

a rough guide to

bicycle

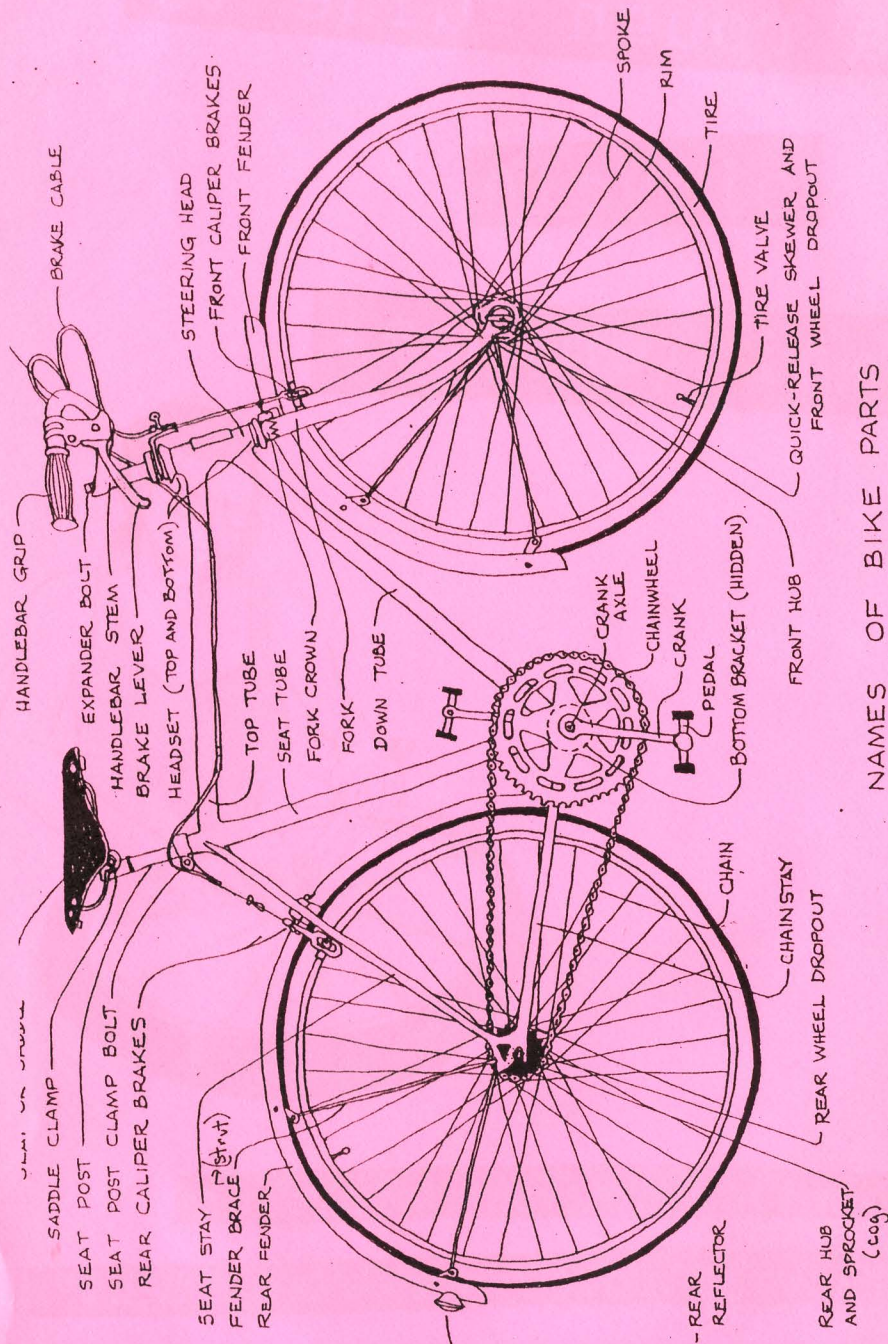
maintenance.



compiled for the workshop

"how to love your bike right"

at the 2003 portland zine symposium



NAMES OF BIKE PARTS

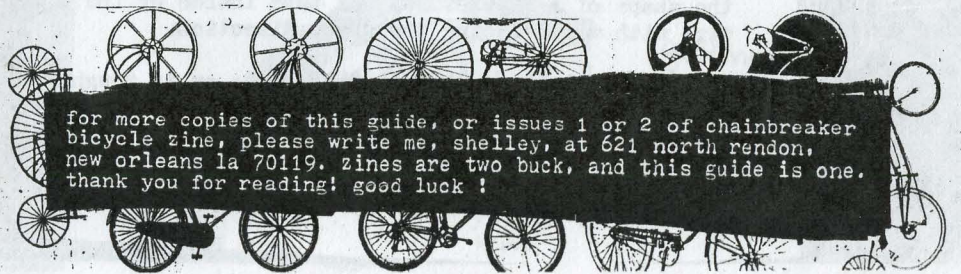
**Do It Yourself!**

a couple days ago i was volunteering at plan b, the free bike project in new orleans, and a friend of mine came in to work on his bike. it was having some problems in the headset, and my friend, john, had not done much work on his bike before. i gave him a few hints and ran off to help some other people. when i came back, john had found his problem, a broken bearing ring and some missing bearings. we found him some used parts and he put them in with some fresh grease and his bike was good as new. he was so happy to actually see those bearings. to see what was broken and what was needed to fix it and actually get the job done all by himself. this is why i love mechanics.

for me, mechanics are stability in a world of variables, where there is so much to negotiate, navigate and traverse. mechanics, and machines are stable, solid, made up of metal that only can change under the most extreme conditions. with bikes, as with most machines, each part and component has its job. i always know what to expect from a bottom bracket. the bearings aren't just going to decide to melt to freak me out or otherwise ruin my day. they will simply do thier job day after day until they wear out, and even that i have learned to expect. when something changes on a bike the cause is easy enough to find, and even in the worse case, broken is simply broken. there is no fault to be found but the simple truth of impermenence.

it is comforting for me to know that in a world where dealing with humans, jobs, money, etc, which can all be so trying, to know that something i depend on so much, daily even, can be so solid, and stable, and well, dependable for me! it gives me a little hope that if i can practice and someday master my problem solving skills with my bicycle, with some effort, the knowledge might spill over a little into my personal life... i hope at least!

so everyone... have faith in your bicycle and learn what you can to improve your relationship with it. love your bike with all of your heart and know that if you treat it right it will be with you always, even on those days when you feel the rest of your life or relationships slipping through your little fingers, your bike will be there, waiting for you quietly to be included in your day and your life. don't give up on it. though you may hear a million times to get a car, or driver where you want to go because it is "easier", know that people only think it is easier because it is the norm. you know better... bikes are more fun, cheaper, and quite often faster than vehicle transport. so..... go ride yer bikes!!!

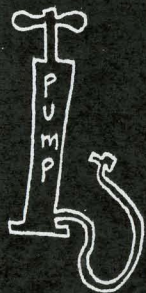


for more copies of this guide, or issues 1 or 2 of chainbreaker bicycle zine, please write me, shelly, at 621 north rendon, new orleans la 70119. zines are two buck, and this guide is one. thank you for reading! good luck!

How to  
fix  
a

# FLAT

1. remove the wheel from the bicycle
2. deflate the tube of remaining air
3. remove one side of the tire (the bead) from the rim. do this either with your hands if the tire is loose, or with tire levers. never use a screwdriver (as you risk ruining a repairable tube or even the tire). if you have no tire lever, use something blunt like the end of a spoon.
4. lift the valve out of the hole in the rim.
5. remove the tire from the rim
6. take the tube out of the tire. fill the tube with some air to find what may have caused the hole. if it is a single puncture, it was probably something poking through your tire, a slit could be a rim bruise, (underinflated tires cause this), two slits also are caused by underinflation, a huge gaping hole is a blowout and you should inspect your tire for a corresponding hole, or a broken bead or sidewall on your tire. a hole in the inside of the tube indicates a spoke may be poking out and should be filed down.
7. inspect your tire, for holes, glass, nails, etc. run your fingers through the inside of the tire and feel for things poking through. this is most important for preventing future flats!
8. repair the tube according to the instructions on your patch kit, or replace the tube.
9. put enough air in the new or repaired tube to hold the shape of a circle. lay the tube inside or the tire with valve facing the right direction.
10. put on bead back on the rim with hands, or in tough cases with your tire lever. put the valve through the hole in the rim being sure it is standing up straight. put second bead on the rim.

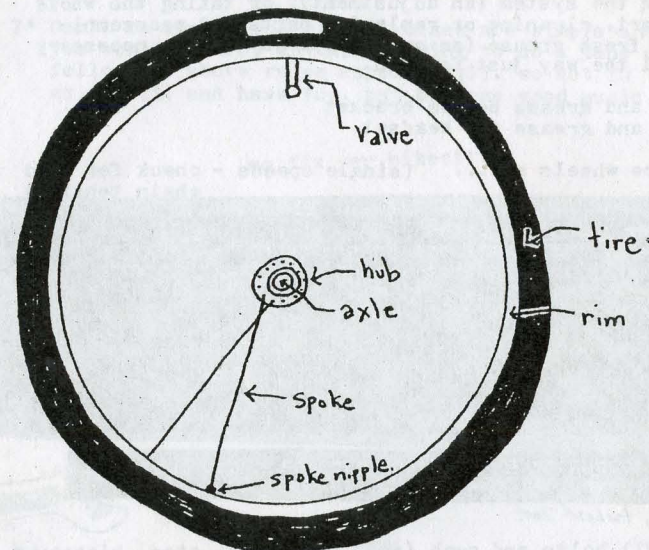


tools you may need...

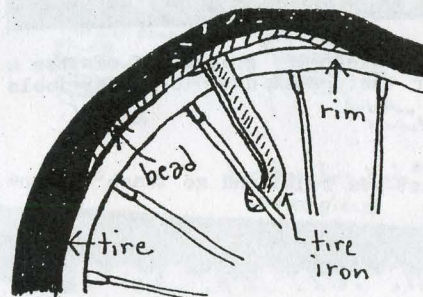


11. be sure tire is seated, meaning both beads are entirely and evenly on the rim. ad air slowly, watching closely to be sure neither bead is popping off the rim (otherwise you will blow out the tube and scare the hell out of everyone around you!)
12. when tire is up to the proper pressure (it will say what this is on the side of your tire) bolt your wheel back on being sure it is evenly spaced between the forks or chainstays.  
↑ front wheel ↑ rear wheel
13. remind yourself that you rule cause you can fix your own flat which saves you money and makes you more self reliant. now go ride yer bike!!!

first thing is first! know proper wheel vocabulary!



this is a WHEEL  
(it contains all of these things.)



getting the TIRE  
off of the rim  
← with a tire  
iron.

How To Do a Proper Tune-up!  
\*\*\*\*\*

First! inspect your bicycle. Check the frame for breaks or cracks, note items that need replacement, adjustment or repair. this will give you an overall sense of the bike, how much work it is worth, and what parts you will need to do the tune up well.

1. WHEELS

remove front and rear wheel, inspect them, check for straightness, holes in tire or tubes, smoothness of axles, be sure axle nuts or quick releases are functioning well.

- adjust axles (for multi speed rear wheels this will require removing the freewheel)
- replace worn tubes and tires
- true wheels
- oil freewheel (then put back onto rear wheel)

2. BEARING SYSTEMS

it is easier to adjust these things with the wheels off the bike. this part will entail either greasing and adjusting the system (an adjustment), or taking the whole thing apart, cleaning or replacing parts and reassembling with fresh grease (an overhaul). do what is necessary or go all the way just for fun.

- adjust and grease bottom bracket
- adjust and grease the headset

...replace wheels now... (single speeds - check for good chain tension)

3. CABLES

all cables should be inspected for broken housing or fraying cables. if they are broken or cracked or frayed they should be replaced. if not a simple lubing (with something like tri-flow dry lube) will be great. adjust them properly for smooth braking and shifting.

- lube brake cables
- adjust brakes
- lube gear cables
- adjust front and rear derailleurs

... now is a good time to examine your chain and lube it... (never use WD-40!)

4. ETC...

tighten all bolts and such (seat post bolt, stem, kickstand, rack or basket bolts, etc.) adjust seat height and bars to your liking, wipe off excess lube, shine her up a bit...

5. RIDETEST!

always good to be sure all is well, no squeaking brakes, wobbly wheels, tires seated improperly...

6. CLEAN UP YOUR MESS!

put your tools back neatly, clean the grease off of them a little, make them nice for their next use, love your tools and they will love you.

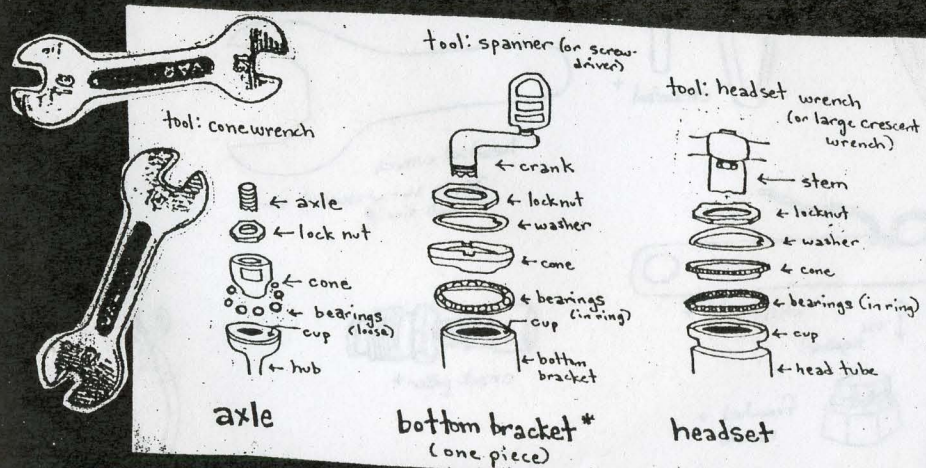
7. again, remind yourself that you rule. and go teach someone how to do it too!

special tips!  
\*\*\*\*\*

- 1\* never use excessive force, this will avoid breaking bolts, stripping soft metals, and help you to be sure you are using the right parts. if a bolt is getting hot and is difficult to put on an axle for example, it is probably the wrong one. don't do it.
- 2\* be patient when lining up threads (bottom brackets, axles, etc.) don't strip or crossthread them. it's a pain to fix!
- 3\* take your time and be neat with your work. it will help keep you calm when something goes weird.
- 4\* never use WD-40! it is not a lube, it is messy and it stinks. use the proper lubes on moving parts for your bikes (ask a shop), and if something is terribly stuck, try liquid wrench.
- 5\* having a book to refer to (a repair book) is great. having a shop to call or go to for advice is even better.
- 6\* use the proper tool (examples: cable cutters not wire cutters, a 15 mm wrench not a vice grip, a tire iron not a screwdriver). it will save you a lot of trouble, and keep your parts in good shape.
- 7\* Don't be afraid you bikers! bikes are simple and logical. you won't destroy anything trying to do a tune up (if you follow the above rules especially!). so get in there and go for it! and have fun. put on some good music, relax...

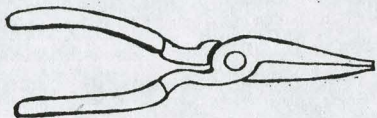
go fix yer bikes!!!

the beautiful bearing!

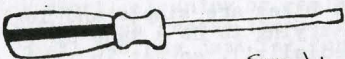


# Tools You Will Need:

\* = essential for most repairs  
 + = not used very often, try to borrow it  
 # = get the size specific to your bicycle



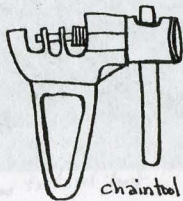
needle nose plier \*



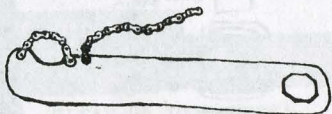
screwdrivers  
 (flat & phillips)



tire iron \*



chain tool +



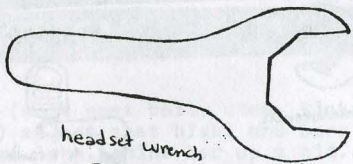
chain whip +  
 use together!



freewheel +  
 remover



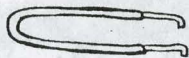
spoke wrench



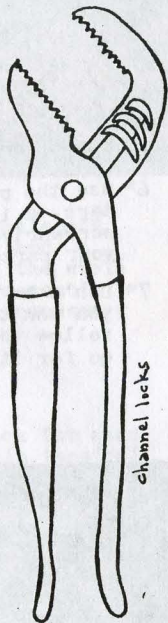
headset wrench  
 30, 32, 36 - whatever is your  
 bike's size #



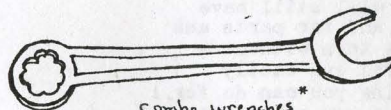
crank puller +



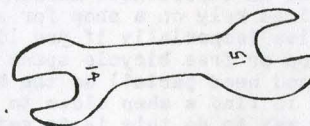
cable cutters



channel locks



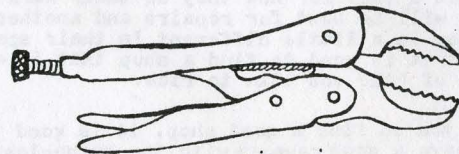
combo wrenches \*  
 8, 9, 10 \* 13, 15, 17 \*



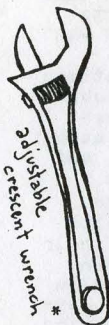
cone wrenches \*  
 13, 15, 17



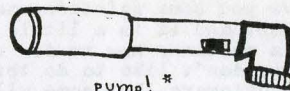
allen keys  
 (sets are good)



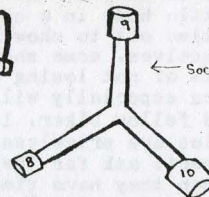
vice grip  
 (emergency situations only!)



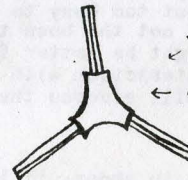
adjustable  
 crescent wrench \*



pump! \*

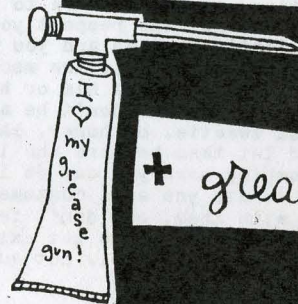
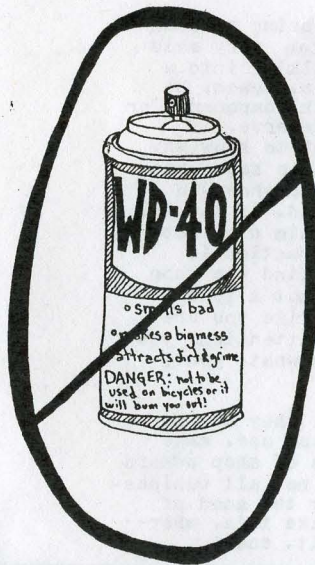


← sockets



↑  
 Y-tools (i love these!)

← allen keys



grease gun

+ grease & lube \*

- o white lithium grease for bearings
- o dry lube (like tri-flow) for cables
- o chain lube (never wd40!)

## how to deal with shops

even as an experienced mechanic, you will still have to sometimes rely on a shop for advice, and for parts and accessories (especially if you live in a town without a bike co-op or free bicycle space where you can easily acquire good used parts!) so the best thing you can do for yourself is find a shop close to you that you can trust. the best way to do this is to get to know the mechanics and their work. see how quick and reliable they are. ask locals and friends for their recommendations and see who gets the best reviews from the people you trust... also, try comparing prices on parts and accessories at different shops. get a feel for how they do their mark-ups. sometimes one shop will be best for repairs and another for parts... every shop is a little different in their specialties as well, and it is good to find a shop that is excited about the type of bike you like to ride.

when you do find a good shop, it is good to do what you can to have a good rapport with the mechanics. when you take your bike in for a repair, ask what they did, what parts were used in the repair, see if they can show you what was done on your bike, if you think you can do the repair yourself, ask if they can give you some pointers. sometimes it gets a little busy in a shop, and it is a little rough to take the time out to show a customer how to fix something by themselves, some shops don't like to do this at all for the sake of not losing customers. but some will, and some mechanics especially will take the time to help a customer, and fellow biker, learn about his or her bike. these mechanics are priceless, and should be treated with love and respect. ask for their help, but be aware of their situation, when they have time to give you special attention, when it is just too busy to ask, or when the boss is around (if they are not the boss themself that is) and laying a little low might be better for them. these mechanics usually like the interaction with a dedicated and self-reliant biker and will give you the time when they can. so appreciate them!

☆ a note to ladies in shops: it is so hard being a woman in a bike shop sometimes! sadly they are often very male spaces, and no matter how tough you look, walking into a shop can make a girl feel 15 again. so ladies, again, be forward, be assertive. you don't have to talk components or about high end shit to get the respect you deserve. if you ride a crappy little 3 speed and you want to know why the brakes aren't working, ask. if the mechanic says, yes - your brakes are not working, ask him or her to show you why and where they are broken. don't be afraid. if the male machanic calls you sweetie, or honey, call him sir, set your boundaries and let them be sure the interaction is about bikes and nothing more. you can do it. find the shop and mechanic who treats you as a customer, not a female customer and work with them. and don't feel like you are ahead by using your femininity to get extra attention, you may think you are in more control, but guess what, you're not.

just remember that shops are our friends. they are fun to look at and full of information that we can use. make friends with them and engage with them, lots of shop owners are amazing bikers and even bike activists. not all businesses are ruled by capitalism. some exist for the good of the community, and if you can find a shop like this, cherish the hell out of it, cause they deserve it. cool.

# Good Books about Bike

for repairs & maintenance:

Glenns Complete Bicycle Manual - written and photographed in the early 70's this isn't the most modern view of the bicycle, but the photos are great and easy to comprehend, the repair instructions are clear and easily applicable, the book is big and complete. it is easy to find this one used for cheap and it is my favorite repair manual.

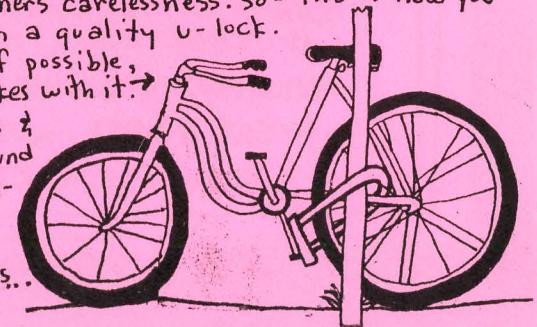
Haines Bicycle Repair Manual - more modern with full color photos, i hear this is the second to the best for a bike repair book. the same people that make all those specific car repair manuals which have always been great to me.

How To Rock and Roll - (Sam Tracy) i liked this repair manual a lot. it is written with a touch of cynicism reserved for the shop repair person. he's a bike geek for sure and gives lots of interesting high tech info. not suggested for the beginner in repairs. he's adamant about bike maintenance, open with his disdain for cars and curses a lot, my kind of guy. but hey, a punk on a spendy track bike shouldn't get too snobbish about pretentious hipsters on "retro cruisers". we're all in the same fight, ok?

## LOCK it up if you ♥ it.

it's always good to lock your bike well. in my city, bikes are stolen every day, often through the owners carelessness. so - this is how you do it! it is best to start with a quality u-lock. use this to lock the frame, & if possible, catch the rear wheel or some spokes with it. →

be sure what you lock to is solid & cannot be pulled out of the ground & that the bike cannot be pulled over the top. never leave your bike locked out in the city overnight! paranoic? not here. so kids.. lock it if you ♥ it!



how about a conference of

# COMMUNITY BIKE PROJECTS



A GET-TOGETHER TO ESTABLISH SOLID COMMUNICATION AMONGST THE GROWING NETWORK OF COMMUNITY BICYCLE ENDEAVORS. TO EXCHANGE IDEAS AND SHARE SKILLS & KNOWLEDGE, DISCUSS PROBLEMS AND GOALS, WORKSHOPS, AND SOCIALIZING WITH OTHER RADICAL MINDED BIKE GEEKS. BIKE PROJECTS, LENDING LIBRARIES, DIY & COLLECTIVE SHOPS. WE'RE THINKING OF PUTTING THIS ON IN

NEW ORLEANS <sup>in</sup> MAY 2004

PLEASE GET IN TOUCH AND LET US KNOW WHAT YOU THINK, IF YOU WOULD COME, DO A WORKSHOP, WHAT YOU WANT TO SEE HAPPEN. LET'S GET IT TOGETHER! GET IN TOUCH.

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