

Titanium Bicycle Frame

Size: ~ 54 cm

General Guidance:

Important: lateral stiffness, aerodynamics, longevity of frame

Not Important: weight, compliance

Tire Clearance: 700c 55 mm (tight, 45 mm with fenders)

Rear Axle: 12 mm x 142 thru axle

Brakes: Hydraulic, 160 mm disc rotors

Rear Brake Hose Routing: Internal

Derailleur Cable Routing: None (Wireless SRAM AXS)

Front Derailleur: None 1x (50T max chainring) 13s (10-46T)

Derailleur Hanger: UDH

Bottom Bracket: T47 internal 86

Headset: IS42 / IS52, as narrow as possible *see head tube detail below*

Seat Tube: round tube for 27.2 mm seat post, straight

Downtube: deep teardrop such as 58x27 teardrop

Top Tube: flattened or oval

Chainstay: yoke with 25.4 mm round or 34x19 mm oval (or as designer recommends)

Seat Stay: *see below*

Fork: have a FK-020-IN <https://ogevkinbike.com/products/fk-010-gravel-fork-carbon-fiber-tapered-gravel-bicycle-front-fork?variant=42443632640156>

- 410 mm axle to crown, 55 mm offset
- 38.3 to 28.6 taper
- External cable (not in head tube)

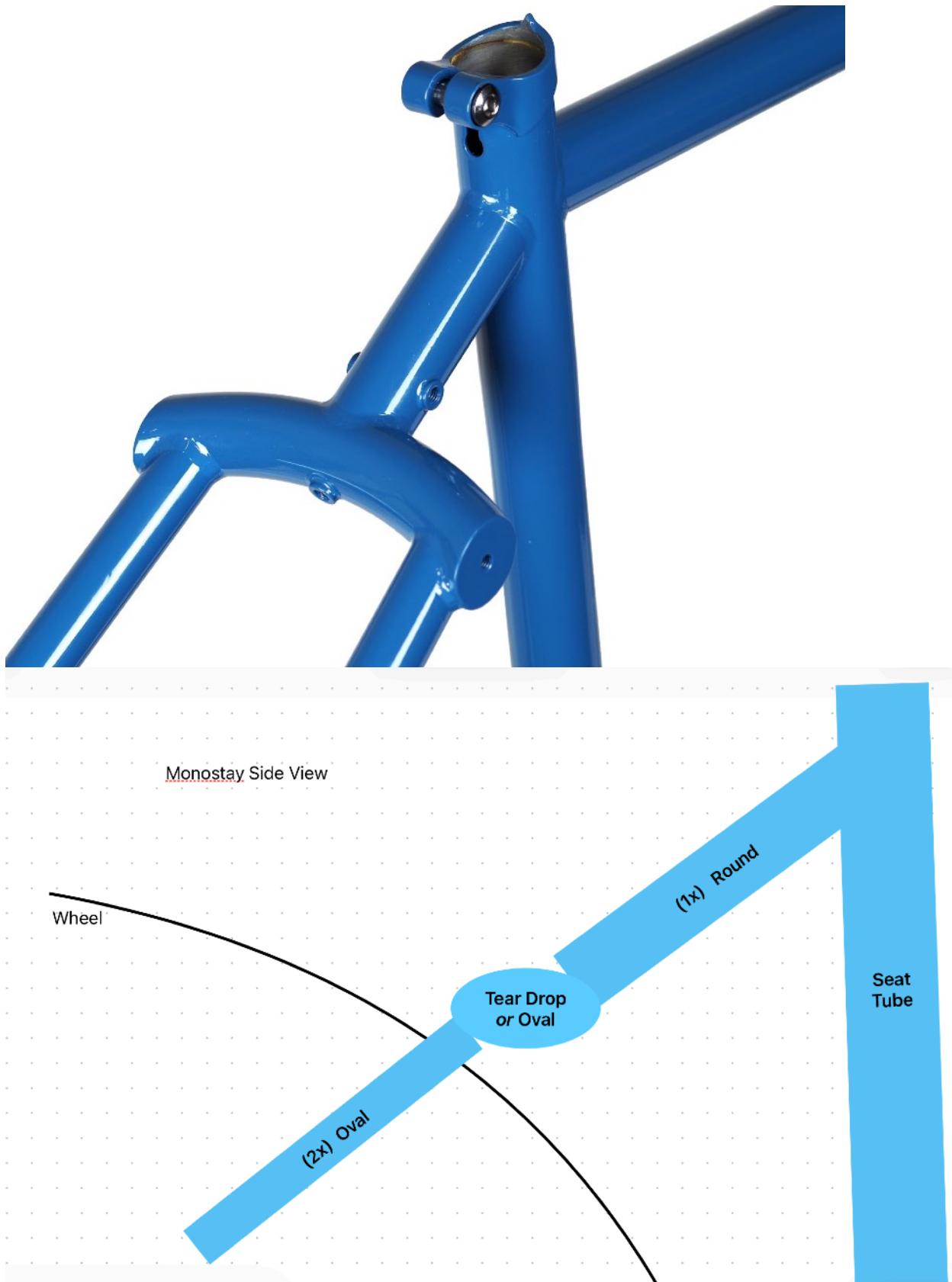
Add-ons:

- Water bottle boss on seat tube
- Water bottle boss on down tube (lower part of down tube)
- Water bottle boss on top tube top (just behind headset/stem)
- Water bottle boss, back of seat tube, above seat stays
- Fender eyelets

Finish: Brushed

Headset Badge: CNC on head tube, small

Mono Seat Stay Proposal:

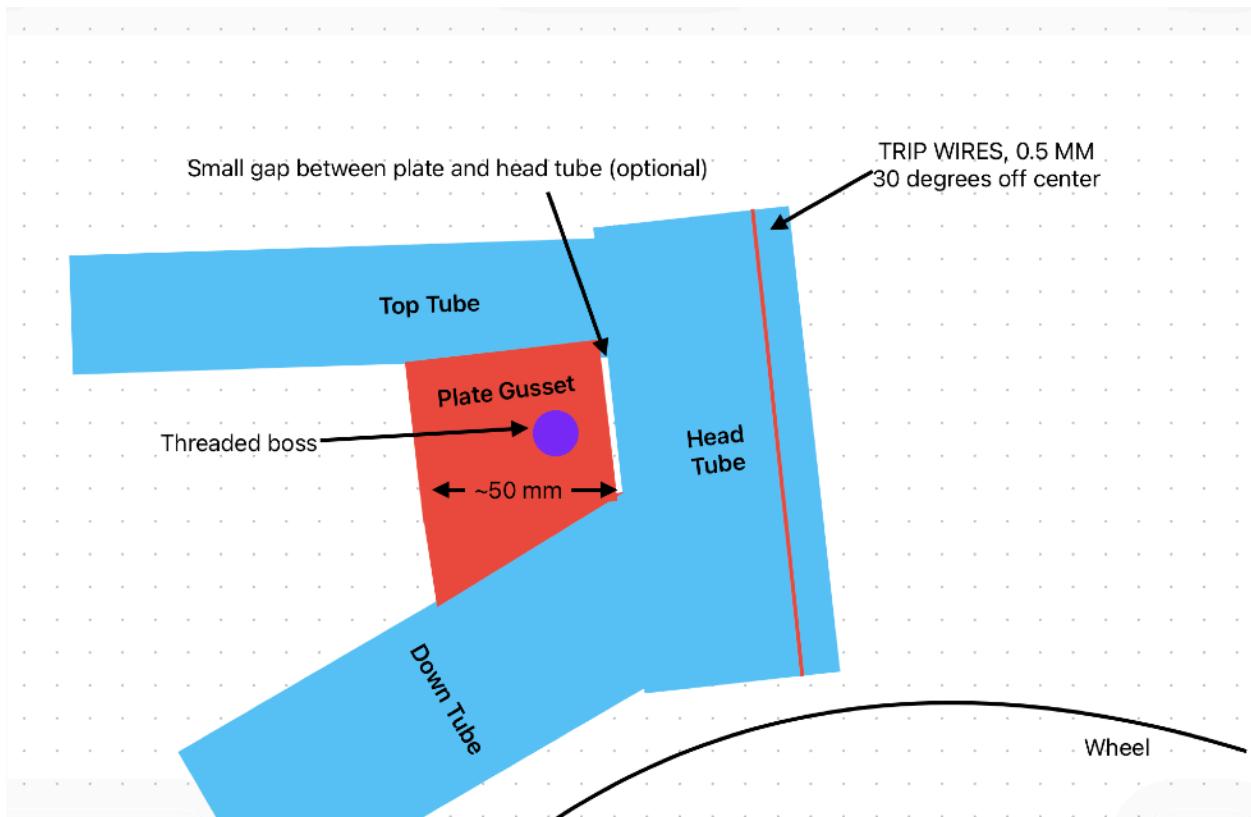


Internal Routing, Proposal (in head tube, rear hydraulic disc):

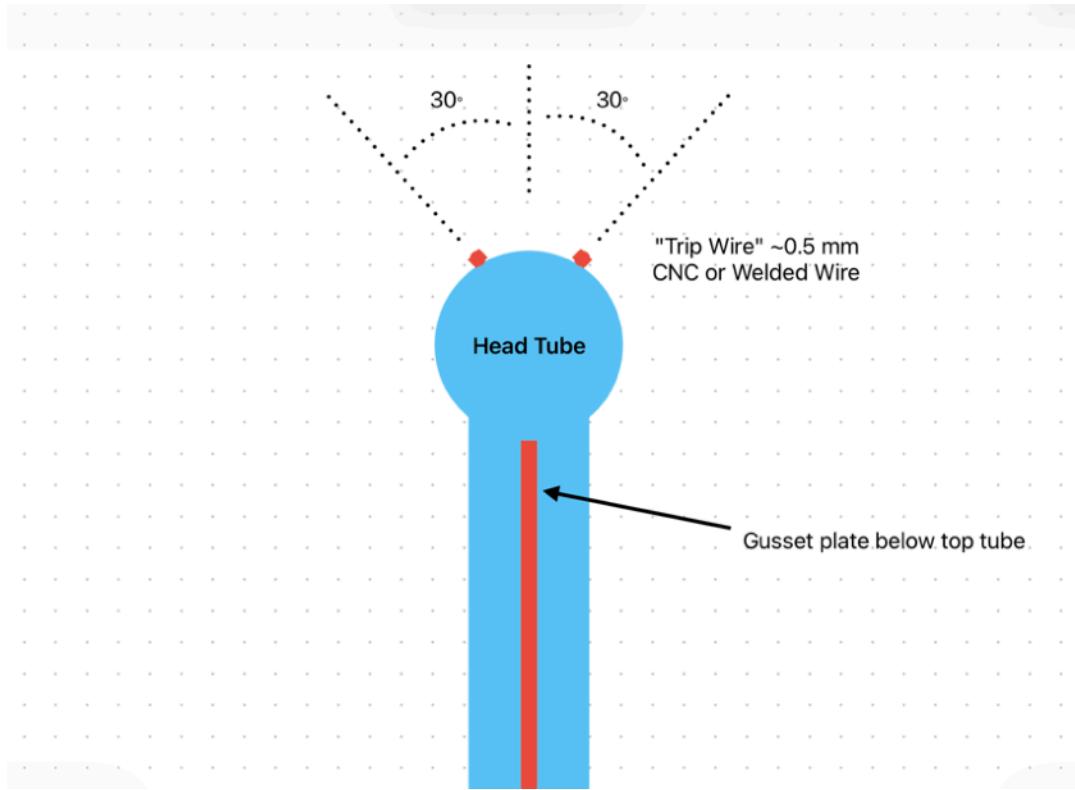


Head Tube "Trip Wires" and "Splitter Plate" for Aerodynamics

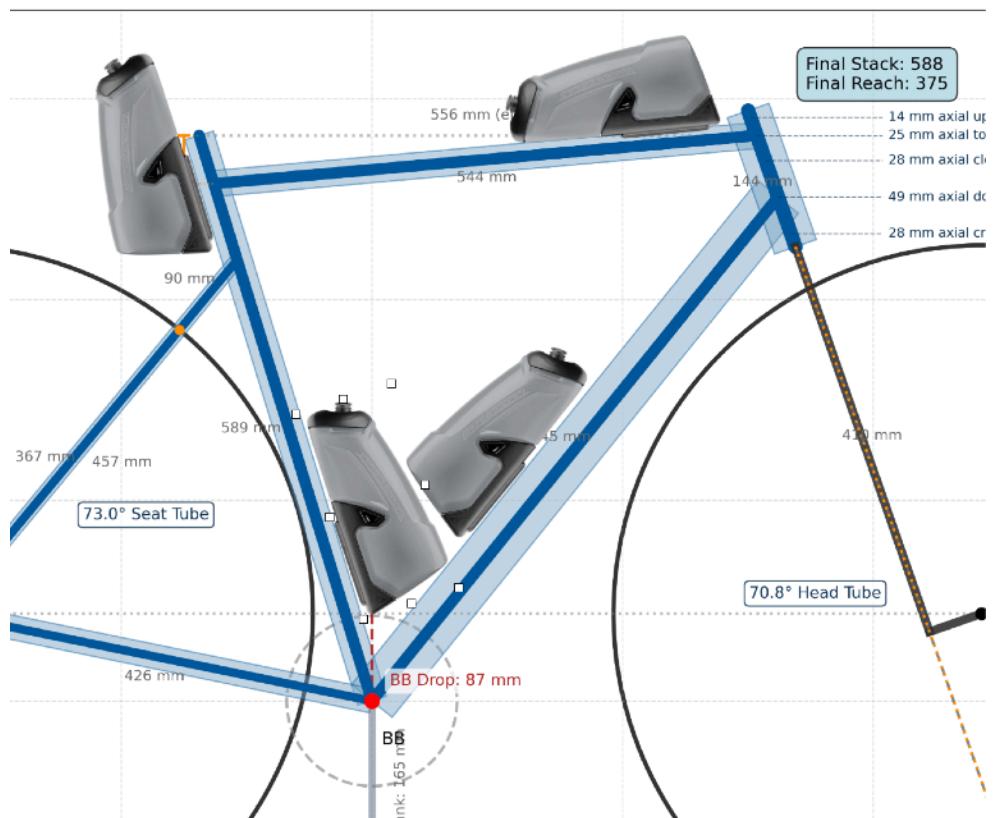
Trip Wire = small bump from CNC or welded wire (0.5 mm diameter) onto front of head tube
Splitter Plate = plate like a gusset behind the head tube but for aerodynamic purposes. Note this does not need to be welded to the head tube, welds should be whatever is best for stress
Side View



Top View



Water Bottle Locations



Geometry

Note measurements are guidelines, not meant to be exact, final numbers

Titanium Frame Geometry (Size 54cm)

