

1. Cruzbike Conversion Kit Instructions

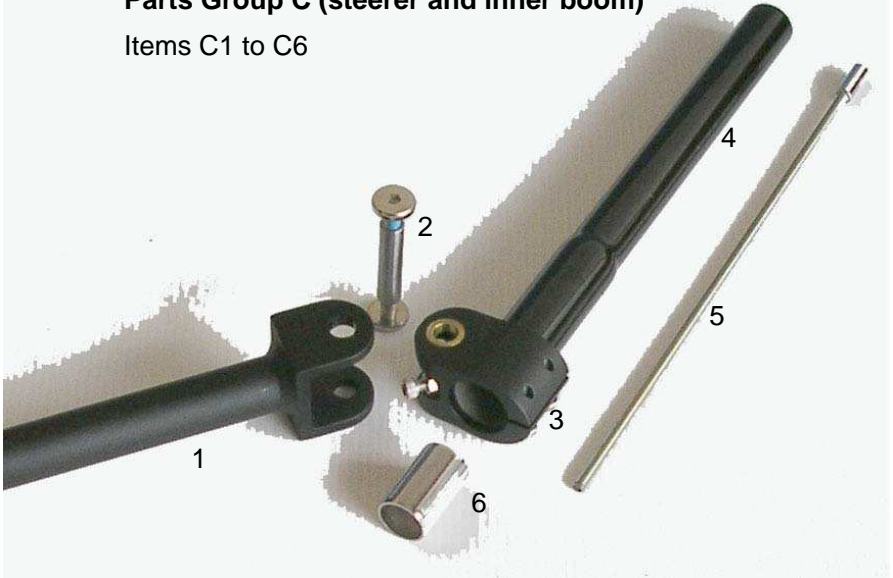
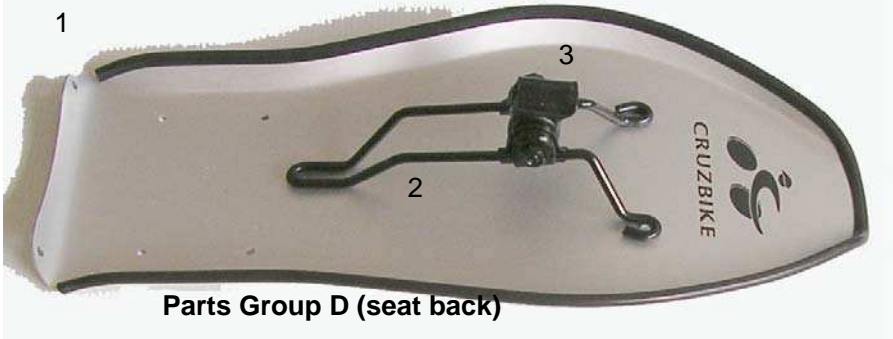
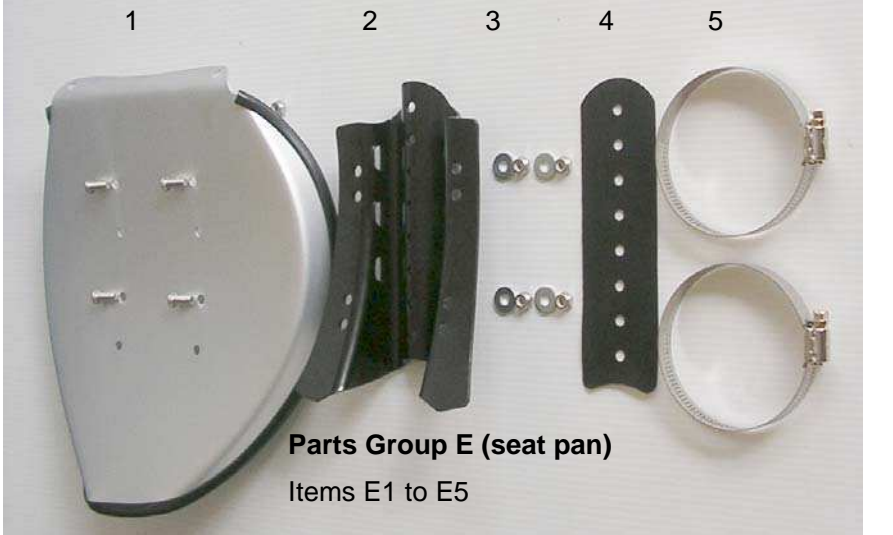

These instructions are for people who purchased the Cruzbike Conversion Kit and who are going to convert a regular mountain bike into a Cruzbike. If you purchased a complete bike, please disregard this chapter.

Read the entire fitting instructions before starting.

Included Parts – Cruzbike Kit

Tick off the following parts, do any subassembly needed to prepare the items as pictured:

<p>Parts Group A (triangle and FWD brackets) Items A1 to A7</p>	<p>Parts Group B (front to rear axle) Item B1</p>
<ol style="list-style-type: none"> 1. Telescoping Front Tube (TFT) Sleeve with Quick Release Clamp; 2. Chainstay with bushings inserted and three piece bolt. 3. Chainstay fixing bolt 4. 2 nylon washers, 1 steel washer x 2 5. Triangle brackets, Left and Right, with 6. Ring Clamps x 2; 7. Rubber Pads x 2; 8. Fork dropout bolt, 2 washers, one nut x 2 	<ol style="list-style-type: none"> 1. Rear axle to fit the original front wheel into the rear dropouts

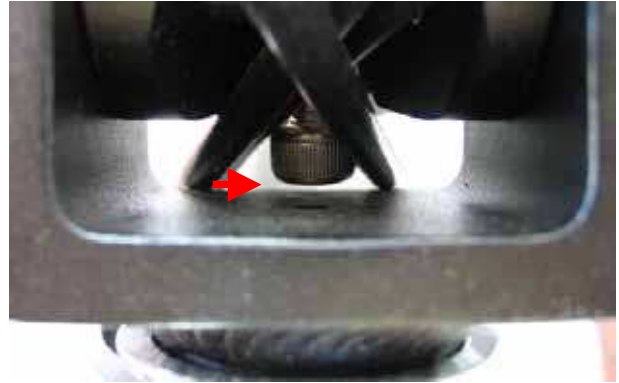
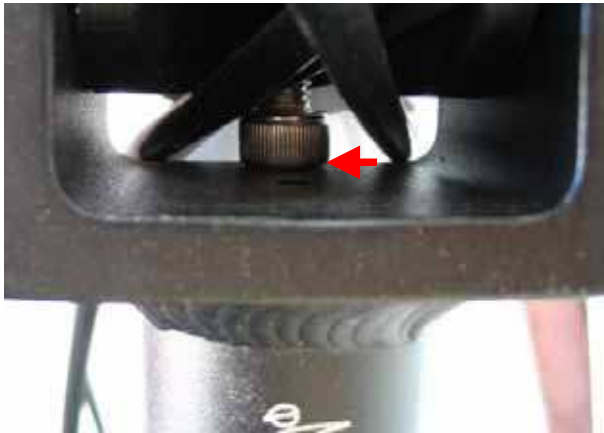
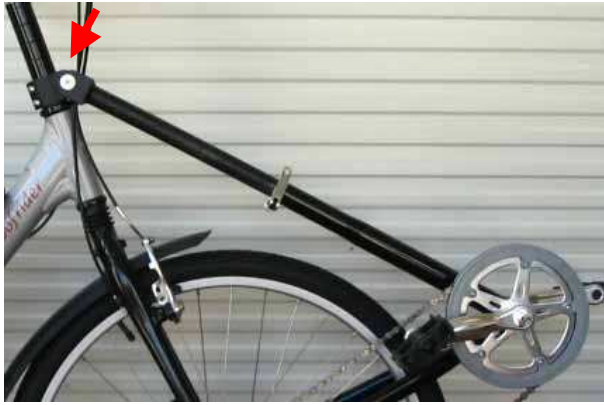
<p>Parts Group C (steerer and inner boom) Items C1 to C6</p> 	<ol style="list-style-type: none"> 1. TFT Arm; 2. Dowel Pin and 2 bolts; 3. Pivot Clamp with bushings inserted and with Safety Bolt fitted; 4. Steerer Extension Tube; 5. Ahead Tensioning Bolt Extension; 6. Insert collar
 <p>Parts Group D (seat back) Items D1 to D3</p>	<ol style="list-style-type: none"> 1. Seat Back; 2. Seat Rail and Binding Clamp; 3. Binding Clamp; 4. Bolts washers nuts x 3;(not shown) 5. Bolt, nut, grommet, pair of washers x 2 (not shown)
 <p>Parts Group E (seat pan) Items E1 to E5</p>	<ol style="list-style-type: none"> 1. Seat Pan; 2. Seat Mount; 3. Bolt, washer nut x 4; 4. Rubber Strip; 5. Ring Clamps
 <p>Parts Group F (misc bushings) Items F1</p>	<ol style="list-style-type: none"> 1. bushings to fit the sofrider fork (not required for conversions)

Safety Bolt

Your Cruzbike Sofrider or Freerider is fitted with a unique safety feature to prevent the Telescoping Front Tube (TFT) from disengaging. If this were to occur, the pedals could swing down and touch the road dangerously.

⚠ Warning: Pay attention to the following instructions on checking and setting the Safety Bolt. Failure to do so could result in accident and serious injury or death.

25. In the following two pairs of pictures, note the location of the safety bolt and the clearance to the U bracket.



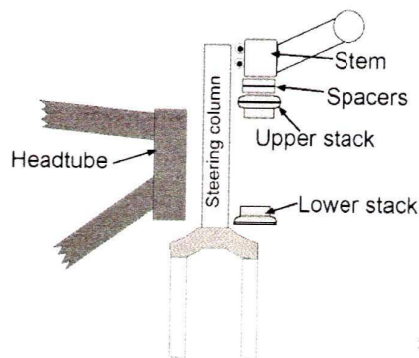
When the TFT is fully extended, (top) it comes to rest against the bolt head (above) and so the TFT cannot disengage.

When the TFT is fully closed, (top) there is a small gap between the bolt head (above).

26. Check that you cannot disengage the TFT. If you can, then the bolt needs to be turned anticlockwise. Turn it anticlockwise half a turn at a time, remembering to retighten the lock nut at its base, reassemble and recheck. To gain access to the Safety Bolt, remove the pivot pin using two 6mm allen keys and disconnect the top of the TFT.

Do we have all we need?

1. Check that you have tools to suit the nuts and bolts provided with the kit.
2. Check that you have tools for the following items on the bike: axle nuts, derailleurs, brake and gear cables, seat post clamp, head Stem, crank bearings, headstem and handlebar. Typically, you will need phillips screwdriver, good quality shifter or spanners, and a set of allen keys. Check what tool you will need for the crank bearing cups. You will need tyre levers and pump for replacing the tyres.
3. Check that you are able to remove the cranks (the arms that hold the pedals), if not get the appropriate special tool from your bike shop.
4. Check that you are able to remove the chain, often there is a split link or similar affair, or else get a chain breaker from your bike shop.
5. You must use road tyres, not nobby mountain bike tyres. Buy them from your local bike shop. Go for as narrow and high pressure as your budget will allow – you will easily notice how much better your cruzbike will roll if you have narrow high pressure tyres. We suggest you use slicks unless you will be travelling on dirt roads. The clearance for the front wheel of the cruzbike can be tight and it may not take nobby tyres.
6. You will need to purchase ONE rear brake cable. (The current rear brake cable goes on the front and the new one on the rear.)
7. Most likely, you will be able to reuse your existing gear cables.
8. You are going to disassemble the crank bearings, so consider if you need to replace them. Check that you have a small amount of grease for when they go back.
9. In the recumbent position, it is very difficult to swing your head around to see the traffic behind you. Now is the time to buy a mirror of your choosing, or use the one that may have been provided with your bike. Most mirrors are convex and give a wider view BUT TRAFFIC APPROACHING FROM BEHIND WILL APPEAR SMALLER THAN WITH A FLAT MIRROR.
10. Check which stem type you have. The old type is know as a quill, because the stem when you extract it has an angled cut where a wedge nut fits. This type is phasing out, but still provided on low end bikes. If you have a quill type, you will need a 'quill to ahead adapter' which is a standard part. There are two sizes, one to suit a steering tube of 7/8" internal diameter (ID), and one to suit a 1" ID. Measure your steering tube diameter to see which you need. Refer to the Yahoo Group¹: Links > Special Parts > Stem Tube Adapters for a supplier if your local bike shop fails you. You will also need an ahead type stem – best chosen when the bike is almost finished and you can determine what reach will be comfortable. The ahead type, which most will have is diagrammed below² and if you have this you do not need the additional parts mentioned in this paragraph:



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¹ <http://sports.groups.yahoo.com/group/Cruzbike/>

² See also http://www.sheldonbrown.com/gloss_ha-i.html#headset

<http://www.bicyclemotor.com/techhelp/cuttingforktosize.html>

11. Check list when you visit the bike shop:
 - a) high pressure pavement tyres
 - b) rear brake cable to suit
 - c) your choice of mirror
 - d) special tools if needed
 - e) ahead adapter and stem if needed.

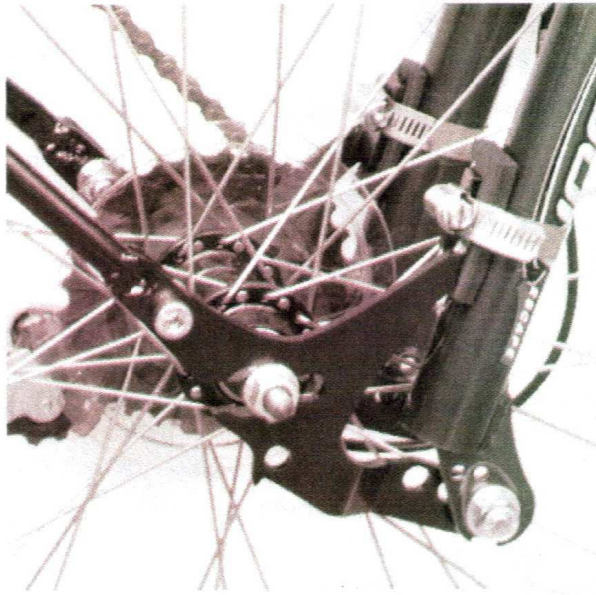
Now get started

Prepare the wheels and drive train

12. Put the saddle about level with the handlebars and turn the bike upside down.
13. Wipe clean the chain, and remove it.
14. Release both brake cables from the brake callipers.
15. Remove the front cable and discard it.
16. Remove the rear brake cable and set it aside for later.
17. Remove and wipe clean both derailleurs.
18. Unthread both gear cables back as far as the handlebar shifters, coil them and tape them to the handlebar out of the way.
19. Remove the bike's front wheel (the free wheel) and its rear wheel (the drive wheel). Wipe any loose oil and grime off the rear gear cluster with an old rag.
20. Wipe clean the chainwheel and remove it, as well as the other crank, using your special tool.
21. Disassemble the crank axle bearing, carefully getting all the bearings. Remove the second cup also, take care, it's a left hand thread, so clockwise to remove it. Clean and fit them into the new bearing shell.
22. Fit high pressure road tyres to your rims.
23. Fit the low profile cones provided to the long axle and then fit it into the donor's front wheel (freewheel). The low profile cones take the smaller diameter hub. Fit the freewheel into the bike's rear drop outs.

Fit the FWD Bracket

24. Turn the bike onto its wheels and prop it up securely.
25. If you have a quill type stem, loosen the headstem and lift it and the handle bars out of the fork neck tube.
26. Fit the crank axle and bearings into the cruzbike chainstay, replace and or re-grease as necessary.



27. Turn the forks so they are pointing backwards. Make sure the brake cable is clear of the frame.
28. Fit the FWD brackets and drive wheel to the front forks, as pictured. Use spacing washers between the FWD bracket and the fork legs so that when tightened there is 135 mm between the dropouts of the fork legs. The legs must not be squeezed together, or pushed apart – they must remain parallel.
29. The clearance between the top of the tyre and the fork crown is critical. To increase the clearance:
 30. a) Slacken off the clamps that hold the FWD bracket to the forks and slightly loosen the bolt that connects the FWD bracket to the fork dropout
 31. b) Adjust the brake blocks till they are at the bottom of their adjustment slot.
 32. c) Rotate the FWD bracket down until the brake block is just able to reach wheel rim and place packing in the gap that has opened up where the bracket rests against the fork leg. Folded rubber from an old tube may be suitable.
33. Measure the clearance from the tyre to the fork crown.
34. Fit the top tube and chainstay
35. Connect the top tube arm and the head stem extension tube using the Dowel Pin and allen key bolts provided.
36. Fit the chainstay arms to the FWD bracket using the Chainstay arm bolts, placing a nylon washer either side of the Triangle Bracket and on the outside, one steel washer on each side.
37. Fit the TFT sleeve to the chainstay, slot facing down and fit the seat post clamp around the end of the sleeve.

Assemble the Steering Tube

38. Assemble the Steering Tube Extension parts C3 and C4 as shown in the photo of Parts Group C.
39. If you have a quill type, fit the quill to ahead adapter in the fork steering tube.
40. If you have an ahead type, remove the tensioning screw from the top of the stem, loosen the stem clamp and remove the stem and any spacers. Note the existence of a star or flower nut inside the tube used by the tensioning screw.
41. If you have an ahead type, place the Insert Collar (Part C6) inside the top of the fork neck tube. Tap it down so that at least 2/3rds is inside. Doing so may push the star nut downwards – that's OK.

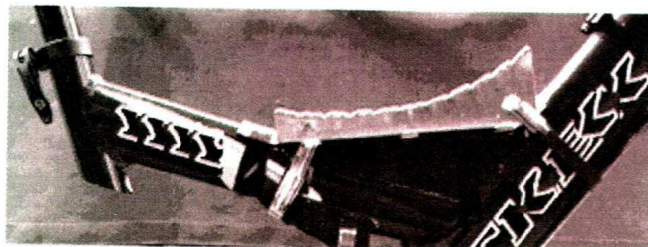
42. Fit the Steerer Extension Tube (Part C3 and C4).
43. If you have an ahead type, screw the Ahead Tensioning Bolt Extension (Part C5) onto the end of original tensioning bolt and the insert and firmly tension the head bearings.
44. Tighten the Pivot Clamp bolts (Part C3).
45. If you have an ahead type, lift the handle bars and stem and place the stem over the Steering Tube Extension.
46. Fit the cranks and chainwheel to the crank axle.
47. Fit the front derailleur.
48. Refit the chain.

Fit the cruzbike seat

49. Remove the saddle from the bike, then remove the saddle rail clamp assembly from the saddle. Store the saddle (or throw it away - he he). Fit the Seat Rails to the Seat Back using the 3 bolts provided.
50. Use two bolts to join the seat pan and seat back, rubber grommet between the, washers under the bolt head and nut.

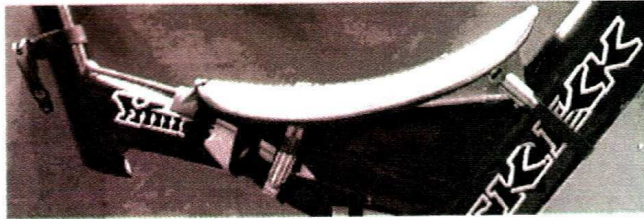


51. Using the Binding Clamp fix the seat to the seat post.
52. Get the seat support bracket and position it on the cross bar. The flanges form an arc. Position the lower part of the arc to be 8" (20 cm) in front of the seat post tube. Make sure that the high end is towards the FRONT.



There are 4 pairs of holes in the centre of the seat pan. Place the seat on the support with the third pair of holes(counting from the front) at the lowest point.

4. Fix the rubber strip with tape to the cross bar beneath where the bracket will fit.
5. Undo the hose clamps and thread them through at least two of the pairs of holes in the seat support bracket so the clamp can go around the horizontal bar of the bike. Make sure the screw heads of the hose clamp are facing down.
6. Place the seat support on the bike, check that the seat support is level, (that neither the left or right side is higher than the other) and do the hose clamps up firmly around the horizontal bar.
7. Place the seat pan on the seat support bracket and attach with the bolts provided.



8. Position the seat back and attach to the seat pan with the bolts provided, and on each bolt place a rubber grommet as a spacer between the seat pan and seat back. Tighten these nuts until the spacing between the seat pan and seat back is around 3/16" (5mm).
9. Lean the seat back about 30 degrees back from the vertical and adjust the height of the seat post tube to connect the saddle rail clamp assembly. Note that the clamp bolt can be in front of, or behind the seat post as required.

Adjustment and fitting cables

10. Fit the cushions to the seat, matching up the velcro strips.
11. Sit on the bike and loosen the Quick Release on the TFT so that your legs can comfortably reach the pedals.
12. Check the position of the derailleurs and adjust the range of movement for each to suit the position of the chainwheel (front derailleur) and cluster (rear cluster).
13. Place the rear wheel of the bike against a wall, so you don't roll backwards and fall over (!) sit on the bike and rotate the pedals so that your knee is at its maximum bend, then adjust the handle bar height so there is sufficient clearance. When you pedal quickly, your knees may need more clearance.
14. For the ahead, you may have extra tube projecting above the stem. You will need to cut this back, but get used to the riding set up first, so as not to cut too much off.
15. Nearly there ...
16. Now take the rear cable and install it on the front brake/right lever.
17. Fit the new rear brake cable to the rear brake/left lever. Pass the cable in the gap between the seat support and the seat pan if appropriate.
18. Re-route the chainwheel derailleur cable to the front. A cable stopper is provided on the underside of the top tube for this purpose.
19. Re-route the gear cluster derailleur cable down the right hand fork leg. You may be able to route it on the inside of the fork horseshoe, which makes it tidy. You may be able to butt two of the original cable outers together to get the length you need. The join in the cable should be against the fork leg and held with the cable tie provided.
20. Adjust all cables as you would normally.
21. Install the rear view mirror. Use a utility knife to cut away a small circle at the end of the handlebar grip (slightly smaller than the inner diameter of the handlebar). Follow the instructions included with the mirror to position the mirror to see traffic approaching from the rear. Installation on the left handlebar is most common in the U.S.

Your first ride

- Ride the bike according to the instructions in the **Cruzbike Owner's Instruction & Safety Manual**.

Check the ergonomics

- Once you are riding confidently, its time to recheck the ergonomics. Here are some checks:
 - Sore behind the knees – adjust pedals closer.
 - Sore on top of knees – adjust pedals further away.
 - Recumbent butt (bum kind of goes to sleep, feels sore) – seat is too flat, move it forward on the seat support so that it is higher at the front. Not to be confused with sore muscles from hard riding!
 - Hands/wrists don't feel comfortable – try changing your handlebars to ones that allow your grips to be in more of a vertical position than a horizontal one. Try bars that slope down at the ends, say 45 degrees. A muffler shop may be able to nicely bend your handlebars for you, or visit your local bike shop to see what's available, such as big curved cruiser bars that can be neatly cut down to a perfect size.
 - Can't get up hills easily – check that your arms are bent, kind of like you are shaping up as a boxer. Adjust the handlebars to put them more into that position. (See previous tip.)
 - Can't hold head up, neck's getting sore – your seat back is tilted too low.
 - Seat back feels too short – most likely the seat pan is too high at the front.
 - Suffering from front wheel spin, consider better tyres.
 - Still suffering from front wheel spin – check the weight distribution, should be up to 55% on the front wheel. Test this by (on a level surface) putting scales under the front wheel while you are sitting on it, then under the back wheel. Add the total to find the combined weight of you and the bike. Divide the weight on the front wheel by the total (then times 100). If there is less than 55% of the total weight on the front wheel, try moving the seat pan forward. Do not exceed 55% weight on the front wheel as the centre of gravity will move forward and braking performance may be compromised.

Not going fast enough?

- Check the tyre pressure. The bike feels much more athletic as the pressure increases from 45 psi to 80 to 100 psi. Time for those high pressure tyres eh?
- Practice riding with a fast cadence. This will smooth out the front wheel drive.
- Lay the seat back further. But do this in small steps to allow your body to adjust. It requires stronger neck muscles. There is a limit to how far back you can lean the seat. If the seat back feels too small, then you have reached that limit.
- Upgrade the drive train componentry.
- Visit <http://www.cruzbike.com/forums/> and see the 'Conversion Kit' board
- Contact sales@cruzbike.com for technical support.
- Join <http://www.cruzbike.com/forums/> for contact with other cruzbikers who are familiar with how the kit fits and other matters.