The background of the slide features a grayscale image of bicycle gears, with the teeth and circular shapes of the gears visible in a faded, artistic style.

Bicycle Mechanics and Repair Decal

Mechanical Engineering 98/198

Spring 11

Lecture 9

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Different Component Brands

SHIMANO[®]

SRAM[®]

Campagnolo[®]

What are “Group” Components?



Brakes



Shifters



Deraillleurs



Cassette/Freewheel



Chain Rings/ Crank Arms*

Other Components



Wheels



Headset



Bottom
Bracket



Stem/ Handlebars



Saddle/
Seat Post



Pedals



Cost

- Cost of components is usually due to precision, durability, materials, and weight.
- Each of the main three brands has many different grades of components to fit different needs.

Example: Shimano Components



\$34.99



\$49.99



\$89.99

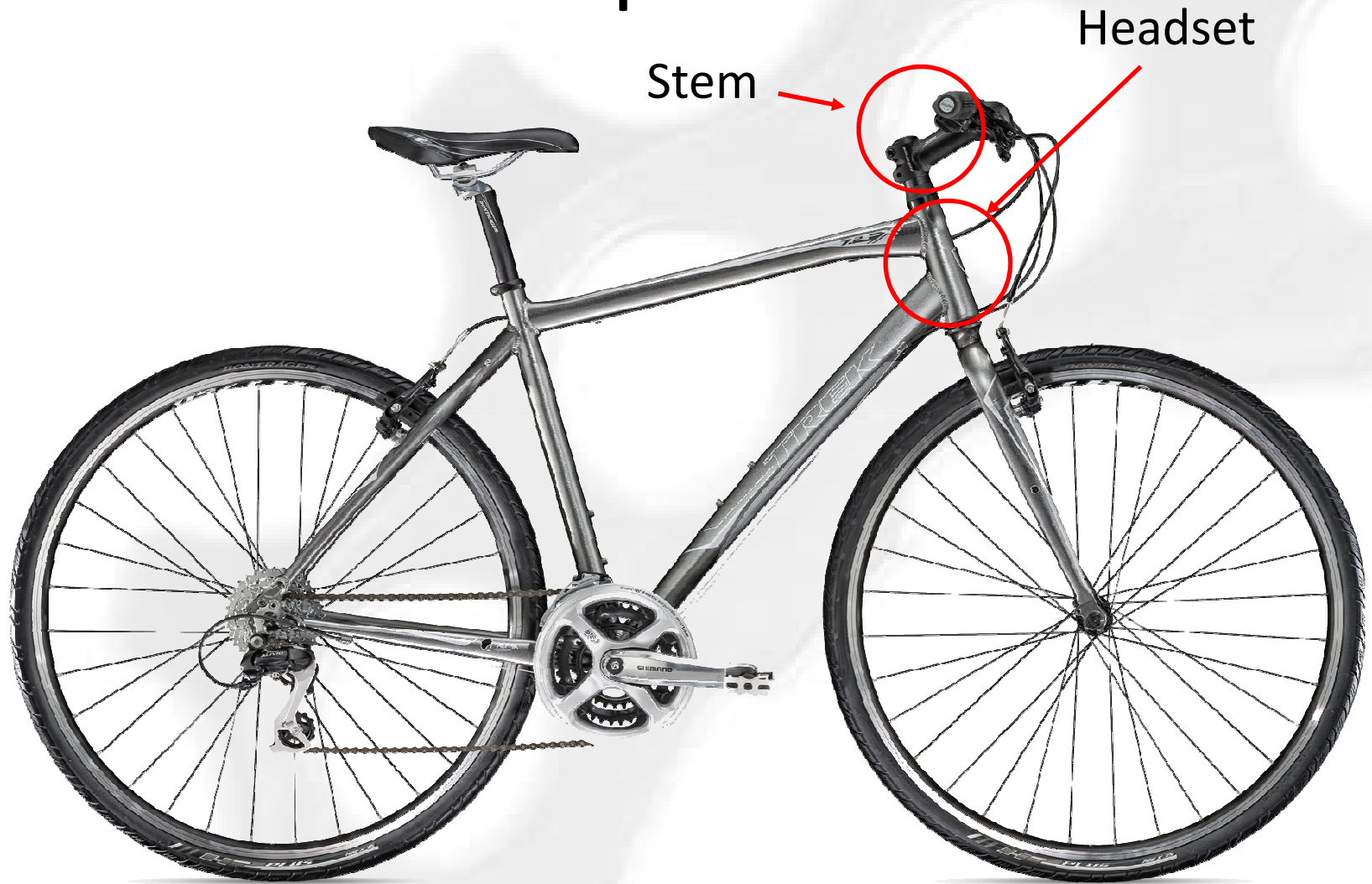


\$124.99



\$299.95

Components

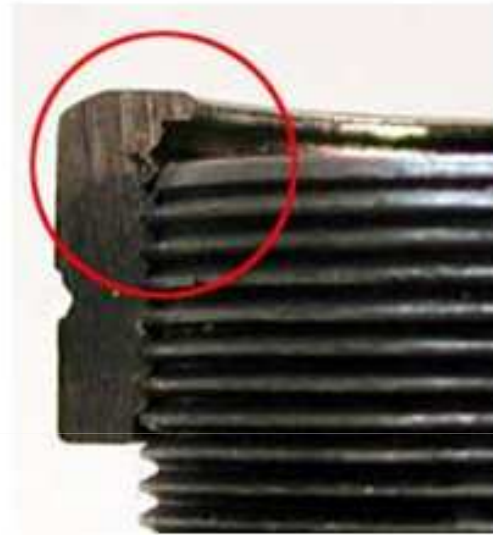


Introduction to Headsets

- Allows for fork rotation relative to the bicycle frame
- Consists of two cups with ball bearings that press into the top and bottom of the head tube



Headset Types - Threaded



**Threaded fork
steerer tube**

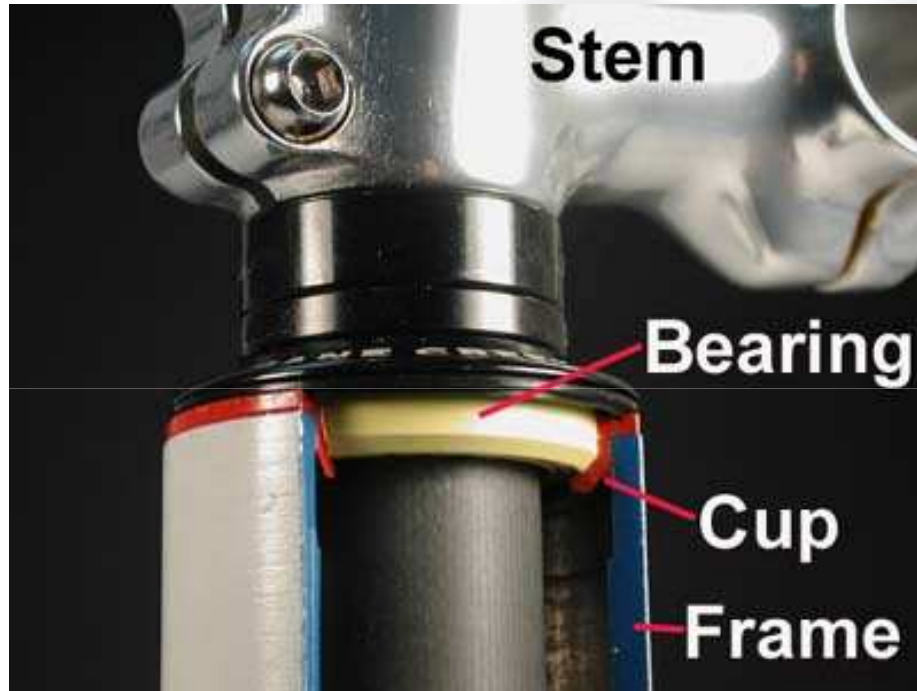
- Locknut holds bearings in place
- Fork steerer tube is threaded
- Stem descends into headtube

Headset Types - Threadless



- Stem clamps to steerer tube
- No locknut
- Cap bolt holds assembly in place

Headset Types - Integrated

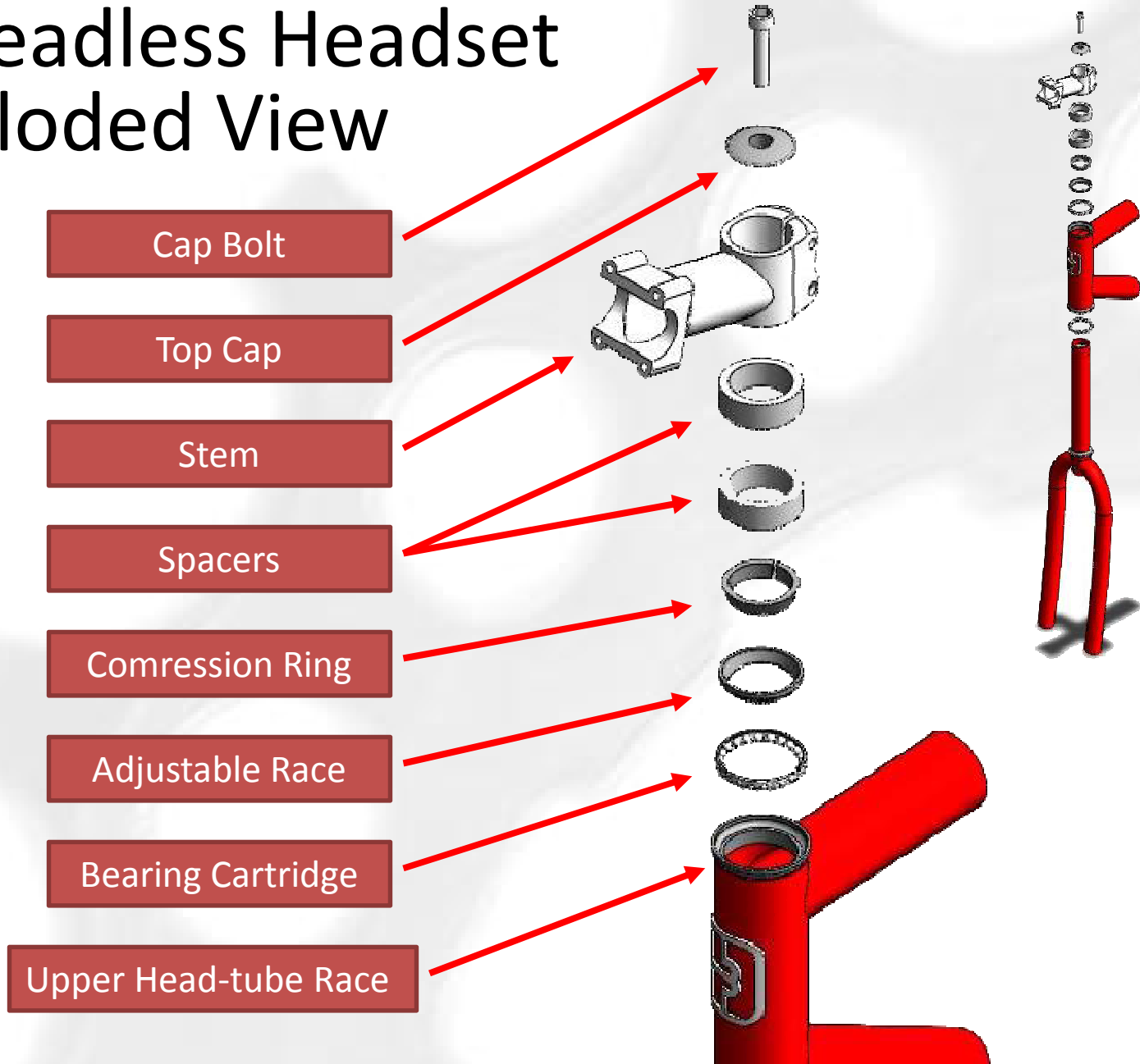


- Same in function as threadless headset
- Cups are pressed into frame
- Bearing assembly sits inside head tube
- Bearings may be housed inside cartridges that are easily removed

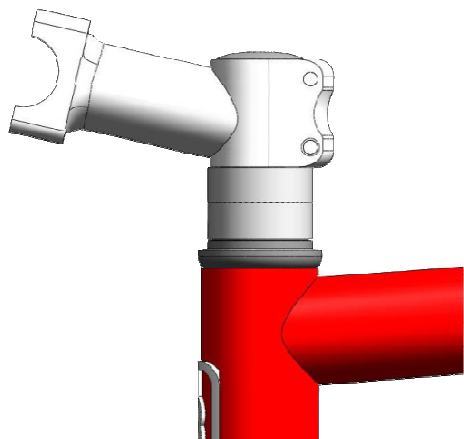
Threaded vs. Threadless



Threadless Headset Exploded View



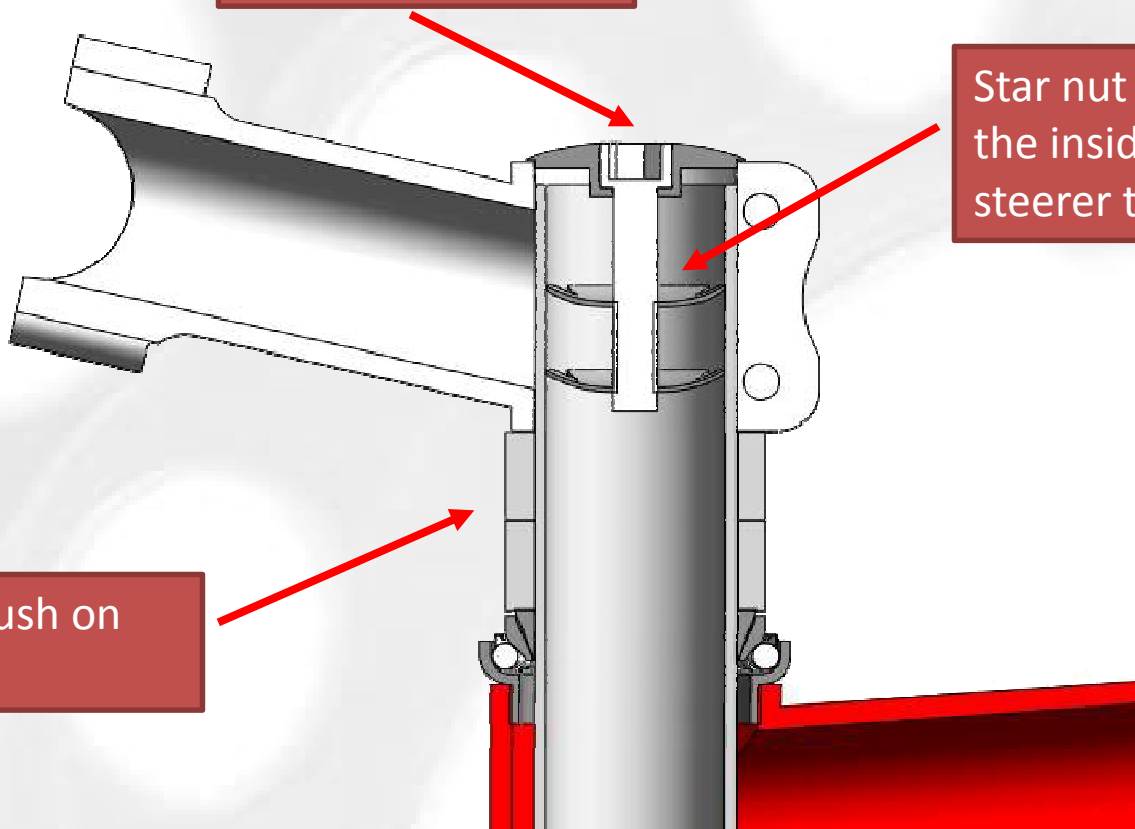
Threadless Headset



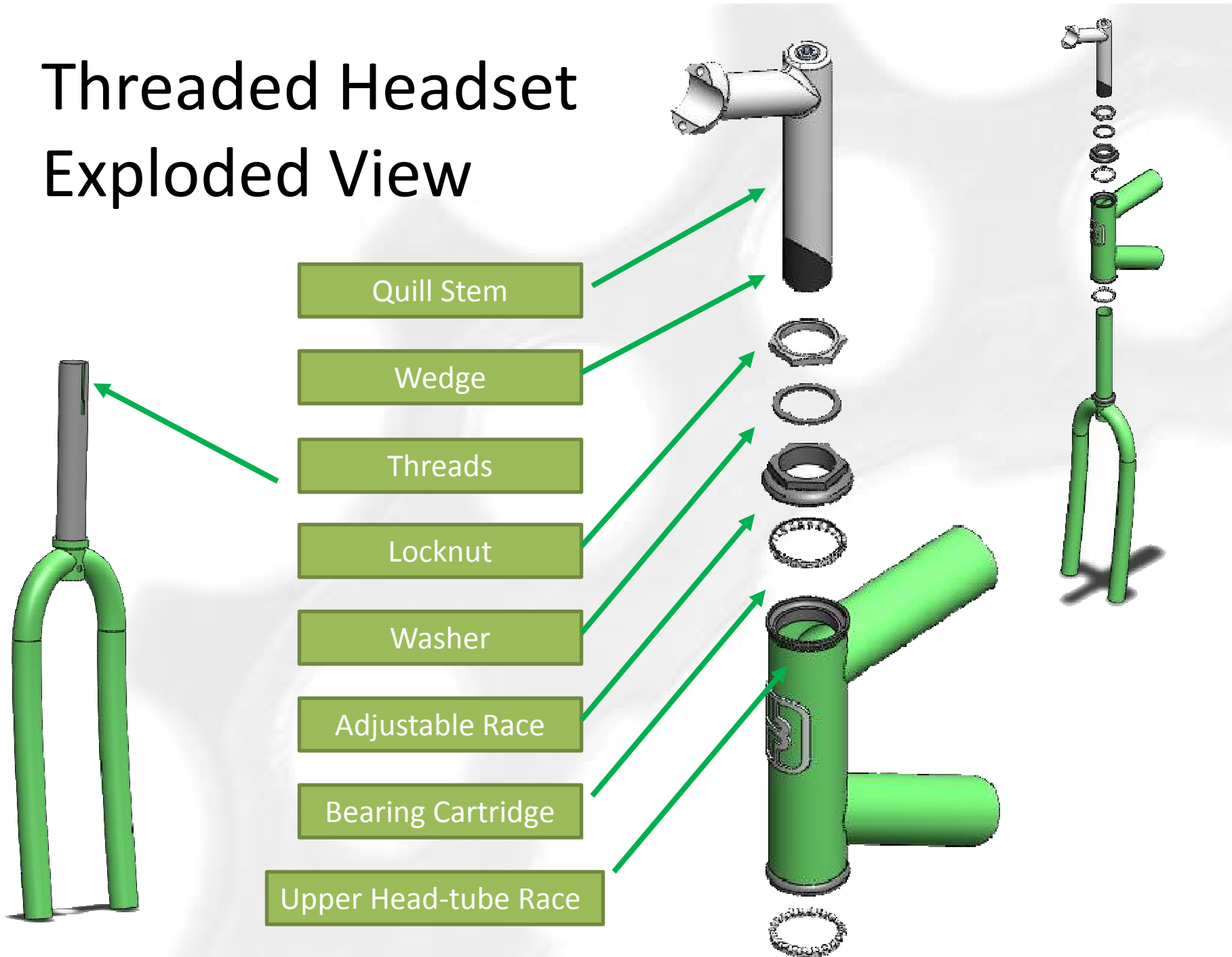
Top cap pushes on stem and spacers

Star nut grabs the inside of the steerer tube

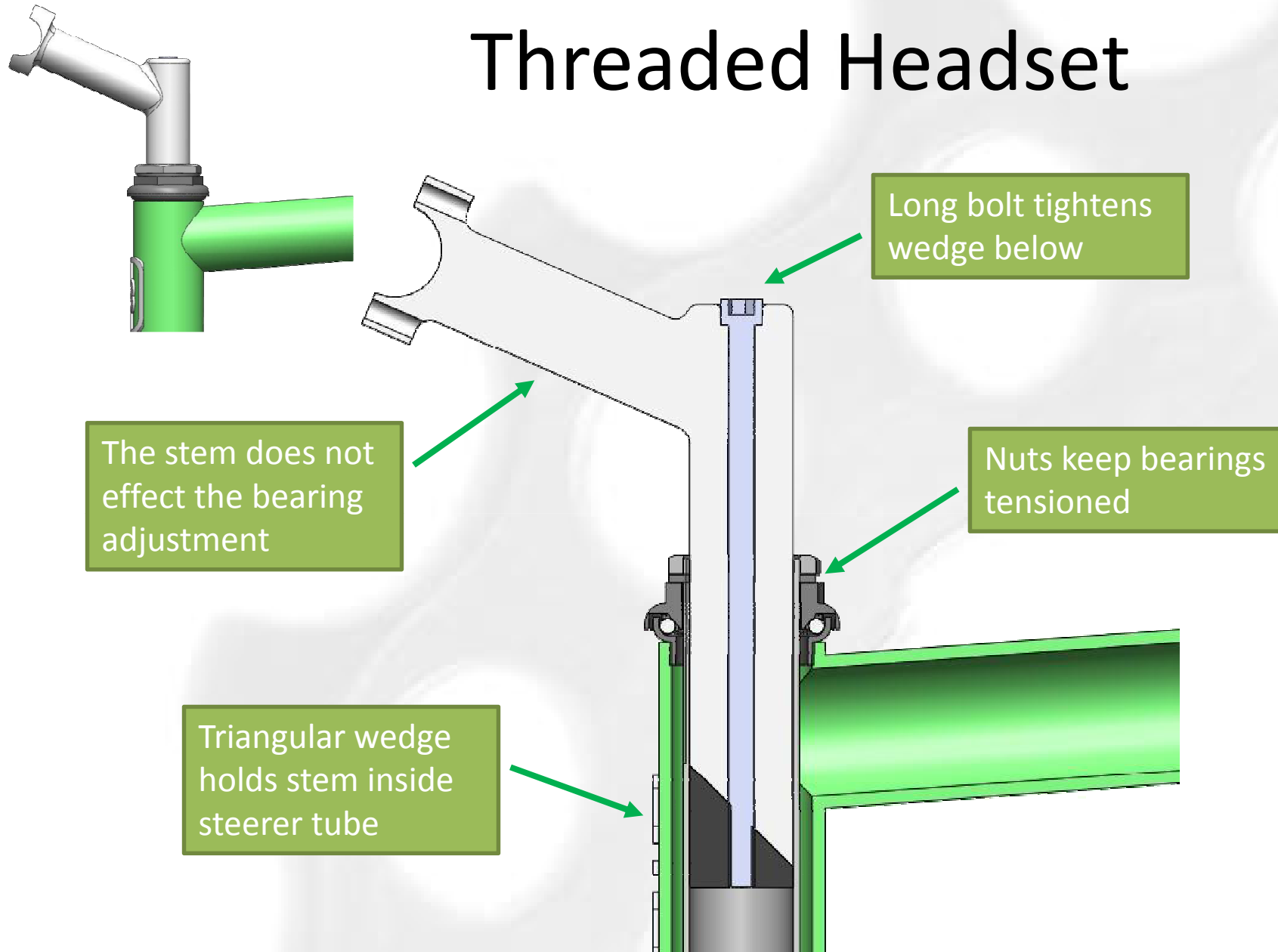
Spacers push on bearings



Threaded Headset Exploded View



Threaded Headset



Common Problems

Shakiness

The headset is not adjusted tight enough



Stiffness

The headset is adjusted too tight



Headset tools

- Headset Wrench



- Headset Press



- Headset Remover

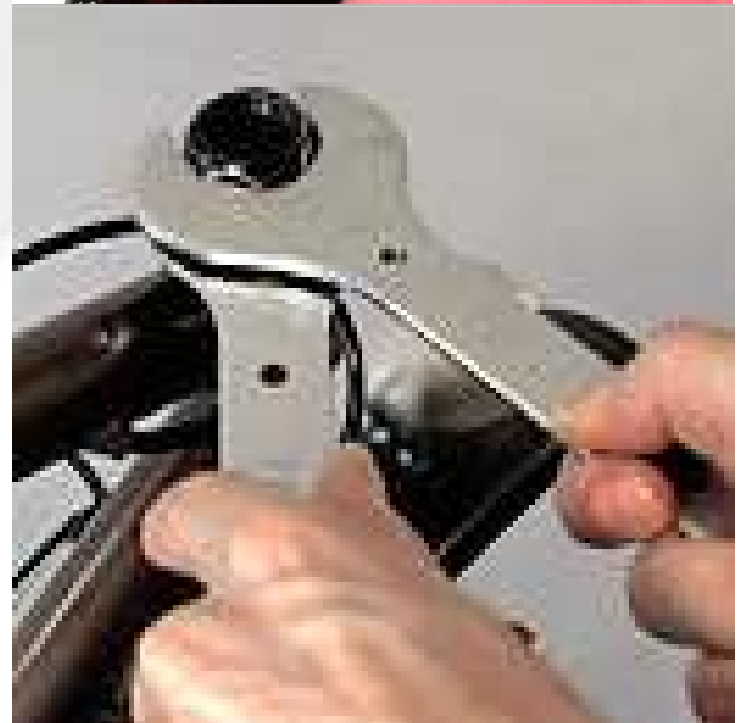
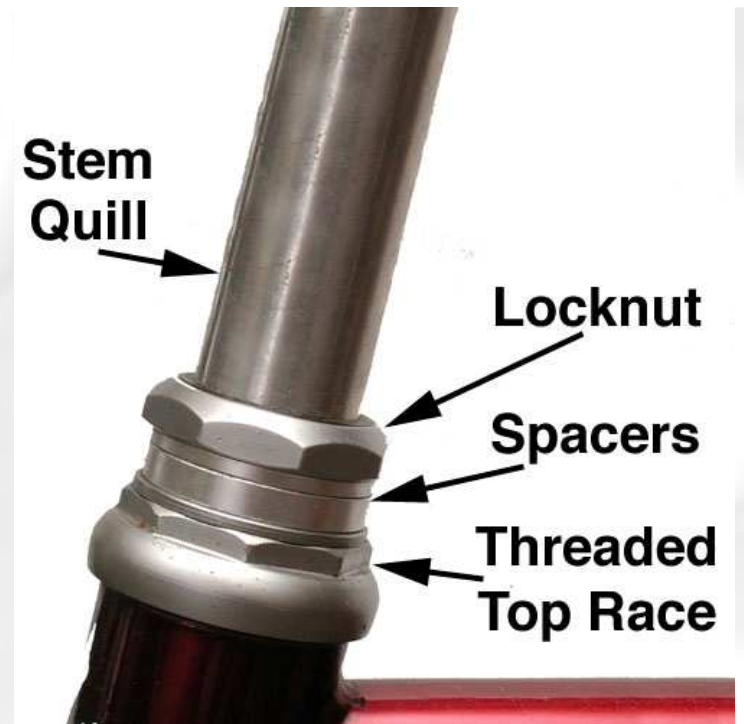


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Headset Maintenance

Threaded Headsets

- Unthread Locknut
- Remove spacers
- Unthread top race
- Clean and grease bearings!



Standard Threadless Headset

- Remove stem and spacers
- Remove fork
- Clean bearings and grease!



For sealed bearing headsets, replace bearings if needed

Preloading Your Headset

- Tighten the top cap
- Check for rattle by bouncing your front wheel
- Check for stiffness by swinging your handlebars

