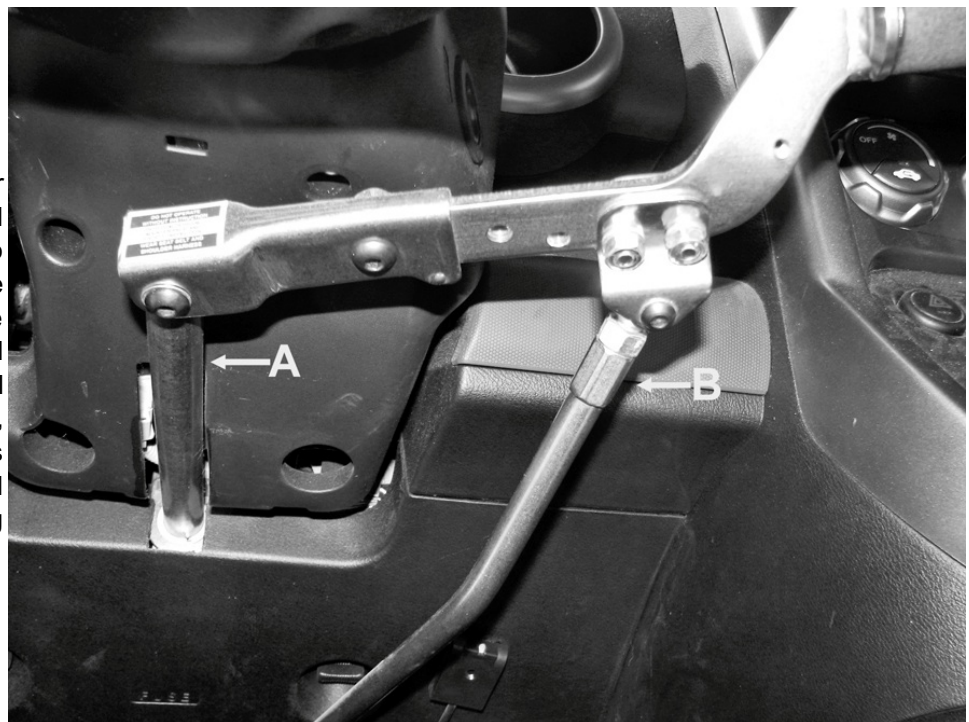


Figure 1 This close-up shows how the hand controls are attached to the pedals. Notice how the pedals are fully useable, with no diminishing of the surface area.

Figure 2 This shows the lever mechanisms of the hand control. B is the rod going to the brake pedal. You can see by the way it connects to the hand portion that it pivots and works as the hand control presses forward. By contrast, the accelerator, A, pivots as the control is moved up and down along the steering wheel.



There are a couple things to be aware of regarding the installation and functionality. It is essential that there is enough room between the hand control and the steering wheel for your hand to pass. You still need to be able to do a complete turn of the wheel, and if the control is installed too closely, you won't be able to. A professional installer that does this for vehicles should know this, but the mechanic at the car rental company may not, so watch for that if you rent (see section on A Test Run later in this document for more information about renting a car with hand controls).

A key factor that will affect usage is how your gas pedal pivots and where they can attach the control. When you drive with your foot on the gas, typically your heel rests on the floor and you press it forward by pivoting your ankle. So the pedal is designed to work best with pressure coming from about mid-foot but based at the bottom. The hand control rod will attach at the top of the pedal, and this may not be as effective. When my first hand controls were installed, I had to return to the dealer after only a couple miles because I had to exert a great deal of pressure (by moving the control in that arc) to get the car to accelerate. This is not a problem when the car is in motion, but it took a lot of effort to move from a stop or to suddenly put on speed. They were able to adjust it for me, but because of how the gas pedal in that car worked and where the hand control had to connect, it always took more effort than I would have liked, and that meant that subtlety on the pedal didn't work well. By contrast, my current car takes a very light touch and is much more responsive. This isn't really something you can control much, but work with your installer to get it as easy as possible. I've driven with hand controls on a variety of rental vehicles, and most have been fine, but one took much pressure to use. Unfortunately, circumstances prevented me from having them adjust it. A control that takes a lot of pressure to accelerate will give you the most trouble in parking lots as easing out becomes hard when you have to work hard to get the right level of pressure.

Hand Controls and Your License

Hand controls do not require a special license, endorsement, or testing in California (I don't know if there are restrictions in other states). If you do need to take a behind-the-wheel test and use them, you'll be evaluated just like anyone else.

Where and How to Get Hand Controls

To find a local installer for hand controls, your best bet is the yellow pages. Look under Disabled Persons' Access, Equipment & Services, Wheel Chair Lifts and Ramps, or Van Conversions (companies that install lifts or do conversions usually do hand controls too). The internet isn't much help for local installers, but you might try searching online yellow pages in your area, using the same categories. I wouldn't recommend ordering standard hand controls from the internet unless you have someone you really trust who can do the installation. Part of this is because specific vehicles may require certain adapters to make them work. (The internet is a good source for more information about hand controls and for purchasing portable hand controls—more on that later.)

I have no personal knowledge on whether hand controls are covered under any sort of insurance or assistance program. If you are buying a new car, however, most manufacturers offer a program to reimburse a certain amount (usually \$1000) toward the installation of adaptive equipment. I purchased my first set

on my own—I didn't find it that expensive. When I got my new car, however, I took advantage of the reimbursement program and got a new set (saving the others, of course).

A Test Run

Before you purchase your hand controls, your installer should be able to give you a demonstration of how they work. This may be a showroom display or perhaps a model vehicle. You should be able to get comfortable with how they would work for you.

Something else you might consider is renting a car with hand controls. Hand controls are very easy to learn to use, but you should have some knowledge of how to use them before doing it in a rented car. Still, if you have seen an installer and have an idea of how they work, it's an option to get familiar with them before making the purchase. You can drive normally to a safe area and practice.

All the major car rental companies offer hand controls. They do not charge extra for them, but they do require at least 24 hours notice to get them installed, and may limit the locations that have them available. Be very sure to specify whether you want right or left controls (as noted under the section about how they work). Also, review what I said about how they work on different cars.

Another good option—see me. Look me up at the annual meeting or other NCCNA event that I probably drove to, and I'll be happy to let you check them out, sit behind the wheel, see how they work. I'd also be willing to meet you somewhere if you'd cover my gasoline.

Portables

One final option I should mention is portable hand controls. Portable controls work similarly to the permanently installed ones, but with some key differences, depending on the model. For some, you pull to accelerate, for others, you push. I haven't found one with the motion used to accelerate with a standard control. They bolt to the pedals with the clamps provided, and may have a strap to fasten them to the steering wheel.

There are some problems with portables, however, which you should be aware of.

First, because they aren't permanently attached to the steering wheel, they require a greater degree of upper body strength and coordination to use than the regular ones. They can shift around as you try to use them. They tend to hang down or rest on or near your lap, which may make them awkward to use. Finally, because of the way they attach to the pedals, you probably won't have normal use of them should you need it.

And they aren't cheap. Yes, they will cost less than regular ones, but they still run a few hundred dollars. To my mind, they are too much of a compromise for regular use, and I have never tried them. I've considered getting a set because they I could order a rental car without having to get the controls installed or having to wait, and they could be handy when test driving a vehicle or if there was a need to drive someone else's car for a few days, such as if mine was in the shop. Still, I feel the benefits they would

provide in those very limited circumstances don't justify the cost for me at this time. If I had a lot of spare cash sitting around, I might feel differently.

I certainly wouldn't recommend portables as a way to try out hand control use.

If you do want to look into portable hand controls, I suggest doing an internet search on "portable hand controls" to see the different types that are available. Also, check out people's reviews and comments about their use to find the best set for you.

Driving Tricks

The only problem with driving with hand controls is that both your hands are required to operate the vehicle. That means no free hand to lower the window, adjust the temperature controls or the stereo volume, or, if you must, take a drink. Of course, you can always use the foot pedals to temporarily free up a hand, and I do that if I need the hand for more than a few seconds. But I really am not comfortable using my feet, so I avoid that unless absolutely necessary. I'm not sure if I should disclose these, but I've found a few techniques that I employ to give me a hand when I need one.

The most important technique is realizing that I don't always have to accelerate. Of course, without gas the car will eventually slow to a stop, but a second or two without gas won't slow it much, or even at all when on a decline. So if I need to adjust a temperature control or take that drink, I look for a time when I'm headed downhill or can otherwise decelerate, and just take my hand off the control (always being ready to brake, of course).

I also recommend the use of cruise control, if you have it. This provides the gas required to keep the car at the speed you've set without you needing to keep your foot—or hand—on the accelerator. Again, it is crucial that you are prepared to brake suddenly, either with your hand or foot.

When I need to free the left hand, which I use to steer with, I've found that I can hold the steering wheel in place by hooking my right thumb over it. Of course, this can free the hand (for lowering the window or perhaps scratching an itch) only when you are going straight, as you can't really move the wheel this way. It is, however, also useful to briefly hold the wheel while you re-position your left hand when making a turn that requires a greater motion of the wheel. If you really need to make an extreme turn, however, you'll probably need to take your hand off the hand control and steer with both hands, being ready to brake.

I've found that using these techniques, I can drive the most narrow and twisted road, which requires a careful orchestration of acceleration, braking, and turning of the wheel with both hands, without using my feet at all.

Hand controls have made a crucial difference in the quality of my life with neuropathy.