STEERING →

headsets, handlebars and forks

handlebars · quill · stem · headset · head tube · races

HEADSET (threaded)

- LOCKNUT
- WASHER
- BASAL HEADSET NUT
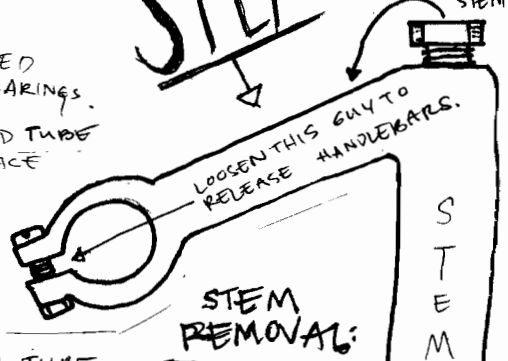- CAGED BEARINGS
- HEAD TUBE RACE
- HEAD TUBE RACE
- CAGED BEARINGS
- CROWN RACE

CROWN of FORK

FORK
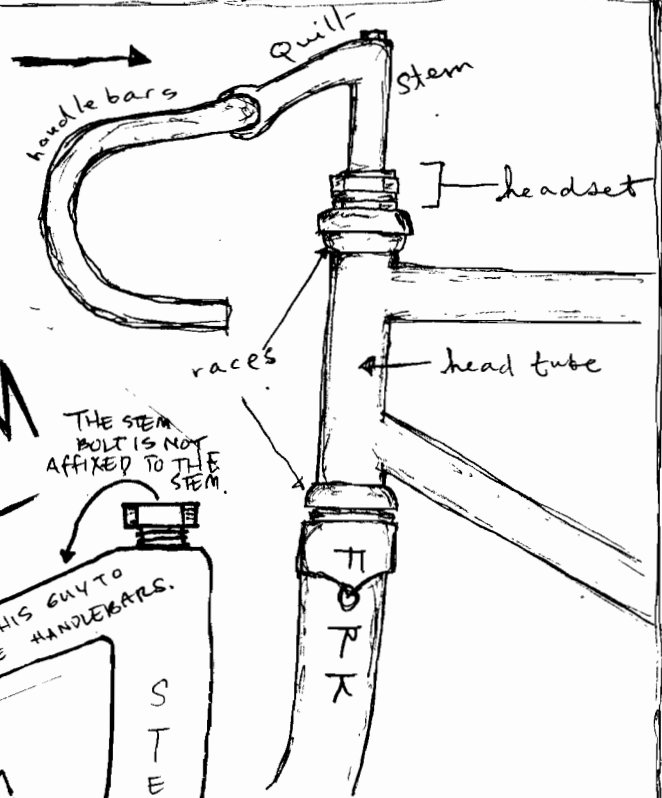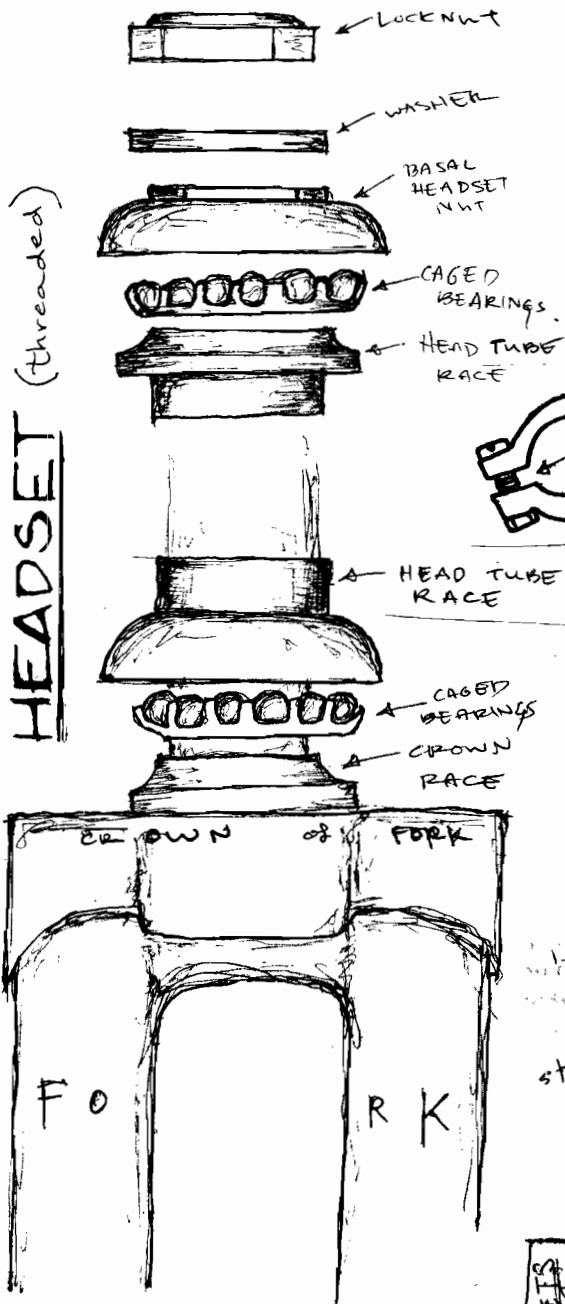
QUILL STEM

THE STEM BOLT IS NOT AFFIXED TO THE STEM.

LOOSEN THIS GUY TO RELEASE HANDLEBARS.
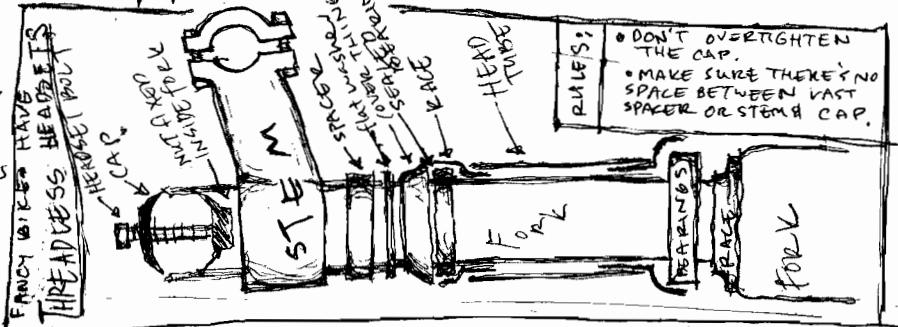
STEM

too wide

WEDGE NUT

STEM REMOVAL:

① LOOSEN (NOT ALL THE WAY!!) THE STEM BOLT.

② WHACK THE BOLT HEAD WITH A HAMMER, HARD.

BOLT HEAD SHOULD DROP & STEM SHOULD SWIVEL. IF NOT, LOOSEN A LITTLE MORE & REPEAT.

AS YOU TIGHTEN THE STEM BOLT IT BRINGS THIS WEDGE PIECE UP. THE BOLT ONLY THREADS INTO THE WEDGE—IT IS FREE TO WIGGLE AROUND IN THE STEM ITSELF. THEREFORE AS THE BOLT RAISES THE WEDGE-NUT IT WILL SLIDE SIDEWAYS AS IT RUNS INTO THE STEM, WIDENING THE CROSS SECTION OF THE WHOLE APPARATUS— IT SQUEEZES OUTWARD AGAINST THE WALLS of THE FORK TUBE—ITS HELD BY PURE FRICTION.*

stuck in there....

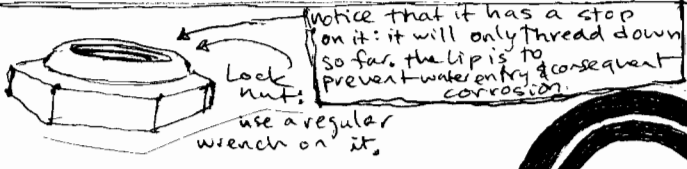still stuck with loosened bolt...

WHACK

now it's loose!
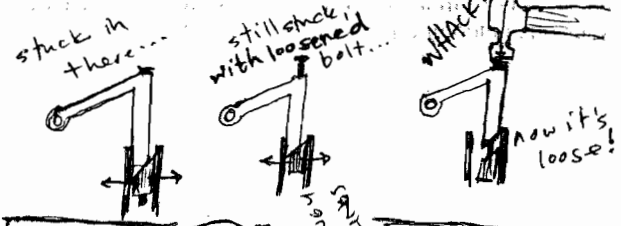
it's so liberating

★ A NOTE ON FORX & HEADSETS: ★
it will annoy you to discover that there are several diameters of forks, and several pitches of threading. As usual, you'll have the most trouble with french and italian bikes. Good luck!

FANCY NEW BIKES HAVE THREADLESS HEADSETS

FANCY BIKES HAVE HEADSET BOLT

CAP

NOT TAPER NUT INSIDE FORK

STEM

SPACER · FLAT WASHER · LOCK WASHER · (SEVERAL OF THESE) · RACE · HEAD TUBE · FORK · BEARINGS · RACE · FORK

RULES:
- DON'T OVERTIGHTEN THE CAP.
- MAKE SURE THERE'S NO SPACE BETWEEN LAST SPACER OR STEM & CAP.

*it's designed to twist if it gets knocked real hard, so if you crash you wont damage anything.

notice that it has a stop on it: it will only thread down so far. the lip is to prevent water entry & consequent corrosion.

Lock nut: use a regular wrench on it.

Key-way washer →

nut that requires a small HOOK WRENCH →

(remember that from bottom brackets?)

BASAL NUT WITH RACE (like a cone)

tighten this guy with a large flat wrench (because a regular wrench will be too fat to fit)

GRIP THE TEXTURED KIND WITH

CHANNEL LOCKS

ON KEY-WAY WASHERS:
This tooth keeps them from rotating, & as a result, if you turn one nut, the other (on the opposite side of the washer) won't go with it. The washer is fixed, with its little tooth stuck in a slot cut vertically across the fork tube's threads. Thus, the only force transferred between the nuts is **VERTICAL, NOT ROTATIONAL.**
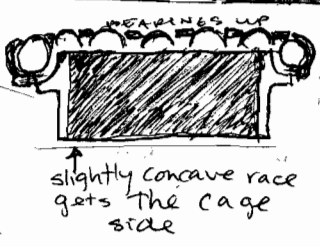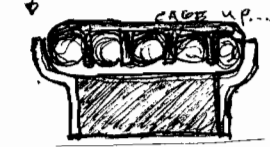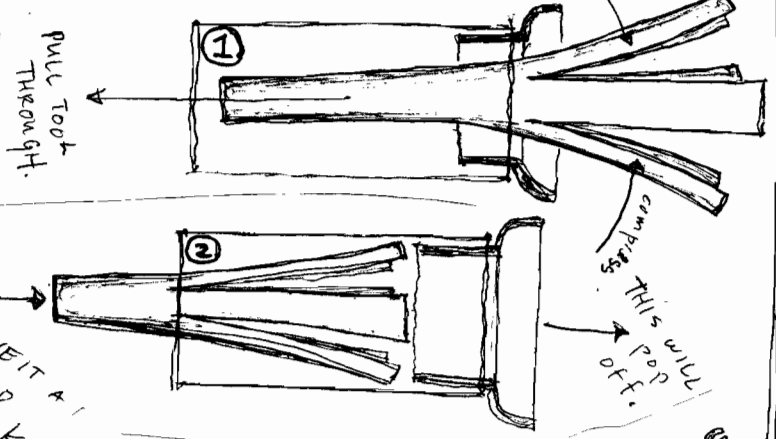
HEADSET PIECES
HAPPEN IN A WIDE VARIETY OF CONFIGURATIONS & TYPES.
THE IMPORTANT THING
→ IS HAVING A BASAL NUT THAT COMPLIMENTS YOUR HEAD TUBE RACE
  → COVERS BEARINGS ENTIRELY
→ IS A LOCKNUT TO KEEP IT FROM COMING LOOSE AS YOU STEER
→ IS THAT THE LOCKNUT ACTUALLY CREATES PRESSURE AGAINST THE BASAL NUT — THAT IS, THE LIP SHOULD NOT ACTUALLY TOUCH THE TOP OF THE FORK TUBE — ALL THE NUT'S PRESSURE SHOULD BE ON THE PIECES BENEATH IT.

★ DO NOT EVER FORGET! ★
TO CROSS-TIGHTEN THE LOCKNUT & BASAL NUT.
REMEMBER THAT THE REASON YOUR HEADSET DOESN'T RANDOMLY COME LOOSE AS YOU TURN THE HANDLEBARS IS THAT THE FORCE OF FRICTION BETWEEN THE NUTS EXCEEDS THAT BETWEEN THE MOVING AND NON-MOVING PARTS.

A DAY AT THE RACES

BEARINGS UP

Very concave (cup-shaped) race gets the bearings side.

slightly concave race gets the cage side

CAGE UP...

TO PUT NEW RACES ON YOUR HEAD TUBE, use THE HEADSET PRESS: as you thread down the ends they'll compress the races neatly into the frame.

REMOVING HEAD TUBE RACES

flaps

① PULL TOOTH THROUGH.

② GIVE IT A GOOD WHACK

compress this will pop off...

smashed screw—drive on the base of the race and whack it HARD to pop it off. switch sides with each blow.

REMOVING THE CROWN RACE is simple—but awkward. place the tip of a cheap screwdriver

FORK