

Sunday Afternoon Cycling Church presents...

# Make-your-own bike trailer

Venue is being worked on.

Date to be advised when there's enough interest – hopefully June 2007.

For more details phone 365 8238 or email: [thepope@cyclingchurch.org.nz](mailto:thepope@cyclingchurch.org.nz)

Check out our hilarious book at [www.cyclingchurch.org.nz](http://www.cyclingchurch.org.nz)

## **Introduction**

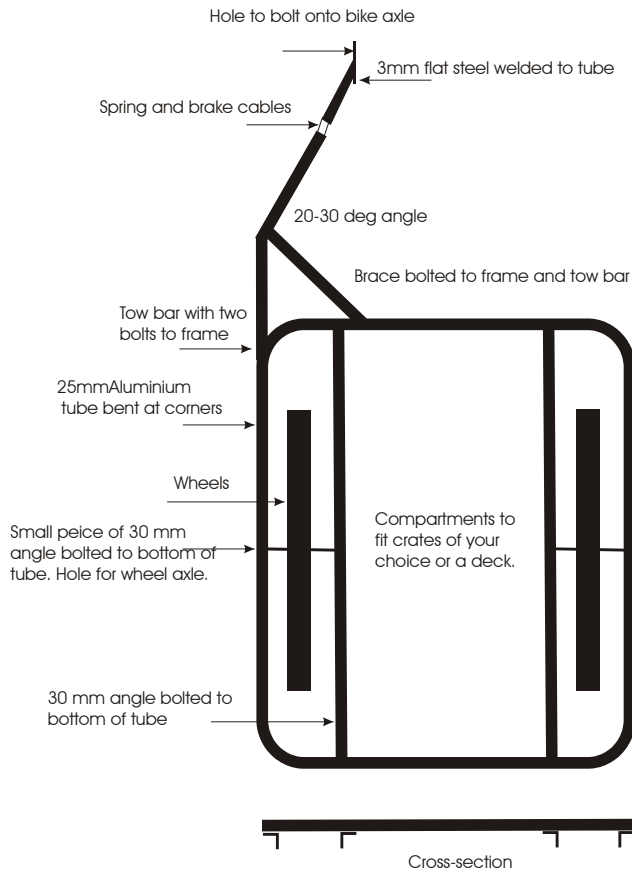
This is the third workshop that we are hoping to run and there have been a few lessons learnt along the way. Check out the writeup at [www.cyclingchurch.org.nz/workshop](http://www.cyclingchurch.org.nz/workshop). The new plan is to make use of a kitset trailer that I am developing at a cost of approximately \$70. Alternatively you can use recycled materials and build one much more cheaply, but it is a struggle to make an entire trailer in eight hours starting from scratch, so if you wish to do that, some preparation beforehand will help in getting a working product by the end of the workshop. The original design that was used in previous workshops was based on the one described at [www.re-cycle-east.org/resources/pdf/recycleTrailerRecipe.pdf](http://www.re-cycle-east.org/resources/pdf/recycleTrailerRecipe.pdf). Their website is well worth a look but their design has some limitations which are:

- The hitch described has resulted in the loss of a number of back wheel spokes with sharp right hand turns.
- The use of old front forks to mount the wheel puts stress on the joints, which have broken or bent under load.

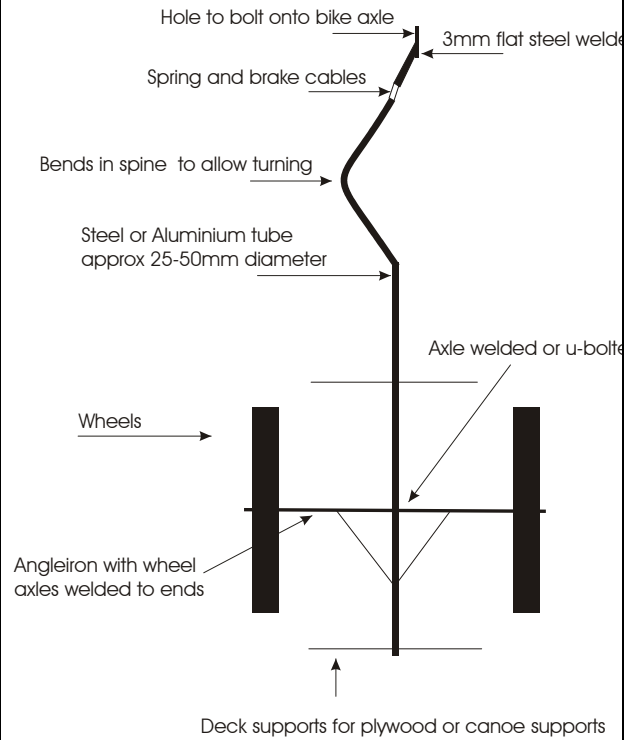
I have drawn up alternative plans (page 2) which are based mainly on the use of new materials. The use of old recycled materials is good but adds to the preparation time significantly (de-rusting, extra welding etc) so makes it harder to complete a trailer in the time available. You can track down your own materials or tick the boxes on the registration form if you'd like to make use of mine, but I can't guarantee there will be enough wheels etc available (I'll let you know if not). Garage sales are the cheapest option to obtain your own materials, or else try City Mission (Hereford St), Cats Protection League (Worcester St, tues & thurs only), and the Supershed. If you would like to donate parts (e.g. childrens bikes for wheels) please place them over the fence of Kings Bike shop, cnr Armagh and Barbadoes Streets, or let me know and I'll collect them.

The requirements are:

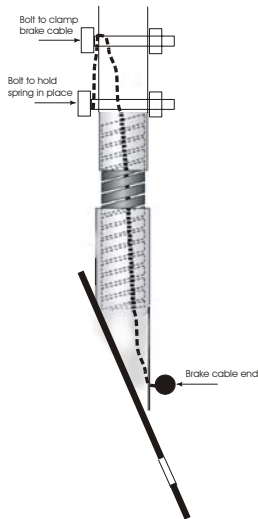
- Some basic skills with tools eg. hacksaws, drills, spanners (welding and bending can be done on site by trained welders but it takes a while)
- Two wheels of the same diameter preferably 20-26 inch (with axle bolts and nuts). 16 inch wheels are ok but the trailer is lower and bins can sometimes drag on the ground over curbs etc.
- Steel or aluminium (angle, tube or square cross section) to make a rectangular frame (approx 5m depending on design). Some suggested secondhand sources are dexion shelving, old office divider frames, rectangular or angle section metal beds, tables, stools. It needs to be strong.
- Plastic bins so you can make your frame to suit the bin size. Recycle bins are good and strong, or buy new (but flimsy) ones from The Warehouse or Plastic Box. Apple crates are very sturdy, available at around \$30 from Stowers, 413 Tuam St. Lids are handy for wet weather and security. An old fridge makes an excellent weather-proof box.
- One sturdy spring around 20-30mm external diameter for the hitch e.g. trampoline spring, jolly jumper spring, or an old bike tire will suffice.
- If possible - hack saw, vise, spanners, allen keys, screwdrivers, drill, nuts & bolts (around 6mm x 50-70mm)



Bent tube frame suitable for heavier loads.



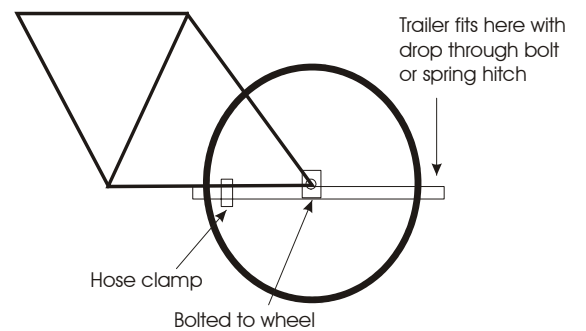
Spine trailer suitable for lighter loads, or long loads e.g. canoes. Easier to construct



Hitch detail

Note the hitch I prefer is one with a spring that bolts to the bikes rear wheel, however, there are two other possibilities including:

Attaching a tube (eg 20mm square steel) to the rear wheel that extends to the back of the wheel. This avoids any right turning problems



Using a bolt through a hole arrangement attached at the seat post. Works well as long as the bike doesn't fall over in which case they are prone to getting very bent.

See [www.cyclingchurch.org.nz/IDTG\\_trailerplans.pdf](http://www.cyclingchurch.org.nz/IDTG_trailerplans.pdf) for details

Registration Form  
Please complete and send to P.O.Box 13266, Christchurch.  
Any cheques can be made out to Steven Muir.

|                   |  |
|-------------------|--|
| Name              |  |
| Address           |  |
| Phone             |  |
| Email             |  |
| Tools I can bring |  |

| Materials & services required  | yes | no | Cost |
|--|-----|----|------|
| Bike trailer kitset (prebent aluminium frame with hitch but no wheels, fits two bins)    |     |    | \$70 |
| Aluminium tubing unbent 22mm and 25mm<br>3 x 1/3 lengths (2 for frame and 1 for tow bar) |     |    | \$35 |
| 2 <sup>nd</sup> hand wheels (may need new bearings)                                      |     |    | \$10 |
| Bolts (6mm x 70mm with nylock)   |     |    | \$5  |
| Pre-made hitch base  |     |    | \$15 |
| Roller end bearing hitch (stronger and better)   |     |    | \$40 |
| Big spring   |     |    |      |
| Welding  |     |    |      |
| Bending  |     |    |      |
| <b>Total</b>   |     |    |      |



The word of the Lord came to me in the year 2005 AD, the thirtieth year after the first oil price shocks, and at the beginning of peak oil. Thus sayeth the Lord "I have seen the greed and over-consumption of the people of the Earth and behold I am most displeased. They pollute my clear blue skies with their exhausts and congest the land with roads and vehicles. If the people of the Earth do not repent and change from their wickedness I shall bring judgement sayeth the Lord, a terrible shortage of the fuel that drives their greed." And the Lord revealed the mechanism by which the people of the Earth should transport their goods, and behold it was a bike trailer, and the Lord caused the plans for the bike trailer to be available on the internet at [www.cyclingchurch.org.nz/plans.pdf](http://www.cyclingchurch.org.nz/plans.pdf). The Lord then instructed people everywhere to go forth and construct bike trailers and to use them to transport their groceries and other heavy items, rather than taking their car, and behold it was very, very good.