

How to Build a Cartbike

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Cartbike Building Misadventures ([From Resist Zine #42](#))

For months Dan, Gus, Ben, Lisa & myself have been talking about building bicycles. Iâ€™ve mentioned before about me & Ben's obsession with High Wheeler/Penny Farthing bikes. But neither of us knew how to weld, and we were having trouble figuring out all the details. So gradually, our focus shifted towards more utilitarian bicycles. Mostly pickup/truck bikes and cart bikes. We still were planning on doing welding though. Two people offered their assistance. Since Gus was as excited about the prospects as we were, it seemed like things would work. Once problem still remained. Gus didnâ€™t have equipment, and the equipment at the community house where Dan lives was frozen in the garage. (The garage door couldnâ€™t be moved for at least a month due to inches of ice around it) And we didnâ€™t even know if we had the right equipment, because the only person who ever used it was gone for 5 months or more.



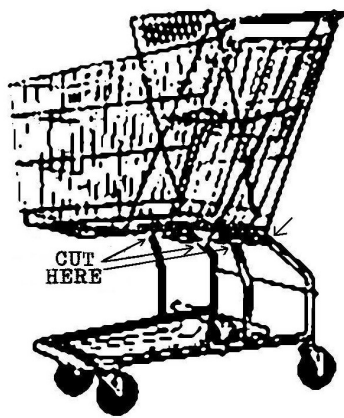
But when I ran across plans for a bicycle cart with no need for welding, ideas started churning. I didnâ€™t like the plans, and they were kind of incomplete besides. But the basic idea that I latched onto was the use of U-clamps. A lot could be accomplished with those little wonders. The plans I found (they were either in Seedhead, Luddite Tech Zine or How 2 Zine.) suggested U-clamping forks to the side of a cart. We thought theyâ€™d move around too much and decided to try an axle (still using u-clamps to attach everything.) Their plans also called for some weird bent pipe contraption for steering. We decided to clamp the forks directly to the cart. This of course was all before we even had a cart in our possession. So it was all just

speculation. Then we got our hands on some carts & Monday, got together for our first building session.

Gus towed a cart Iâ€™d left in Benâ€™s backyard over to my garage where we had plenty of parts and tools. We set about to finding pieces to put it together. We wanted a girls frame, so itâ€™d be easy to get on and off. I didnâ€™t have many, but we found a nice yellow one with no wheels or handlebars (or neck.) We found a back wheel and a couple front ones and started piecing it together. It was about 4 hours that night, and mostly we just learned what wouldnâ€™t work. The allthread axle wasnâ€™t the same thread as bicycle axles, so we had to jerry-rig it. Iâ€™ll save you the boring details of how that worked, because it ended up that the axle was too flimsy anyway. We tried to clamp the forks to the cart & had trouble there too. First we clamped it too low so that the pedals hit the ground, and we didnâ€™t clamp it to main braces, so it broke the little welds on the cart. We had a brain storming session and put the parts away for the night.

(Left: Picture from before brakes, & shifters were hooked up) I had to work the next day, so I gave Ben the key to the garage and showed him where the tools were. When I got home, they were putting the finishing touches on the basic design. Iâ€™ll give details on itâ€™s assembly later. We took it for a test drive, and it was hella hard to drive! Wow! It took muscle to steer, and if you steered too sharp, it would tip over. And when you started to steer, it would pull even harder in that direction, so that you had to hold it back. At this point it had no brakes or gears. We had Lisa sit in it, since she was smallest. With a load, it was much easier to drive. We each took turns in it, and even with 165 pounds, it held up and drove fine. So then we brought it back to the garage and put a neck on it, which we clamped to the grocery cart for extra support and to attach the gear shifters to. (You should definitely have some gears on a cart bike.) We hooked up a back brake, which was also attached to the handle.

HOW TO BUILD YOUR OWN CARTBIKE

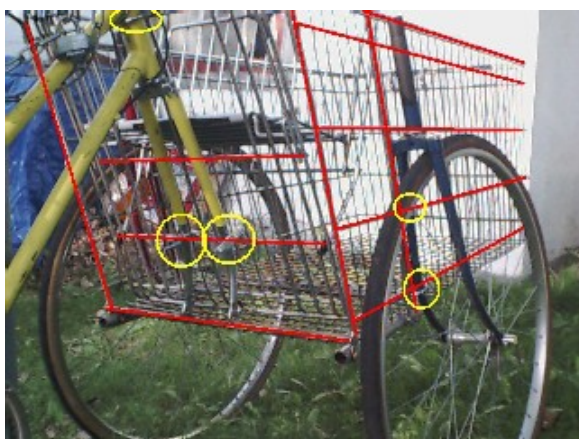


Okay, the first thing you're going to have to do is get your hands on a cart. Metal ones are the only ones worth grabbing. I say, grab the biggest one you can find (but then I've never tried a small one.) Once you have that, you just grab yourself a hacksaw, and cut the basket off the bottom half of the cart. Just cut the four legs as close as you can to the basket. We also took the plastic handle off the cart, so that whoever originally owned the cart wouldn't come after us trying to get it back. Take off any identifying marks, even if you dumpstered the thing. (rather than finding it on the side of the road or in a vacant lot or something.)

Next you're going to need an adult sized bike to attach the cart to. I would highly suggest a women's bike, since they're much easier to get on and off of. I would also highly suggest that it be a 10 speed, since you'll be happy to have the extra gears when you're trying to pedal a basket full of groceries (or bricks, or people, or whatever) uphill.

Here's a list of other things you'll need to complete this project:

- 6 or more small U-clamps (about an inch across)
- 1 large U-clamp (big enough to fit around the head tube of your bike)
- 2 matching front wheels & coinciding forks. (I would suggest at least 26inch wheels)
- 2-4 hose clamps
- 1 tin can



Take the forks and wheels and position them on the sides of the cart. You can screw around with this and try to figure out where

they work best, but we found that the forks should stick past the bottom of the cart a couple inches, and should be pretty close to the back. One reason for this is that most of a cart is composed of weak little bars. If you attach the forks to those, the little welds will break, and it won't be very strong. There are only a few strong bars that forks should be attached to. We chose a point near the back where some of the main supports are. Two of these strong bars crossed each other, and we put the U-clamps there. Put the U-clamps on, and tighten them down a bit. Make sure the cart sits level, and then tighten everything up. (I've highlighted the strong bars red, so they're more visible in the picture. Notice the clamps (circled in yellow) are all attached to at least one of these.)

Now, pull the front wheel off your bike. Remove the front brake, and both the brake handles. Now spread open the neck and remove your handlebars. (You'll want to leave the neck, as you'll be using it later. Also, using the handlebars to spread the neck open will make the job easier later on.)



[click on picture for full sized version](#)



We tried to file the dropouts on the fork wide enough to accept the bar that runs across the bottom of the back of the basket, but gave up as we were in such a

hurry to get the thing done. It evidently didn't need to be done, but I think it might be a good idea anyway. So then you just turn the forks around, so they're backwards and center them on the bar that runs across the bottom of the back of the cart. Use a U-clamp on each side of the fork near the bottom to attach it to a strong part of the back of the cart. Then use your big U-clamp to attach the neck to the back part of the cart. To make the attachment just a little more secure, we spread open the neck, and twisted the two pieces of the handle with a channel locks so they would slide into it, then tightened it up. To get a really tight fit, we would have needed some old tubing or tin can strips or something, but we left it as is. We also attached our gear shifters to the neck. Because the backs of most carts flap open, you'll need to use a few hose clamps to hold it shut. We put a couple on the bottom, and a couple on the sides.

Now you've kind of got a choice with the brakes. You can just leave off the front one, and attach the back handle to the cart like we did. Or you can put brakes on both the forks attached to the cart, and have them up in front where all the stopping power is. This is what I would have done, but the bike I was using didn't have any brakes, and I had trouble scrounging up even one. This is where that tin can will come in handy. You'll have to cut strips of it to wrap around the cart handle, so you can tightly attach the brake handles. In the pictures, it looks like we duct taped ours on, but that's just there to cover the edges of the tin can. Some grips would make the handle a bit more comfortable. (maybe some of those foam 10 speed ones or something)

I haven't gone into every single detail about putting one of these together, because every single bike/cart combination is going to be different. With each you'll encounter your own special brand of problems along the way. If you've never worked on a bike before, this might not be the project for you. Probably learning to adjust your brakes & gears, and change your tires is a good place to start. If you've done some work on bikes, this should come pretty easy for you. The hardest part for us was coming up with the basic design, and doing it without any welds. We've fixed that problem for you. Now go to it!



Just to let you know, our concern about the forks moving was well founded. Our forks do move a bit, but if the bike is moving forward, and especially with a load, the problem is self-correcting. It has yet to be a real problem. These things are pretty difficult to drive. I found that it's much easier to steer by leaning, than by trying to turn the cart. The problem is that you have to shift your weight the opposite of the way you want to go. It's sort of difficult to explain, but once you have yours built, you'll see what I mean. It's definitely not built for speed. In order to keep control, you have to move sort of slow. It's good for getting loads of stuff (like groceries) but I wouldn't want to use it as an every day bike (unless I was hauling a lot of stuff every day, and then I would build a trailer.)

[Click here to see a whole slew of pictures of the cart bike](#)

By the way, if you come up with any fabulous variations (that don't require welding) on this design, [Email us](#) and let us know about them, and we'll pass the info along.

matte resist

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