Building a Wheelcart for a Corgi

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http://www.emrys-corgis.com/

There are various reasons for dogs needing carts. Pembrokes have a greater tendency than most breeds to go down in the rear due to a breed propensity for degenerative myelopathy and disc injuries.

Any dog going down in the rear should be diagnosed by a qualified veterinarian. In some cases a homemade cart may not be suitable, due to where the cart's weight is borne on the dog. A professionally made cart should be one's first choice, either used or new from a cart manufacturer. There are several companies that can be found on the internet: Eddies Wheels (http://www.eddieswheels.com), K9 Carts (http://www.k9carts.com), Pet Mobility Rehab Center (http://www.petmrc.com), Doggon Carts (http://www.doggon.com), Dewey's (http://www.wheelchairsfordogs.com). CorgiAid (http://www.corgiaid.org) has a loaner cart program where donated carts will be loaned out to rescues, and non-rescues if enough are available. Please think of donating a cart to this tax deductible program if you have one available. Please visit the discussion list for Wheelcart corgis at: http://pets.groups.yahoo.com/group/wheelcorgis/ for lots of good tips about carts and handling disabled Corgis.

However, many people cannot afford a professionally made cart nor find a used one, and would be forced to euthanize their dog. This article gives owners an additional inexpensive option.

The person building a cart must have use some thought as to sizing the various lengths of PVC and sling material to suit their individual dog's needs and measurements. The cart below cost approximately $50 and is suitable for a Pembroke Welsh Corgi or dog of similar weight. Do note that a dog must have a decent amount of muscling left in their front to be able to use a cart.

Materials:
-8-10' 1/2" schedule 40 PVC
-6 elbows for above PVC
-6 tees for above PVC [Optional: 2 elbows may be used in place of 2 tees on top back of cart]
-2 end caps for above PVC
-2 lawnmower type wheels, lighter is preferred but smaller diameter isn't better
-2 carriage bolts and matching 2 nuts, just long enough to go through axle of wheel, nut, and width of one PVC elbow, and no longer.
-dog harness to fit dog
-electrical ties, 50lb or greater capacity
-7 1-5/8"eyebolts plus 2 nuts each (long enough to go through 1/2" PVC and 2 nuts)
-5 hooks sized to hook to eyebolts above
-8 blue tarp grommets
-6 self tapping screws ca 1/2" long
-PVC glue or 24 self-tapping screws ca 1/2" long
-Material for dog sling, soft on skin side, extremely sturdy, non-stretching

Tools:
-cheap hacksaw
-drill
-glue gun
-Dremmel (dog nail grinder) or file

Harness. I bought a inexpensive harness from the local pet chain. It would be best if the strap going around the dog's chest isn't immediately behind the elbow so the front point of the PVC frame that attaches to the harness doesn't interfere with the movement of the dog's elbows. Conversely, you don't want it much further back as the weight should be not too far behind the dog's withers. Pad the top strap by glue gunning on fake sheepskin material.

Working with PVC. All PVC lengths insert into PVC joints ca 5/8" (plus/minus) for this dimension of PVC, so take this into account when fitting/cutting. PVC can easily be cut with a cheap hacksaw. Use your best judgment on lengths and remember PVC is cheap so if you make a mistake it's easy to cut a new piece before securing parts to each other. Do note that the cart frame will be "floppy" until parts are secured to each other which can make fitting challenging. Glue vs. screws: PVC glue sets instantly and you have to insert parts correctly the first time. If you glue, don't do so until you're sure all part lengths are correct. Alternately, PVC can be screwed together with self-tapping screws which will give you flexibility for corrections and adjustments. It's best to predrill holes slightly smaller than screws or eyebolts so they thread into the PVC. However, be sure screw heads aren't in locations where they'll rub against the dog and the screw is short enough so the tip doesn't stick out the other side. Eyebolts need to stick out on both sides of the PVC to attach nuts so should be installed at a 45 degree angle off horizontal to avoid rubbing against the dog's side. An electric screwdriver or screwdriver bit in a drill is much easier than using a manual screwdriver.

Main Cart Frame. If the dog can't stand by itself, it helps to have a second person holding the dog up for fitting and measuring. Put the harness on the dog, and cut lengths of PVC to fit the dog in relationship to dog's body as you seen in photos and attach with joints as shown. These lengths vary from dog to dog so giving exact measurements in this article won't help. Try to fit the PVC lengths so there's as little as possible weight resting on the dog's shoulders.

I would start with the leg to the wheel being longer in proportion to the cart shown as I went a bit low. It can always be cut shorter later. The rearmost 2 joints are connected by a very short section of PVC. The top rear cross bar was nice to have as a handle for picking the dog's rear up. **Option**: the tees at the top rear cross bar can be replaced with elbows, but I liked the flexibility of being able to attach something else to these tees in the future. The PVC should not go much past the front of the harness attachment or it will interfere with the dog's elbow movement. The legs of the frame should splay the wheels out a bit to the side away from the dog's feet so they don't hit them.

Attaching Wheels. Drill a hole in the middle of the width of the angle of a PVC tee large enough for the bolt to smoothly fit through (see photo). You don't need a drill bit as big as the bolt, a smaller drill bit can make a larger hole with multiple punctures and "filing" the moving bit back and forth inside the hole. Insert the bolt through the wheel and tee, then screw the nut on so as tight as possible while still allowing the wheel to turn freely. You may have to flatten the side of the tee a bit (using a file or your dog's Dremmel nail grinder) for easier movement of the wheel. When proper nut position is determined, put a bit of glue gun glue (or Lock-tite) on the bolt then crank the nut to it's proper position so it doesn't unscrew over time. Glue gun a small pad of fake sheepskin over the bolt so the dog's hocks don't hit the nut/bolt end.

Attaching harness to frame. Build the rest of the frame first so you can adjust the harness attachment point. Drill a hole for each eyebolt right behind the cap end of the PVC (remember, at an angle so they don't rub against dog's side) then screw in and attach the nut. Sew any sturdy nylon strap material onto the harness and a hook with sturdy thread, dental floss is excellent. Pieces cut from a nylon puppy or cat collar would work well for the strap.

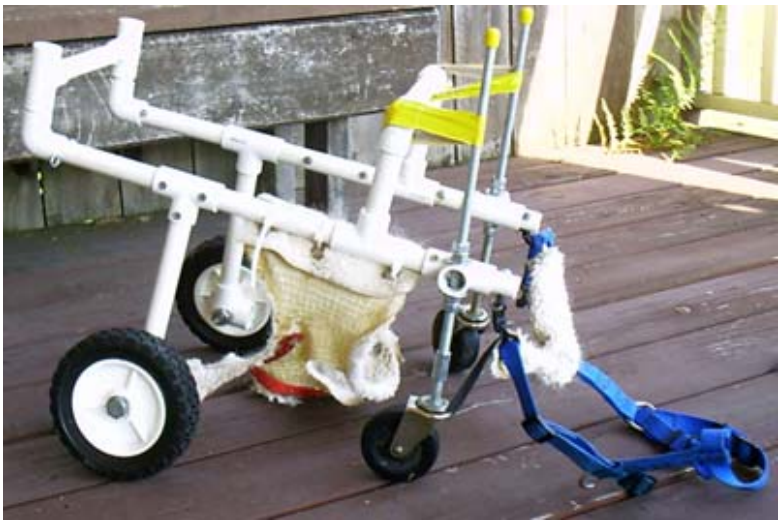
Sling. This material must be sturdy, non-stretching, and non-raveling, yet comfortable on one side against the dog's delicate belly skin and groin areas. I found a nice crate pad material made of fake wool skin at a pet store chain. Fake woolskin sewn onto a sturdy backing would be best.

Fitting the sling is the tough part. Make it bigger than needed at first then slowly trim it down as you fit it each time. It might be best to do an initial template out of a sturdy material if you're going to use a two material layered sling. The photos show a male sling with pee hole in the sling. The back of the male pee hole should actually not go as far back as I put it, so the V cut for the poop hole could extend further forward. For bitches the V cut towards the back would extend farther forward for bitch pee parts. The sling material might have to be reinforced or replaced (see photo with red strapping from 2 cut up dog collars) in this rear V area by sewing on nylon strapping, depending

on the strength of the material used. Also, the rear attachment to the frame for a bitch might have to be further forward. Adjustments to height of sling in relation to dog can be made by attaching the front of cart frame higher up on the harness or by increasing the cart leg length.

Attaching sling. Easy-to-install plastic tarp grommets are available at hardware stores. Simply cut a hole in the sling material (following grommet directions for hole size), put grommet in, hammer, and they're in. I attached the right side of the sling to the harness with electrical ties, having them looser at first and tightening as adjustments were needed. The left and rear sides of the sling have the ties running through the grommet and a hook, and the hooks hook onto eyebolts that are bolted onto the frame. For ease of removing the sling for washing, the cheap ties can either be cut off and replaced or hooks/eyebolts can be used as with the left and rear attachments of the sling.

Addendum. Front wheels can also be attached to the above cart if a dog gets weaker or needs more of the weight of the cart off it's shoulders. Add PVC T's to the front of the cart frame to provide extra strength where the rod will go. Thread wheels to long nut, then to threaded rod with Lock-tite, drill hole thru the T for the rod. Thread 2 bolts on the rod, insert into the T hole, put two more nuts on top. The nuts can be threaded up and down to adjust height, the 2nd of the nut pairs holds the first nut tight so it doesn't move up or down the rod. I put a vinyl bolt cap on the top of each threaded rod.



Materials: See photo to right, parts from the bottom up. Apologies, I don't know the hardware terminology for some of these parts, but a copy of this photo taken to a hardware store will get the parts found!

- 2 swivel wheels with a threaded top
- 2 "long nuts" that fits the threads of the swivel wheels
- 2 long fully-threaded rods that fit the long nut, about a foot long
- 8 nuts that fit threaded rod
- 2 PVC T's