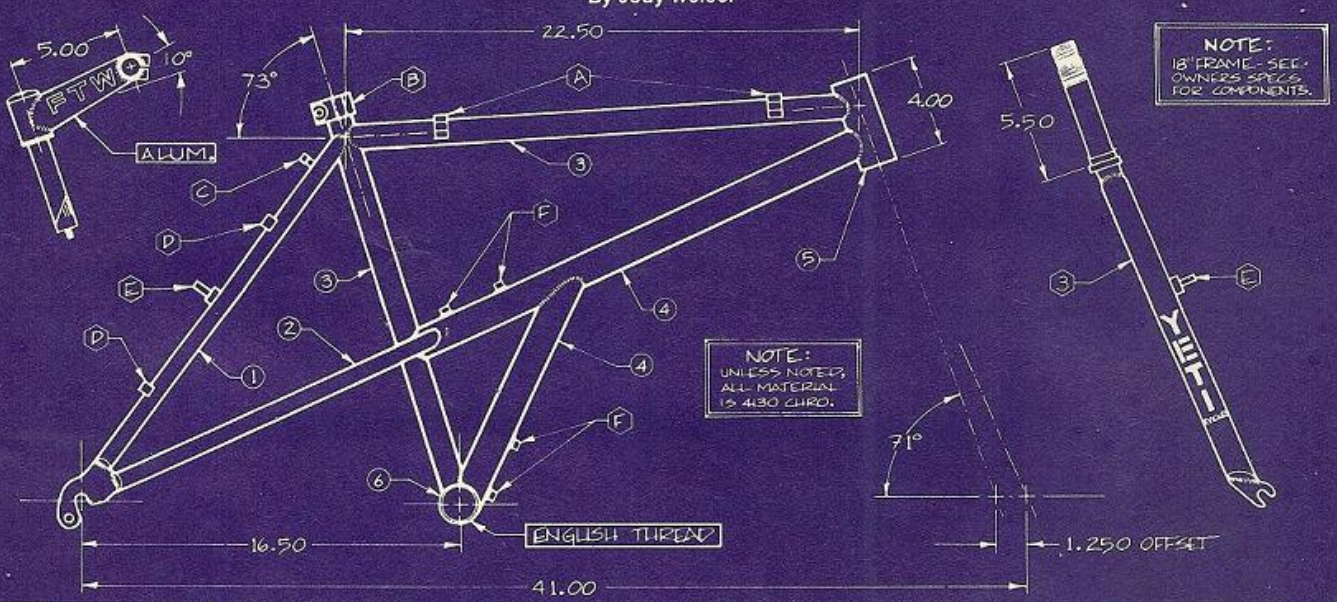
WE BUILD THE BIKE OF THE FUTURE

A germ of an idea becomes a disease of the mind

By Jody Weisel



Q	BRAZE-ONS	Q	BRAZE-ONS	Q	TUBING Ø			
A	YETI-CROSS SLOTTED CABLE STOPS	D	REAR DERAILLEUR CABLE STOP	1	.625	4	1.375	JOB CAPTAIN: JODY WEISEL
B	ALUMINUM SEAT POST COLLAR	E	CANTILEVER STUDS	2	.750	5	1.562	CONSULTANT: CHRIS HURTING.
C	CANTILEVER CABLE STOP	F	H2O BRAZE-ONS	3	1.125	6	1.500	DRAFTER: C. BAILEY 2/11/89

We had kicked around the concept of the "bike of the future" hundreds of times. At lunch we would start by complaining about what was wrong with our current scoots and then wander off into a dream sequence about what our perfect bike would be like. Zap had been collecting components to build the "Ultimate Mountain Bike" for months on end, but every week he changed his list of coolest part. Gary Fisher was always calling to tell us about some new idea he had that would make a better off-road machine. Each time he called it generated a whole new round of wish lists. Richard Cunningham was a hotbed of radical ideas. Just hanging around the back of his Mantis Bicycle frame shop was like a trip to mountain bike Disneyland. Richard had sketches everywhere, including an awesome one in chalk on the floor, that depicted new ideas, old ideas and forgotten ideas.

I suppose that all of this daydreaming about building the bike of our dreams would have remained only so much talk except for the fact that John Parker of Yeti fame had just moved into a brand-new factory. John was so proud of his new digs and his new frame jig that he was constantly telling us, "If you ever have a design you want me to build, let me know. I'll build it for you on my new jig."

HE KEPT REPEATING IT

John Parker is a unique individual, and one look at his Yeti mountain bike will tell you that he knows what off-road riding is all about. Yetis are the get-down-and-fly-low downhill bikes of all time. The trouble with our lunchtime chitchat about the ultimate bike was that we kept changing our minds. We could never actually agree to build a frame because each week we thought of a new idea to negate the old one. But one day, after being intrigued by something that Richard Cunningham said that concurred perfectly with a Gary Fisher comment and that coincided with John Parker walking into the palatial *MBA* offices, we decided to do it. The germ of an idea was about to fester into action. John repeated, "If you have a design you want me to build, let me know."

As pieces of graph paper flew around the office, John stood there in amazement as we whipped a drawing on him. "This is what we want!"

WHAT DID WE WANT?

First off, we wanted a steel frame. No offense to carbon fiber, aluminum, titanium or sandwich material, but chromoly represents the cheapest, most reliable and easiest-to-work-with tubing around. Because we were going to take a few liberties with the classic diamond-shaped bicycle frame, we elected to go with Parker's favorite tubing—straight-gauge, aircraft-quality, certified pure chromoly tubing.. It's strong. Incredibly strong!

Secondly, during *MBA* testing of the hottest designs of 1989 we were impressed with several innovative design features. Elevated chainstays gave the rider maximum tire clearance, *beaucoup* chainring compatibility, no chain suck and no clatter. We felt that elevated chainstays were a design feature that we wanted as an integral part of our personal off-road statement.

THE BIKE

We also wanted a removable rear subsection. The ability to fit the main triangle with a bolt-on rear triangle (seat and chainstays) would allow us to use different tubing shapes, replaceable components and plan for future upgrades. The bolt-on concept had already seen fruition on the aluminum Mantis XCR and aluminum Fisher CR-7, but our design took it one step farther (or one step simpler). We also knew that on our first prototype we'd have to TIG-weld the whole thing together. No removable rear subsection! Why? Because building an untried design is tough enough without having to make the parts separately.

In addition, we borrowed the hanger bottom bracket from the Trimble Carbon Cross and Nishiki Alien. By hanging the bottom bracket below the main triangle, we gained added clearance. Initially we went for frame rigidity with a TIG-welded chromoly strut, but had grand plans to make the strut removable (later) so that we could test various degrees of bottom bracket flex by using struts made out of carbon fiber, aluminum or "unobtanium."

For forks we opted to go with ultra-sano Yeti straight-blade forks. Yeti forks look large and heavy, but don't be fooled. The 1.125-inch straight-gauge tubing is a high-quality, thin-walled (.035") configuration that is among the lightest forks on the market. Fork offset is one inch. Our past experience with Yeti forks proved that they are strong and durable, while being super absorbent at speed. For more information contact Yeti Cycles, 5330 Derry Ave., Unit Q, Agoura Hills, CA 91301, (818) 707-4498.

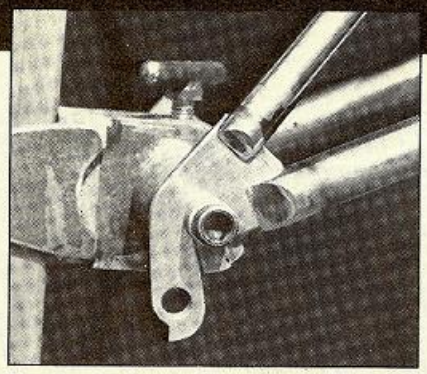
WHAT WE HAD & WHAT WE'LL GET?

Step one was producing the prototype drawings. We did this in about 30 minutes (if you don't count the year of discussions). It is important to note that, in scribbling out the original sketches for the *MBA* off-road project, we didn't resolve any design conflicts. No thought was given to the workability of any component that might be attached to the frame. In our enthusiastic rush to come up with our basic frame design, we did not worry about whether or not water bottles, derailleurs or cables would fit. We didn't have to!

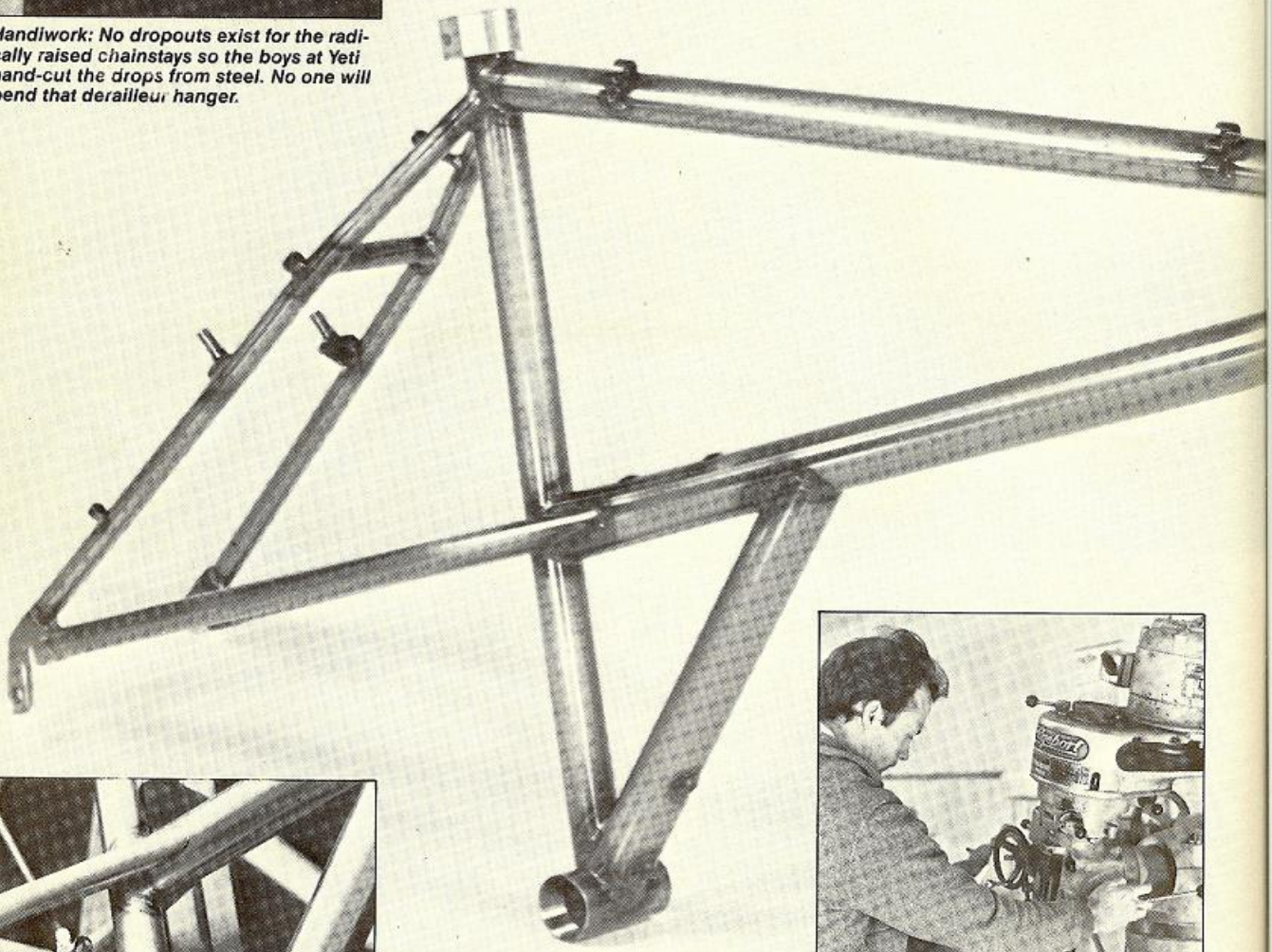
We handed the sketch to the man from Yeti. He thought it was a neat idea, foresaw lots of problems, tried to talk us out of a few features and then said he'd be glad to build the special one-off frame. "Good," we said, "you have a month to make it work!"

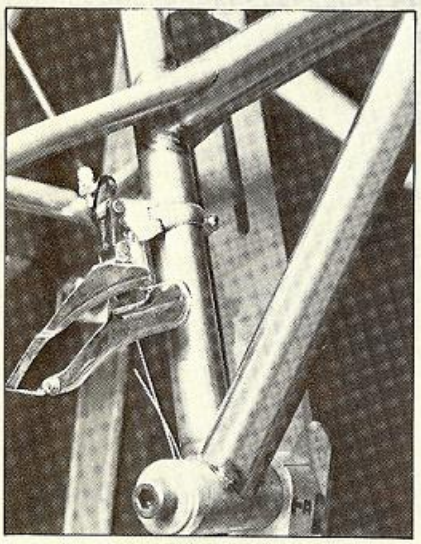
John Parker smiled, laughed, grabbed the sketch and headed for the door. "See you in a month," he yelled as he burned rubber in his GMC Suburban wagon with the bikes on top.

Stay tuned! Next month we build our "bike of the future"! □

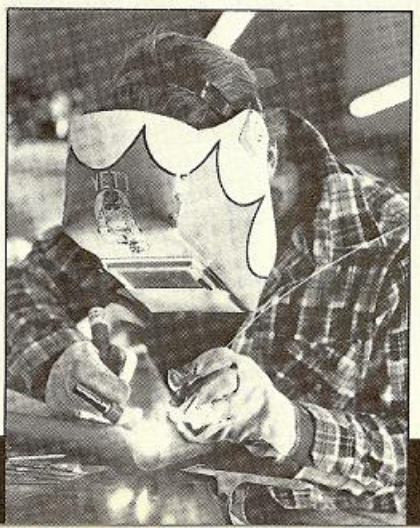


Handiwork: No dropouts exist for the radically raised chainstays so the boys at Yeti hand-cut the drops from steel. No one will bend that derailleur hanger.



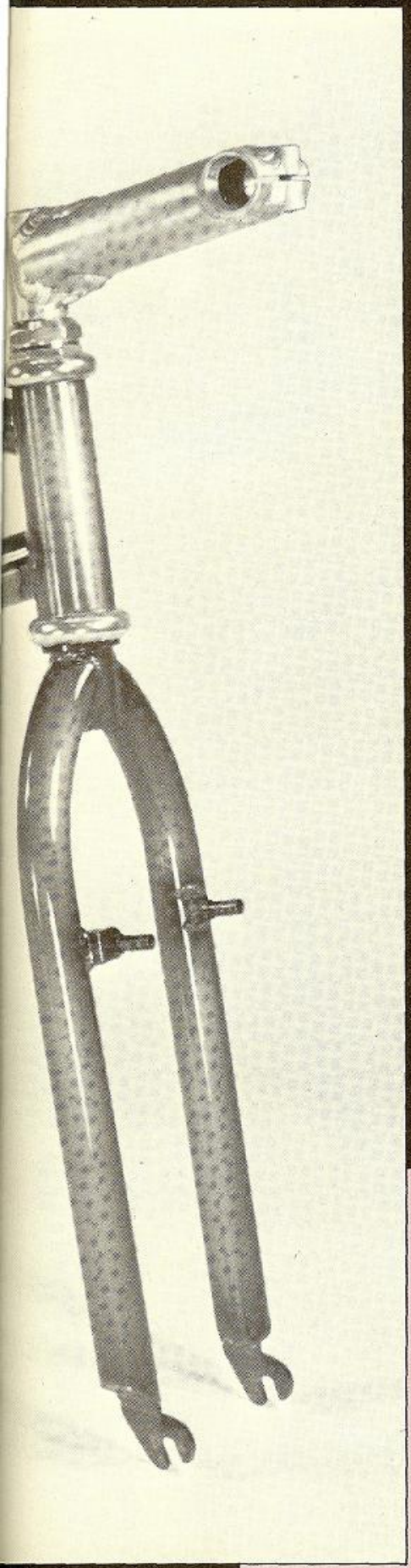


In the jig: Before the frame was welded up the True Temper tubes were tacked together in the frame jig and each component was tested for workability and clearance.



Mitering: Yeti's Chris Hurting handed all the prototyping for the MBA frame. He took our sketch and turned it into a real bicycle frame. The big Bridgeport mill miters the down tube.

◄ Don't look: Frank the Welder tacks the OX-Ultra head tube in place on our frame. The welds are so perfect that we clear-coated the bare metal instead of painting the frame.



BUILDING THE ULTIMATE BIKE

PART 2 *From scraps of paper & a pile of tubing . . .*

By Jody Weisel

Last month the *MBA* wrecking crew put pen to paper and sketched out a frame design. The challenge was to design and build, in a three-part story, a mountain bike highlighting innovative features that will become part of the mountain bikes of the '90s. The sketch was rudimentary, including only the basic tube layout, raw geometry numbers and specifications for a few selected components. The *MBA* test crew handed the drawing over to Yeti Bicycles. It was left up to Yeti to turn our imagination into TIG-welded, chromoly reality.

ON THE FRAME JIG

The task of building the frame was left up to Yeti's Chris Hurting. Chris had to resolve all of the dilemmas that our drawing had not taken into consideration. We wanted elevated chainstays, a hanger bottom bracket, a raised down tube, top-driven cables (all three), Fisher Evolution oversize headset, custom dropouts, alloy seat clamp and straight-gauge, straight-blade forks. Chris had to make our wants and desires not only go together, but also fall into some semblance of practicality and function.

Constructing the prototype frame is a tough task, even with a conventional design, but when you push the extremes of the design envelope you increase the difficulty tenfold. Chris' craftsmanship in mitering tubes, manipulating the frame jig and hand-building one-off components resulted in a striking layout of tubes for Frank the Welder, Yeti's in-house torch artist, to TIG together.

ON THE PHONE

Chris and Frank never made a move on the frame without giving the *MBA* wrecking crew a call. Did we want the bottom bracket angle to be parallel to the seat stays? No. Should the chainstays extend up onto the down tube? Yes. How many water bottle bosses? Two. Did we want all three cables to run down the right side of the top tube? Yes.

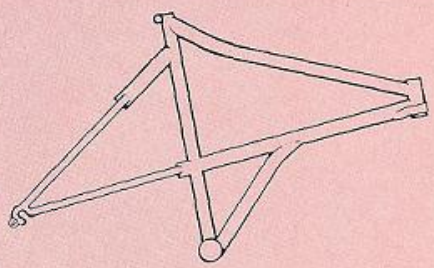
Yeti went all out to build us our dream bike. They took time out of their busy schedule, time they could have used to build their highly sought-after Yeti Team bikes. Yeti doesn't normally do custom frame prototyping to dreamers' sketches—we had to buy lunch at a Mexican restaurant as payment.

Additionally, True Temper provided their high-quality, American-built mountain bike tubing. We selected straight-gauge, .035" wall, 4130 chromoly in tube sizes to fit the stresses of our design. True Temper is rapidly becoming a popular tubing choice among American custom builders. The benefits of dealing with an American tubing company don't need explanation, but True Temper was also able to supply special tubes for our design that would have been difficult to obtain elsewhere. One of these tubes was the very unique OX-Ultra head tube drawn especially for the oversized Fisher Evolution headset. The *MBA* test crew thanks both True Temper and Fisher MountainBikes for their support.

Yeti's team of four (John Parker, Chris Hurting, Frank the Welder and Eric Hurting) produced the frame, with the aid of Fisher and True Temper, in the exact amount of time we had requested. On the appointed day, the Team Yeti GMC Suburban screeched to a halt in front of the *MBA* wrecking crew's palatial offices and John Parker handed us the gleaming chromoly toy. Next month we build the complete bike and test it . . . stay tuned. □

PARALLEL THINKING

1990 HARO MONOTRAC FRAME



• Mountain bike frame design is a rapidly evolving field of expertise. As the *MBA* wrecking crew was blueprinting specifications for its "Ultimate" off-road bicycle, Bob Haro and Dean Bradley Federal-Expressed us a sketch of their 1990 Haro MonoTrac frame. Surprisingly, it shared the same basic concepts that we had included in our design. Elevated chainstays, a raised down tube and a hanger bottom bracket certainly aren't proprietary designs of the *MBA* test crew; we borrowed our concepts from Cunningham, Trimble, Fisher and Yeti. But it is encouraging to see that manufacturers like Haro Bicycles are moving toward prototypes with innovative new designs for the future. The Haro MonoTrac will be for sale in 1990. •