

The Dogge Chariot™

Make your own adjustable homemade dog wheelchair out of PVC!

Appreciation

Our thanks to Joanne and her Brittany Spaniel, Hope, for their patience and willingness to work with us during the development process.



Design team:

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I. INTRODUCTION

The Dogge Chariot™ is designed for dogs who have either no or only partial use of their rear legs and weigh 50 lbs or less.

With perhaps the exception of the wheels, you should be able to purchase all the items from your local hardware and a fabric, upholstery, or thrift store. There are also good online sources which we will note.

The Dogge Chariot™ consists of the following:

- A PVC frame with plastic wheels and metal bolts for axles
- A rear bar where you can attach the dog's hind legs, if need be
- A vinyl cover for the padded bar that supports the dog's weight
- A harness for attaching the wheelchair to the dog

This product was tested on Hope, a Brittany Spaniel less than a year old, who had partial use of her rear legs. Those legs were always moving, which made it a significant challenge to develop a wheelchair for her. The first prototypes we made worked well for her in the rear, but put too much weight on her front end. They also were not fully adjustable, which was an issue since Hope was still growing.

In addition, although her new owner had received a customized used wheelchair for her, it included rigid, padded supports around each rear leg rather than under the torso. Since Hope had a large sore on her rear end from scooting around on her behind (still not healed after 4 months), the wheelchair was chafing the very areas that did not need it.

We believe that if the Dogge Chariot™ worked for Hope, it will work for any dog with rear leg issues, provided that the dog does not have sores where the supporting bar goes.

Contact Us

<http://www.make-and-build-dog-stuff.com/contactus.html>

We welcome your feedback on any modifications you may need to make. Also, if you are not satisfied with the instructions or final product, note that refunds are offered on a case-by-case basis.

You're probably ready to get started, so let's proceed...

II. 10 STEPS FROM START TO FINISH

- 1: Read through all the instructions before purchasing items.**
- 2:** Take the following measurements and **write them down:**
 - A: Measure your dog's width at the widest part, looking from above.
 - B: Measure your dog's height from the ground to the part where the rear legs join the torso underneath the dog. Subtract the height (diameter) of the wheels you plan to buy. If you get a negative number, you need shorter wheels. This will be measurement B.
 - C: Measure your dog along the back from the front part of the rear legs to between the shoulders or withers.
- 3:** Order your wheels or purchase them at a store.
- 4:** Purchase your other parts and materials, tools, and glue.
- 5:** Cut the frame lengths and connecting pieces:
 - Cut at least 18 pieces from the 1/2" PVC pipe. Each needs to be 1.375 inches or 1 3/8" long. These will be inserted in pieces of PVC and the PVC connectors to make a secure joint.
 - The 3/4" supporting bar will need to be 3" longer than measurement A, the dog's width. Cut one piece.
 - Cut two 3/4" shaft pieces that equal measurement C.
- 6:** Assemble the wheels and axles.
- 7:** Assemble the frame; **only use glue where indicated, otherwise use duct tape.**
- 8:** Add foam to the supporting bar and sew the vinyl cover.
- 9:** Pin together the harness parts.
- 10:** Try it out on the dog; **adjust** if need be. Glue together when satisfied.

III. PARTS / ORDERING INFORMATION / COSTS

Here's an overview – there is a parts list on the following page. Each section will also outline specific items needed:

Parts available from fabric or thrift stores, or online

- 10" (255mm) EVA plastic utility wheels– these will cost around \$30 with shipping from wheeleez.com. (See section below for cheaper 6" or 7" wheels for shorter dogs).
You may be able to find equivalent wheels elsewhere or off an old child's bicycle. Just be sure to **match your axle bolts, nuts and washers** with the diameter of the center hole in the wheel.
- 4 ft of 1.5 inch polypropylene webbing (online from Strapworks.com or buy at a hardware, fabric or thrift store, take off old backpacks or bags)
- 1 plastic or metal buckle 1.5 inches wide (online from Strapworks, or check at a thrift store, WalMart or a feed supply)
- 1 padded backpack strap from an old backpack (thrift store)
- Sturdy vinyl cloth approximately 9x10 inches (fabric or thrift store)
- Needle and thread to match the color of the vinyl/webbing (fabric store)

Parts available from hardware and/or plumbing stores

- 6" or 7" wheels - for **shorter dogs** (especially Corgis and Bassetts) you can use lawnmower wheels, which can usually be found at Harbor Freight, Lowe's or Home Depot and cost around \$14 for a pair.
 - PVC pipe and connectors such as couplings, tees, elbows
 - Hardware such as bolts, nuts and washers
 - Pipe insulation
 - Sandpaper – medium fine
 - Epoxy or fiberglass (polyester) resin
 - PVC solvent
 - Duct and masking tape
 - Colored duct tape or paint (optional)

APPROXIMATE COST OF PARTS - 2015

ITEM	# of UNITS	UNIT COST	TOTAL COST	NOTES
1/2" Sched 40 Pipe	10 ft	\$2.03	\$2.03	Cheaper than three 2-foot sections
1/2" 45° Elbow	4 ea	\$0.65	\$2.60	
1/2" Sched 40 Coupling	10 (bag)	\$1.68	\$1.68	
1/2" 90° Elbow	10 (bag)	\$3.28	\$3.28	
1/2" 90° Tee	6 ea	\$0.48	\$2.88	
1/2" End Cap	2 ea	\$0.32	\$0.64	
3/4" Sched 40 Pipe	10 ft	\$2.65	\$2.65	Cheaper than three 2-foot sections
3/4" Tee	4 ea	\$0.96	\$3.84	
3/4" 4-Way Cross	2 ea*	\$1.96	\$3.92	*Get 4 if doing upper rear bracket
3/4" ABS Pipe – need 1 ft	5 ft	n/a	\$1.77***	Can use clear vinyl tubing instead
3/4" End Cap	2 ea	\$0.36	\$0.72	
10" Diameter Eva Wheels from wheeleez.com	2	\$8.50	\$17.00	S&H up to \$15 extra. Can use other wheels – check hole size for axle – may need 3/8" or 5/16" diameter hex bolts
5" or 5.5" x 1/2" Galvanized Hex bolts-see page 8	2	\$0.95	\$1.90	For wheels with a 1/2" diameter bore or axle hole
1/2" Galvanized Washers	2	\$0.21	\$0.62	Match with hex bolt diameter
1/2" Galvanized Nuts	4	\$0.38	\$1.52	Match with hex bolt diameter
Vinyl fabric	1/4 yd	\$12/yd	\$3.00***	Can substitute other fabrics
3/4" Pipe Insulation	10 ft	n/a	\$1.18***	Can use old foam
1 1/2" Poly Webbing	4 ft	\$0.25	\$1.00	Can take this off old bags – see Harness & Shafts for lengths req'd
1 1/2" Snap for Webbing	1 ea	\$0.53	\$0.53	Can get off old backpack or bag
Old padded backpack strap	1 ea	\$2.00	\$2.00	From thrift store or on hand
Velcro	1/4 yd	\$6.00	\$1.50	From thrift store or on hand
Duct Tape, sandpaper	As needed	n/a	\$2.50*	*Estimated cost of the amount you'll use out of a roll / on hand
PVC Solvent	1 can	\$4.70	\$4.70	
PVC-7	2 oz	\$5.50	\$5.50***	Can use fiberglass resin if you have some already like we did – expensive to buy (\$15.99)
Loctite Epoxy (Metal/concrete)	1 set	\$5.77	\$5.77***	2 Tubes of Devcon 1 oz 2-ton epoxy can be substituted – may need to purchase from Amazon
Total approximate cost			\$89.73	

***** ITEMS YOU COULD SUBSTITUTE**

IV. WORKING WITH PVC

PVC is wonderful in that sizes are standard, easy to find in stores, and simple to fit together.

However, there are some areas of difficulty:

- One is making vertical cuts to the piping. A pipe cutter can be used but it may be harder to get the cuts you need. An alternative is to use a fine-bladed saw such as a hacksaw or moto-tool with a mitre box. However, you will need to file the edges smooth.
- Another is doing the final gluing. PVC solvent works very quickly so you only have **two or three seconds** to align things properly and push connections all the way in. The parts fuse together, so once the solvent is set the only way to take things apart is to drill the connections out. Therefore, this is only recommended for sections that are straight (i.e., where rotation does not matter).
- It can be difficult to get the frame to align properly unless you put it together in one go. Again, once the glue sets, you cannot make adjustments. Therefore, a slower setting glue such as 60-minute Loctite epoxy or polyester resin, or 30-minute Devcon epoxy is recommended for all joints where the angle matters. For either epoxy or resin, each surface involved in the joins will **need to be roughened** with sandpaper. A medium-fine sandpaper works well. Roughening is not needed for joins using PVC solvent.



Types of glue we tried – the resin and PC-7 worked well. Loctite results were variable – Devcon is reported to be more reliable.

V. AXLE ASSEMBLY

The Axles

The axles are made of 1/2" diameter, 5- or 5.5-inch long hex bolts cemented inside of 1/2" PVC Tee fittings. (Note that for Hope's wheelchair, we modified the Tees by cutting 5/16" off one end and therefore used the shorter bolt – she was using the end of the Tee as a rest for one of her feet and we wanted her to keep it on the ground.)

The cement used for the prototype was fiberglass (polyester resin), but you can use almost any kind of good quality epoxy which will flow into or can be pushed into the space between the bolt and the PVC fitting. You want an epoxy that will fill the entire space between the bolt and Tee fitting so that the axle does not work loose over time. It must dry hard throughout.

Parts Needed

Two 1/2" diameter X 5" (or 5.5") long hex head bolts with four nuts

Two 1/2" washers

Two 1/2" PVC Tee fittings

Two 3/4" end caps

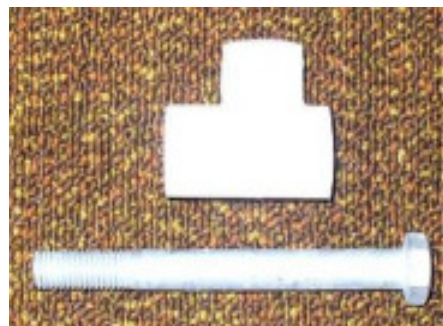
About 2 liquid ounces of epoxy or resin.

Goop or other thread locker

*Note: If your dog's legs are short enough and you want to buy wheels locally, **smaller lawnmower type wheels** can be substituted. See page 11 for a discussion and photos of how Dan F. of Moody AFB in Georgia modified the wheelchair and axles for his dog Hoosier to do this.*

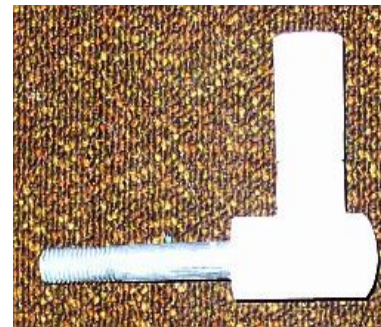
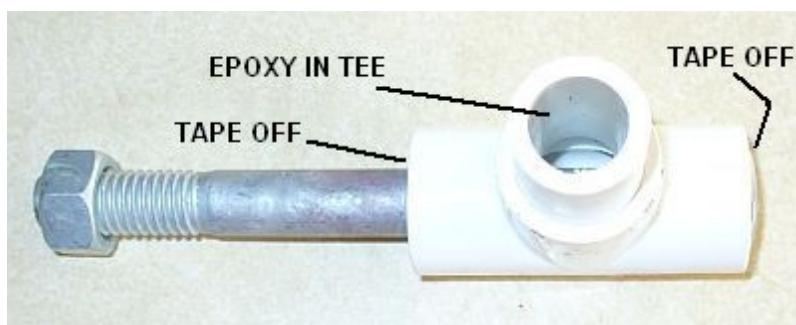
Procedure

A. Epoxy the bolts



AXLE ASSEMBLY (Page 2)

1. Using a hammer, tap the hex heads of the 1/2" bolts into one end of the Tee fittings until the heads are flush or slightly recessed. Then adjust the bolts so they are centered. (For the modified Tee, shown at right, take 5/16" off one end, sand off any extra pieces, and insert the bolt from that end.)
2. Put some epoxy or putty over the heads of the bolts and let them dry.
3. Glue a straight coupling to the perpendicular Tee parts leading to the frame. Note that PVC solvent can be used in this case. (This is not shown in the photo below left – see photo at right.)
4. Thoroughly tape the horizontal ends of the Tees so the epoxy or resin cannot run out.
5. Pour in the epoxy through the straight coupling. Only fill it halfway, making sure to leave room for the connecting piece that will attach the wheel assembly to the frame.
6. Adjust the bolt to make sure it stays centered while the epoxy sets.
7. Remove the tape when the epoxy has set (up to 24 hours).
8. Carefully scrape off excess resin with a sharp blade. Sand and finish.
9. Round the inside facing ends of the Tees with a wheel or sandpaper so they will have a smooth edge (the right end in the photo below).



Left photo shows a regular Tee with a 5.5" bolt without the straight coupling.

The bolt at right (5.0") shows the modified Tee we used for Hope's wheelchair with the straight coupling where we poured in the epoxy – this put the rear bracket higher and kept it out of the way of her erratically moving hind legs. PC-7 was used to cover the hex bolt and provide a rounded surface.

AXLE ASSEMBLY (Page 3)

B. Install bolts in axles

1. Take the epoxied fittings and insert them through the wheel axle housings.
2. Place a thin shim or washer on the outside of the wheel.
3. Place some goop or other threadlocker in the 1/2" bolt threads.
4. Run the two 1/2" nuts against each other.
5. Adjust the nuts until there is little or no play in the axles. Tighten one nut against the other. This, along with the thread locker, will hold the nuts and axles in place. (Note: This procedure is exactly the same as that used for adjusting bicycle wheel axles.)



6. Add a 1/2" PVC end cap over the nuts to hide them.

AXLE ASSEMBLY (Page 4)

MODIFICATIONS USING SHORTER WHEELS

As you can see from the photos below, wide lawnmower type (6 or 7" diameter with 1/2" bore) wheels were used for Hoosier's wheelchair.

Dan decided to make the lower frame level with the axle. He used 4-way crosses instead of Tees for the axles. *Note: You could still use our design and set the lower part of the frame at wheel height where we have it. You'll need to work out the math for the vertical supports.*



VI. THE BOTTOM & SIDE BRACKETS

You will use the same procedure for each side:

1. Start with a Tee facing down. This will attach to the straight coupling going to the wheel.
2. Heading towards the rear of the Dogge Chariot™ (right side as shown in the photo below), attach a Tee facing upside down. A straight coupling going to the rear bracket will attach to the other horizontal end.
3. Going up from the Tee end (vertically), add a straight coupling.
4. Add a 1/2" vertical support pipe. For the unmodified design, this needs to be at least 3 inches longer than Measurement B.
5. Now you're going to head towards the front (left in the photo). Cut a piece of 1/2" pipe 1 7/8" long. If desired, cut the end off a straight coupling to cover the 1/2" piece of pipe that will be exposed. (*Note that we omitted this piece when we did the final gluing – it looked good in the photo but not in actuality*).
6. Add a 90° elbow.
7. Going vertically, add a straight coupling to the 90° elbow.
8. Add another 1/2" vertical support pipe.
9. Hold off on adding the top 90° elbows and connecting pipe until you have added the hose clamps, sliders and supporting bar.



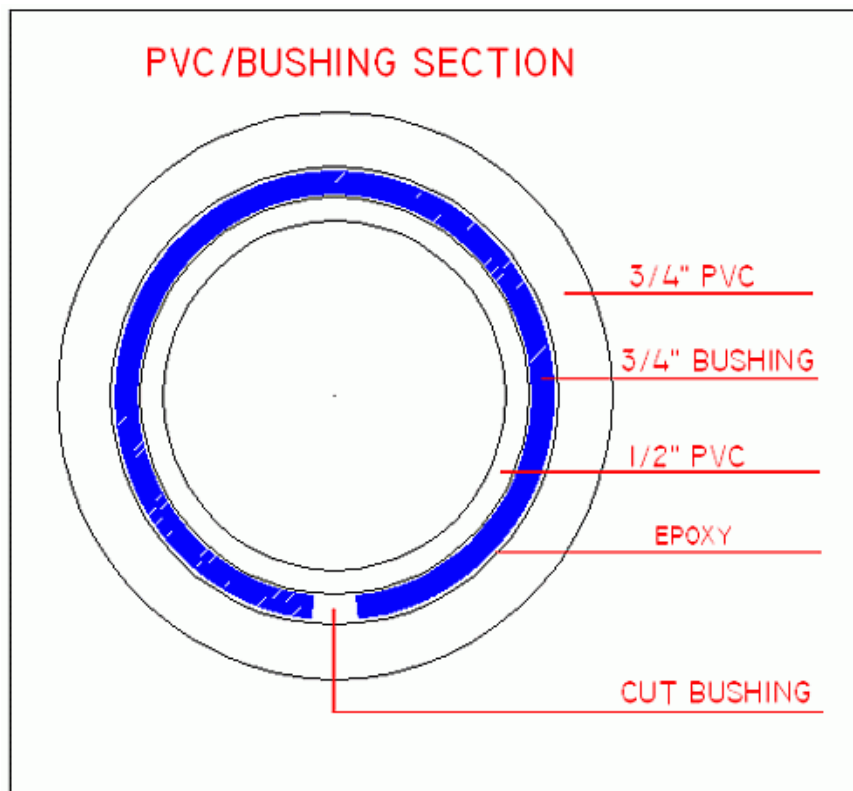
VII. THE SLIDERS

The frame on the dog cart/wheelchair is made vertically adjustable by the use of PVC sliders. The sliders are 3/4" PVC Tee and 4-way fittings that fit over the 1/2" pipe through bushings cut from 3/4" water line (ABS pipe).

Parts Needed

- Two 3/4" 4-way PVC fittings
- Two 3/4" Tee PVC fittings
- One length of 3/4" PE3408 / PE3408 440 (SIDR 9 PR 160 PSI, ASTM D2239 NSF-PW) pipe - we bought a 5' section but need about a foot. *Can substitute clear vinyl tubing-2.6mm (0.1" thick) – this may not fit all the way around the inside but should be okay to use.*
- Epoxy – A good quality epoxy or polyester resin

Tools: This job can be done with either a small hand saw and pipe cutter, or moto-tool / Dremel type tool. The moto-tool is faster and easier to use.



Bushing cross-section in relation to 1/2" pipe and 3/4" PVC fitting

Cut the Bushings

1. Cut 8 bushings approximately 3/4" inch long.
2. Cut a vertical slot in each bushing.



Cut bushing with moto-tool

Epoxy the Bushings

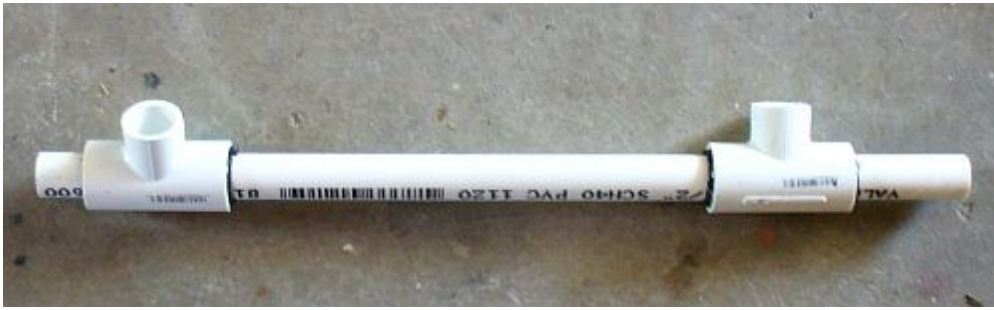
1. Spread the cut bushings over a short section of 1/2" PVC. There will be a gap of about a quarter of an inch when the bushing is fit over the pipe. This is OK.



Cut bushings on pipe with other cutting tools

2. Carefully line the inside of the 3/4" PVC fitting and the outside of the bushing with epoxy or polyester resin. This is a bit tricky - do not get epoxy inside the bushing, or you will epoxy it to the 1/2" pipe it needs to slide over!
3. Insert the pipe/bushing into the 3/4" PVC fitting.
4. Wipe off any excess right away, again avoiding the 1/2" pipe.

THE SLIDERS (Page 3)



Bushings set on the 1/2" pipe just after adding epoxy

5. Wait until the epoxy is nearly set and then give the pipe a bit of a twist to break the bond if any excess epoxy got in there.
6. Remove the pipe after the epoxy sets and trim/sand as desired



Bushings epoxied in place

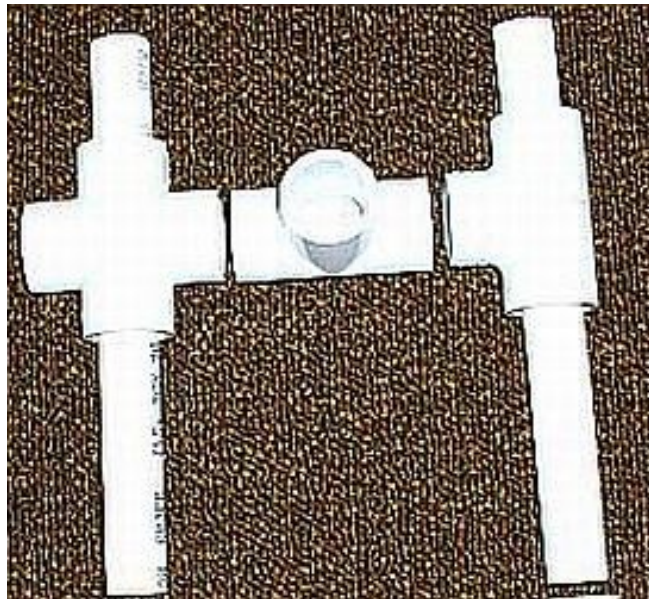


Slider on a vertical support with one of the bushings showing

VIII. THE SUPPORTING BAR & TOP BRACKET

THE SUPPORTING BAR

1. Add the hose clamps to the rear vertical supports (this can be done later if you forget). Put a Tee slider over each of these supports. Add the 4-way sliders to the front vertical supports.
2. Connect the horizontal ends of a 3/4" Tee in between the front and back sliders using 3/4" pipe pieces that are 1 1/2" long for the joins.
3. Rotate these middle Tees so the Tee parts are perpendicular to the sliders and point toward each other.



*Photo of the Tee and sliders for a wheelchair with a lower rear bar only.
For a wheelchair using an upper rear bar as well,
use another 3/4" cross for the slider instead of the Tee at right.*

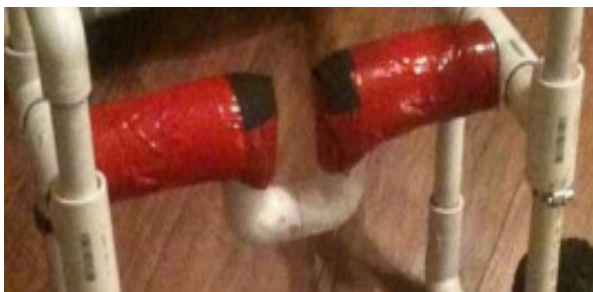
4. Insert a piece of 3/4" PVC pipe between the facing Tees to form the supporting bar for a female dog. (This needs to be 2 inches wider on each side than your dog's widest part.)



The supporting bar connecting the Tees in between the sliders

THE SUPPORTING BAR (Page 2)

5. For a male dog, you can modify the above bar to accommodate the dog's privates. Below is Dan's modification for Hoosier:



Start by connecting two 3/4" elbows, add a 3/4" straight connector to each, followed by a 3/4" elbow to each. Then measure the remaining distance of 3/4" pipe needed to attach each side to the frame.

THE TOP BRACKET

1. Add a 90° 1/2" elbow to the top of each vertical support pipe.
2. Cut two pieces of 1/2" pipe, each 4 5/16" long.
3. Fit them in between the 90° elbows as shown below.



Left photo: Top bracket before connecting the elbows.

Right photo: Top bracket in relation to side brackets and supporting bar.

IX. THE REAR BRACKETS

If your dog is unable to use its hind legs and you want to prevent them from dragging on the ground, you have several options:

- Pad the lower rear bracket with foam and add straps to hold the legs.
- Create a deep pocket out of fabric and firm plastic that attaches to the rear bar but still holds the legs and paws off the ground.

Note: We have not experimented with the above two options.

- Extend the side shafts to an upper rear bracket as well as a lower one and use padded straps from which to suspend the dog's thighs.

Note: The photos below are from trials for our large quad dog wheelchair made out of wood. You can substitute other fabrics for the strap material.



Strap with plastic buckle made from webbing covered with fleece. Overlapping Velcro is used to attach the strap to the bar.



Commercial strap made from wide webbing and nylon padding attached by cloth strips.

Building the Brackets

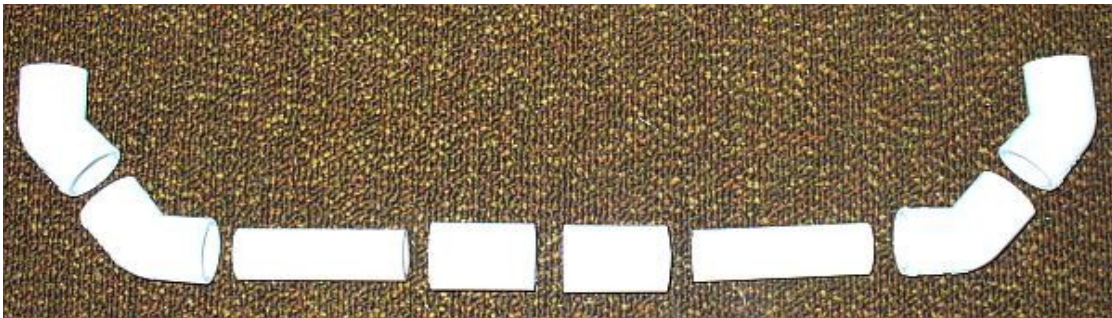
1. Take two straight couplings and glue them together. These will lie in the middle of the brackets.
2. Next take two 45° elbows for each side and join them together so that they lay flat when put on a hard surface. These will form the corners for the rear brackets.

THE REAR BRACKETS (Page 2)

3. Then connect each set of elbows to a piece of $\frac{1}{2}$ " PVC pipe which leads to the straight couplings in the middle.

The length of pipe needed is determined by the width between the side brackets, i.e. the supporting bar plus its sockets.

Each piece of pipe will be covered by connectors to a depth of $\frac{11}{16}$ " for a total of $1 \frac{3}{8}$ " so add that distance to get the total length.



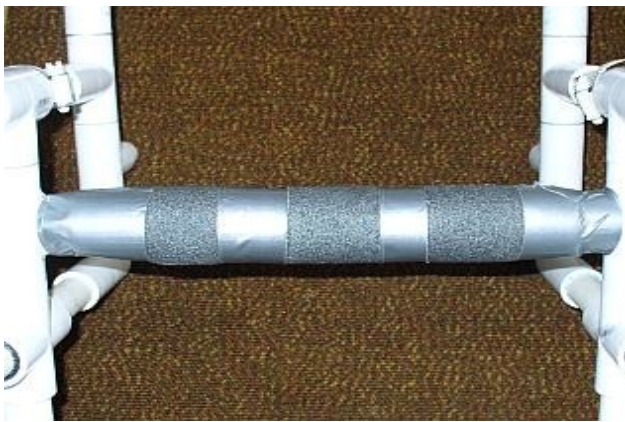
Rear bracket layout

4. The lower rear bracket is joined to each of the side brackets by a straight coupling. Glue the straight couplings to the side brackets first (not shown below).
5. The upper rear bracket, if you wish to create one, is joined to the rear $\frac{3}{4}$ " cross slider by a straight coupling as well.

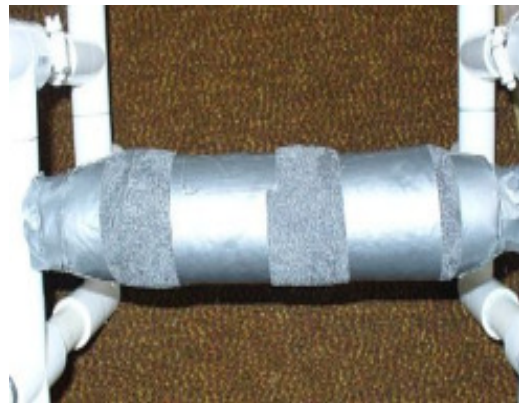
X. THE FOAM PAD & VINYL COVER

THE FOAM PAD

1. Cut two pieces of foam insulation the length of the supporting bar up to where it connects with the Tees.
2. Apply the first layer and duct tape in place.
3. Add the second layer over the first, with the horizontal slit in a different place, and duct tape in place.



First layer of foam insulation



Second layer of foam insulation

THE VINYL COVER

1. Hem the edges of the piece of vinyl.
2. Add Velcro along the length of the vinyl. The hook end should be sewn to the right side and the smooth end sewn to the wrong side.



Vinyl pad with one side of Velcro



Vinyl pad fastened in place

XI. THE HARNESS & SHAFTS

THE HARNESS

1. Add 4" to the supporting bar width to determine the length of the backpack strap you will need.
2. On either end of the padded strap add loops of 1 1/2" webbing just wide enough to go around the 3/4" shafts. Use sturdy safety pins to hold in place.
3. Cut a 12" length (A) and a 16" length (B) of the 1 1/2" webbing. Sear the ends with a flame so that the webbing will not unravel.
4. Fasten 2" of Length A to one end of the padded strap over the loop ends. (You will need to unfasten and refasten the safety pins).
5. In the same way, fasten Length B to the other end of the padded strap.
6. Snap the plastic buckle halves together. Pull 2" of Length A through the receptacle end of the buckle. Fold it over the buckle bar and safety pin it in place. Note that you will want the buckle to end up alongside the dog's neck rather than in the front against the windpipe so this may need adjustment.



Top side of harness



Underneath side

7. Thread the loose end of Length B through the other half of the buckle. This will be the part you can adjust.
8. Put the loops over the shafts of the harness so the padded strap will go over your dog's neck and the webbing and buckle will go around the dog's front (see photo under Shafts).

THE SHAFTS

1. Cut two lengths of 3/4" pipe according to Measurement C.
2. Push each into the open ends of the 4-way 3/4" crosses.
3. Add harness loops over each end. (see below)
4. Add the 3/4" end caps.
5. Have ready two pieces of 1" Velcro, hook-side only, to glue in place once optimum placement of the harness has been determined. This can be directly over the dog's front legs or slightly behind – observe whatever seems most comfortable for your dog/allows for maximum freedom of movement.



The harness on the shafts

XII. ADDING THE WHEELS

1. Attach the straight couplings coming up from the wheel assemblies to the join pieces on the side brackets. Make sure the wheels are in perfect alignment with the frame as shown below.



Tee fitting and bolt in perspective with finished axle.
(This photo shows an inside Tee that has not been modified.)
Note the smooth end to the inside and the round cap over the hex nuts on the outside.

XIII. TESTING & ADJUSTMENTS

1. Firmly add duct tape to all your joins that have not been glued.



2. Bring along a screwdriver for the hose clamps, extra duct tape, a marker, padded straps for your dog's hind feet (if need be), safety pins, a tape measure, a notebook and pen.
3. Put the dog in the Dogge Chariot™ over the supporting bar and arrange the straps.
4. Give your dog a good trial run.

Perform adjustments and make a note of ones you will need to make later:

- the height of the supporting bar (easy to change on the spot by loosening the hose clamps, sliding the bar, and retightening);
- placement of the straps to tie up your dog's legs if they are totally paralyzed;

TESTING & ADJUSTMENTS (PAGE 2)

- mark where the harness loops need to go on the shafts – you may want the top strap to lie as close to the dog's withers as possible rather than further down the back;
- the length of webbing sticking out from the buckle once you've tightened the breast strap – if more than 4", mark that point with safety pins so you can cut it off and sear the end later;
- the height of the vertical supports – if you have a young dog that is still growing or plan to resell the wheelchair, it is better to err on the side of safety. However, if you have an older dog, leave no more than 2" of upward movement for the sliders.
- the width of the Dogge Chariot™ – check to make sure that the dog can move freely and is able to turn the wheelchair without it tipping over.



XIV. FINAL ASSEMBLY

When you are satisfied with your adjustments, it's time for the final assembly.

Make sure to use a slower-drying epoxy or fiberglass resin for each join that is duct taped. You want to be able to put together the basic frame during one session to make sure you can adjust things squarely.

Remember that for each join, you will have two ends that need to be glued in place. You can use PVC solvent for one end; just not for the other. It is best to be systematic. Mark each join you have glued with either a piece of masking tape or a marker to keep track.

It may be easiest to glue the bottom and side brackets first; then the middle Tee holding the supporting bar; then the top and rear brackets. The shafts and wheels can be added separately later. Be very sure that the Tees going down to the wheel shafts are perpendicular. If you are off to the inside it will affect operation of the Dogge Chariot™. A slight lean to the outside may actually help stability.

Simply remove the duct tape, make sure both surfaces to be joined are roughened slightly with sandpaper, add epoxy or resin to the joining piece with a knife or screwdriver, and fit together tightly. Thoroughly wipe off any excess glue as soon as you have connected the pieces.

Use a hammer over a piece of foam if necessary to get joints to move into place.

Once you have glued all the parts of the frame, square things up, verify that all joins are as close together as can be and that excess glue has been removed. Then tape each one well to hold it in place while the glue sets.

You can add the wheels and shafts at this time, again duct taping the joins to hold them.

Once the glue is set, test the chair by leaning on it and pulling at the different joins to make sure you did a solid job.

You can now paint it with a paint of your choosing (see photo on next page) or wrap the pipes in colored tape.



*Hope in one of the early non-adjustable prototypes.
Although the paint job looked good and the rear worked fine, the sling
underneath her torso and the rigid front bar were not a success.*

Note that the paint may chip off fairly easily unless it is specially designed for PVC. Continuously wrapping the PVC in tape may be a better option. Just be sure not to tape over the vertical supports for the sliders!

Recommendation:

Bring along some duct tape when exercising your dog away from home, just in case anything works loose.

*Your Dogge Chariot™ should now be ready for service!!
We hope you and your dog spend many happy hours using it.*

*If you have any questions or feedback, please go to our website at
<http://www.make-and-build-dog-stuff.com/contactus.html> to contact us.*