

The shunning of the \$8,000 bikes

Certainly no one would buy one for \$8,000. But that's about what it cost to produce each of the five aerodynamic frames that Dave Moulton built last summer for the U.S. 100-kilometer team. The unique tear-drop-shaped tubing was donated to the project by Reynolds of England, which then went on to produce similar sets for Bernard Hinault's Gitanes. Hinault rode his along victory road in the Tour de France, but the 100K riders were not on theirs when they won the Pan-Am gold medal, nor when they competed in the world championships. And that makes Dave Moulton a very frustrated fellow. Velo-news accepted his offer to send us his side of the situation, and then we did our own investigation. First, his story.

By DAVE MOULTON

JUST ABOUT A YEAR AGO I arrived in the United States from England, and soon I was approached about building some special frames for the U.S. team time trial squad. I was told the U.S. had the best chance for international honors in the 100-kilometer event.

Now, 12 months later and after a great deal of work and money spent by myself and many other people, we have very little to show for our efforts. I, for one, am wondering whether it has been worthwhile.

When one is approached with a request like this there is never any expectation of being paid. You do it for the privilege of having top riders use your machines in international competition. You do it to put back something into a sport which you love, and which in this case you also make a living from. Naturally, such projects are also done for publicity.

But in terms of publicity gained, there is very little to show for a great deal of work and knowledge. The frames that were built are laying in a storeroom at the USCF headquarters, having had very little use or even a fair trial.

To go back to when it was first suggested that I build these frames, I had been making frames with streamlined tubing in England and was the only builder doing so at the time. Therefore, I was interested in building such frames for the U.S. 100K team.

PREVIOUSLY THERE HAD BEEN NO manufacturer making streamline section tubes for bicycles, so I had made a special press tool for turning round tubes into a tear-drop section. This method was not entirely satisfactory because of the danger of creating minute surface cracks in the tubing.

With this in mind I approached Mr. H.F. Pressdee, director and general manager of the Reynolds Tube Company in England, during the New York Cycle Show last February. I spoke of the possibility of Reynolds making streamlined tubes for the U.S. team bicycles.

I was invited to the Reynolds factory when I returned briefly to England in March and together we worked out the design of the special tubing. The tubing was to be Reynolds 531, and as with all Reynolds tubes it would be cold drawn into special section. This was no easy task for Reynolds because special tooling was required. I do not have the exact figures but I have heard that tooling costs totalled \$30,000.

Because of all this special tooling it would take Reynolds some eight weeks to produce the tubing. This would make delivery pretty close to the time of the Pan-Am Games, where the bikes were to be used first. As it turned out, the tubing arrived less than four weeks before the competition was to begin.

BECAUSE TIME WAS RUNNING OUT, I called in a top American framebuilder, Mike Melton from Columbia, SC, to help me in the construction. The shape of the tubes meant the frames had to be of lugless construction. Mike, like myself and most European framebuilders, works with brass rather than with silver solder and so he was ideal for the job.

Before we could even start building, we had to alter my jigs to take the tear-drop tubes and make special templates to miter the ends of the tubes. Mike did most of this while I was doing other preparatory work.

The idea of the streamline frame is to cut down turbulence as it passes through the air. With a round tube, the air is parted by the tube and flows around it, following its curve. The separate air streams on each side of the tube then meet "head on" at the back of the tube, causing the turbulence which creates drag.

With the tear-drop-shaped tube the rounded edge goes into the wind, with the tapered edge trailing. The two air streams around the tube come together more smoothly, thus creating less turbulence.

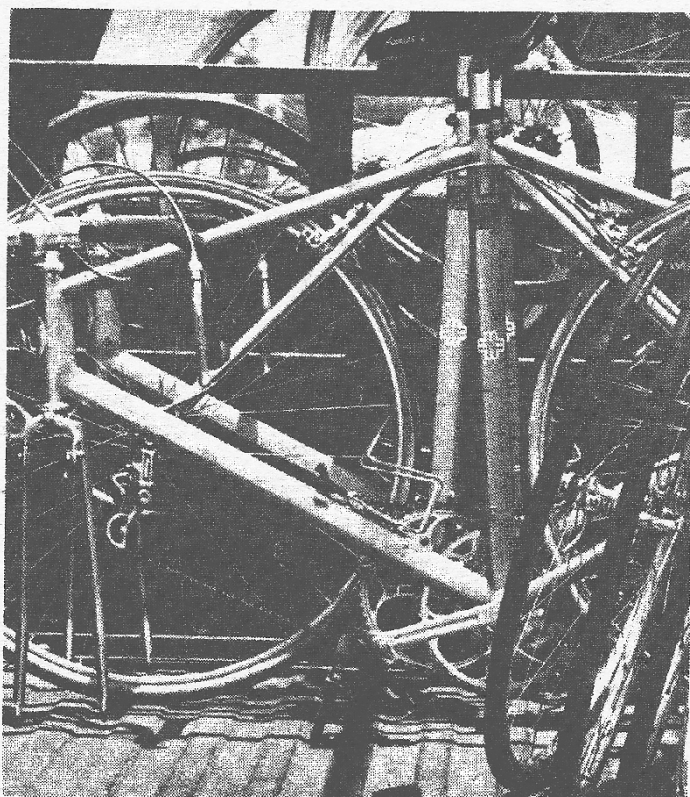
THE FRAMES WERE CONSTRUCTED with a streamlined head tube, down tube, seat tube and seat stays—in other words all the tubes which lead into the wind. The horizontal top tube and the chainstays, being almost horizontal, did not need to be streamlined and so we used conventional tubes.

The head tube had to be round to accept headset bearings, so this was given the tear-drop shape by adding an airfoil behind it. This also strengthened the frame in the head tube area. To accommodate the seat post a piece of round tubing was slotted into the top of the tear-drop seat tube.

To cut down turbulence still further, instead of the conventional chainstay bridge there was another airfoil. This helped produce a smooth flow of air around the bottom bracket. A modified Zeus fork crown was used with the hole under the crown sealed off. We produced five frames in all—four for the event, plus one spare.

Mike Melton was only able to work with me one week; however, we got most of the main construction done. It took me another week working practically alone to finish the frames, including the cleaning and finally the painting.

THE FRAMES WERE SHIPPED OUT to USCF headquarters in Colorado Springs and assembled into complete bikes there, a little over a week before the Pan-Am Games. Hardly time enough for the riders to try them out fully, I will admit, but we could not have gotten them out any sooner. Everybody concerned burned the midnight oil as it was.



Being trucked around for emergency use is as close to the race as the bikes got at the Pan-Am Games. (Robert F. George photo)

After the frames left our Paris Sport workshop in New Jersey, I heard very little. I knew the U.S. team had won the gold medal but did not know if they had used the bikes or not. It was not until the Games were over that I learned the bikes had not been used, as the riders had not had time to get accustomed to them. But I was told that they would be used in the world championships.

After the bikes arrived back at Colorado Springs from Puerto Rico, however, some of the valuable Campagnolo Super Record and other equipment had been stripped from them, rendering the machines useless. Where it has gone is anybody's guess. And so they have never been used to this date.

All I have heard are rumors about the frames, nothing concrete. I heard that some of the riders said they were great, while others made comments ranging from "twitchy" to downright "dangerous." If there were any faults in the handling, why were the frames not returned to me, together with some constructive criticism so that necessary alternations could be made?

After all, the builder of a racing car cannot make alterations which affect the handling unless the driver tells him what the car is doing.

I HEARD OTHER RUMORS THAT the riders did not want to use the bikes because they wanted to ride their own machines, which bear their sponsor's name.

I was later asked to build two pursuit bikes with the same tubing for the Junior worlds team. Coach Eddie Borysewicz told me, "Junior riders are better, they do as they are told," inferring that the Senior riders would not ride the TTT bikes.

The two pursuit bikes were ridden and tested at the Paris Sport workshop and we found they handled *not differently from a conventional bike*. Greg LeMond went on to win the silver medal on one of these machines.

Greg remarked that the frame flexed slightly at the start, but once it was rolling it was fine. He was quoted in *Velo-news* as saying the bike was heavy. This streamline tubing can only be made in plain gauge and so the frame is slightly heavier than, say, a 531 butted frame. But a slight weight difference has little effect in a track pursuit once the machine is rolling, whereas with streamlining the advantage increases as the rider goes faster. He has the satisfaction of knowing that the more effort he puts in, the more advantage he gets.

I would also like to point out that you cannot expect this tubing to resist sideways flex like a round tube. Still, the bikes we tested were no more flexible than a frame built with one of the lighter gauge round tubings.

GETTING BACK TO THE TEAM time trial machines, I was told that right from the start the reaction was "cool" rather than enthusiastic, which is a pity when so much time and money was spent on this project. And it is disgusting that the equipment should be taken from these bikes. The equipment was donated by Campagnolo, with special saddles and hubs made by Avocet. And what about Reynolds, the largest light-weight bicycle tube manufacturer in the world, which made this tubing especially for the U.S. team, paid all the tooling cost and donated the first five sets?

Paris Sport, in whose workshop the frames were built, had to purchase a further 15-sets of the tubing in order that Reynolds could make it. Mike Melton and I worked without pay to build the frames. Steve Aldridge, Brenda Weinert, Betsy Davis, and Mike and Vic Frayse all put time and effort into the project.

As a footnote, a machine built by Gitane of this same tubing was ridden by Bernard Hinault in the time trial stages of the 1979 Tour de France and in his victory in the Grand Prix des Nations. It would appear that this type of frame is good enough for the current best cyclist in the world but not good enough for the U.S. team, the Juniors excepted.

'It was unanimous not to ride them'

By ED PAVELKA

To explore the other side of the Moulton frame issue *Velo-news* contacted four of the five riders who competed in the '79 Pan-Am and world championship team time trials. We spoke at length with Wayne Stetina, Andy Weaver, Tom Sain and George Mount. Tom Doughty could not be reached.

Mount, having no idea he would get a ride in the Pan-Am 100 kilometer until the morning of the event when Weaver turned up sick, said he never rode one of the Moulton bikes in training beforehand. "He didn't build one in my size anyway so I would never have been able to ride one," he said.

As for the remaining riders, all had ridden the bikes in a practice event of 80 kilometers at Colorado Springs and had trained on them briefly in Puerto Rico, the Pan-Am site. They were requested by coach Eddie Borysewicz to ride the bikes in the 100K and any or all of them could have done so, but each declined. The reason, they said, is that the bikes were unsafe.

Tom Sain explained it this way: "I thought that it would be a good bike for individual time trials but I didn't like it at all for the team time trial. I was really nervous on it.

"It seemed like any braking, like when you have to tap your brakes and then made little accelerations and so forth, made the fork shudder. The tubing may be quite an advantage but I just didn't feel comfortable at all riding in close proximity with three other people. It just handled kind of screwy."

Sain estimated that he had ridden six to eight hours on the bike assigned to him, which he said was the smallest of the five and "didn't really fit me all that well." He noted that even when changing to a new conventional bike it would be hard to get accustomed to it in the same amount of time he'd had on the Moulton.

Andy Weaver, who guessed he had covered about 85 miles on the streamline bike, also spoke of an alien ride.

"I didn't want to ride one because you put in so many thousands of miles on your own road bike and to just hop on a totally strange bike is so hard to do," he said. "You really have to be totally at ease and relaxed to totally concentrate your effort. We didn't have the opportunity to acclimatize ourselves to the bike."

Weaver described the handling as "scary." He said the machine felt quick, light and fast, but, "If you took your hands off the bars, that's it, you'd crash. The front end would start shimmying. It contributed to the feeling of not being at ease on the bike."

As for the bike offering an aerodynamic advantage, Weaver said he doubts that it does.

"If you took a regular round-tube bike that was lighter, the air turbulence would be overcome by less weight," he stated. "That is, the average drag would probably be the same. But how can you test that? In my mind it's all relative, all theory."

Weaver recalled his first encounter with the Moulton machines and said he had mixed emotions.

"We weren't contacted in any way about the building of these bikes. They were just thrown at us and we were told here, ride them," he said. "But we said fine, they're really neat looking, we'll

'Moulton couldn't help these bikes without rebuilding them'
—Wayne Stetina

try them. The East Germans have got them, sure we'll try them. We started with an open mind and Wayne really got into it. He's kind of an equipment freak anyway. But he was one of the first ones to really put them down because of the handling and what not."

Wayne Stetina appears to have logged more miles on the bike than any other rider, about 200 by his estimate. He is also the only person to use one in competition when he rode one to fourth place in the national 25-mile time trial last August. The Pan-Am TTT riders had been encouraged by Eddie B to take the bikes home after the Games in order to get accustomed to riding them. Stetina and Doughty were the only two who chose to do so, later returning them to the federation for possible use by the Junior worlds team.

Stetina, like Sain, said the bike is much more suited to individual time trials. Even so, he said, the frame has a basic design flaw.

"I hate to be too critical of them because of all the time and effort Dave Moulton and others donated, which I feel is tremendous, but he built the bottom brackets high enough to ride a six-day track with," Stetina said. "A time trial bike should have a bottom bracket as low as possible."

The result, he said, is that the bike is "extremely unstable when you combine the bracket height with the type of tubing that was used. It makes it very difficult to be within inches of someone and ride extremely straight at all times so everyone can be as relaxed as possible.

"Eddie B says you should be bumping elbows all the time in the team time trial. Well, if you bump elbows on these bikes you go wobbling across the road and you waste a lot of energy in your upper body trying to keep things under control."

As for pedalling the bike, Stetina said he found that the "power transmission is fairly good but still there was quite a bit of flex between the seat tube and the head tube. The bike seemed fairly rigid in the rear triangle."

Based on his feelings and those of the other riders, Stetina said it was "completely unanimous after the Games in Puerto Rico, after our 80 kilometer ride in Colorado Springs and our short ride down there, that we weren't going to use them in the worlds."

And so they didn't. The Moulton bikes weren't even taken to the world championships in Holland, weren't used at the Junior worlds in Argentina and, in fact, have barely been touched in months. One reason is that they have been stripped of many of their components, a fact that has helped spark the USCF investigation into the disappearance of equipment from the Colorado Springs storeroom (see related story).

Since Moulton has said he would gladly accept the frames back to try to iron out problems, we asked each rider if he had considered contacting the framebuilder with some suggestions. Weaver said he hadn't thought of it, Sain said he thought about it but didn't do it, and Stetina said it didn't make any difference because nothing could be done.

"He couldn't help these bikes without rebuilding them," Stetina said. "I guess the forks could be shortened considerably and that would bring the bottom bracket down, but then the ride would get much stiffer. And if you altered the rear triangle then the bottom bracket shell would be at the wrong angle for the chainstays."

Complaints of poor handling aside, what about the contention that some riders wouldn't give the Moulton frames a fair chance because they are sponsored by other bike manufacturers? This would not seem to affect Sain, Doughty or Stetina, who were with non-bicycle sponsors in '79, but it could have caused a conflict for Mount (AMF) and Weaver (Austro-Daimler).

Mount may have alluded to this when he told us that the Moulton bikes seemed to him to be "some sort of political angle or publicity angle for the framebuilder and his money suppor-

ters." Moulton is employed by Paris Sport Inc., the New Jersey bicycle shop owned by Mike Fraysse, a person long active in USCF political affairs and now the federation president.

Weaver was much more specific. "Another thing that really disturbed me," he said after his criticism of the bike's handling, "was that Mike Fraysse freely put his Paris Sport decals all over the bike along with Moulton's. Being a rider sponsored by Austro-Daimler I refused to ride it on those grounds alone. A-D takes good care of you, or the best care that you could expect. There's no way I'm going to ride a bike that has Paris Sport and Moulton plastered all over it."

When asked about the role he played in the production of the frames, Fraysse said, "It was done in our shop, we paid for Moulton's trip to England to visit Reynolds and work on the design, we paid all the expenses for both him and Mike Melton, who also worked on building them."

Was the federation involved?

"No. It was just a freebie to the federation," Fraysse replied. "These frames had been thought about for quite a long time. Dave had made a few similar ones in England and it was his design to make the tubes flatter. We got the very first ones Reynolds produced and the next ones went to Gitane. It cost Reynolds between \$30,000 and \$40,000 to tool up to produce the tube sets we received."

We asked Fraysse what he would say to the people at Reynolds who donated

such expensive tubing for bikes that riders won't use.

"Well, Reynolds doesn't much care," Fraysse replied. "You see, because the American riders are tied in to sponsors of bikes they come up with all kinds of excuses. The frames were whippy, they were this, they were that, they weren't any better. But then I got phone calls from two sponsors who wanted to buy the frames for \$1,000 apiece if they could put their name on them. And meanwhile Hinault and all these guys are setting world records on them. Exact same things, you know."

To perhaps finally get an objective judgment on the frames' handling characteristics and to determine specific problems and solutions, Fraysse disclosed that one has been sent to the Schwinn Bicycle Company's engineering department in Chicago. A full technical report is being prepared for the federation.

USCF equipment loss could exceed \$15,000

One important thing confirmed in our investigation of the TTT bike controversy is that right now the team could not ride the Moultons even if they wanted to. The bikes have been stripped of their top-of-the-line Campagnolo, Avocet and other components. In asking a number of persons what they know about this, a good deal else was uncovered. Here is a sample, with names omitted by request.

—“From what I’ve picked up over the years it’s apparently very common for people to take equipment, all the way from riders stealing jerseys to wholesale rip-offs by people high up in the federation. This always concerns me a lot because it affects everybody in the sport. Without the equipment we’re out on our own and it’s hard.”

—“I’ve heard rumors that maybe as much as \$7,500 worth of the federation’s equipment is missing right now, which I think is tragic. Although this sort of thing has happened in the past it’s now starting to affect the riders. If they don’t have equipment for their trips to Europe and so forth somebody’s got to be held accountable. We’ve got to get to the bottom of this.”

—“You go to a bike race and you see a guy walking around in a \$100 USA track suit. Where’d you get it? Oh, I bought it off so and so. Well where the hell did *he* get it? That’s where all the inventory goes. And it annoys me because guys like (Steve) Aldridge spend their own damn time and money, off their own back, going out and getting thousands of dollars worth of equipment for the federation. It doesn’t go to the people who need it, it goes to all these....”

Who? That’s exactly what the USCF is trying to find out as Les Earnest, the chairman of the Board of Control, conducts an investigation into what’s missing from the federation’s three equipment rooms at the Olympic Training Center in Colorado Springs. His major obstacle, it seems, is trying to figure out what’s supposed to be there in the first place.

“Unfortunately, the equipment has not been inventoried and therefore it is not

possible to say whether we are missing \$200 or \$2,000 or \$20,000 worth of equipment,” Earnest said Jan. 31. “The actual estimates I’ve heard range up to something over \$15,000. We really need a few more facts.”

As to allegations that persons within cycling are responsible for the equipment loss, Earnest said, “I have tried to run down the various rumors and so far I’ve found nothing behind the charges.

“Of course, it’s hard to nail someone when you can’t even be sure a crime has been committed,” he continued. “There was talk of a major equipment loss from the Pan-Am Games, and yet when I talked to one of the mechanics who was familiar with what came back it seemed that nearly everything did.”

Earnest said there have been two equipment room break-ins since September, commenting, “The building itself is not that secure. At the present time there are no bars on the windows.”

Currently, Fred Cappy, the former USCF board member, is the person in charge of equipment room security. He has the key and must unlock the door for anyone wishing to enter.

If and when it can be determined how much equipment is missing and who is responsible, Earnest said his personal preference would be to prosecute through legal channels. He said he isn’t sure but assumes that the police were notified about the two break-ins.

For the future, Earnest said there has just been a system devised to help prevent theft by those within the sport, or at least recoup much of the cost of any equipment that disappears.

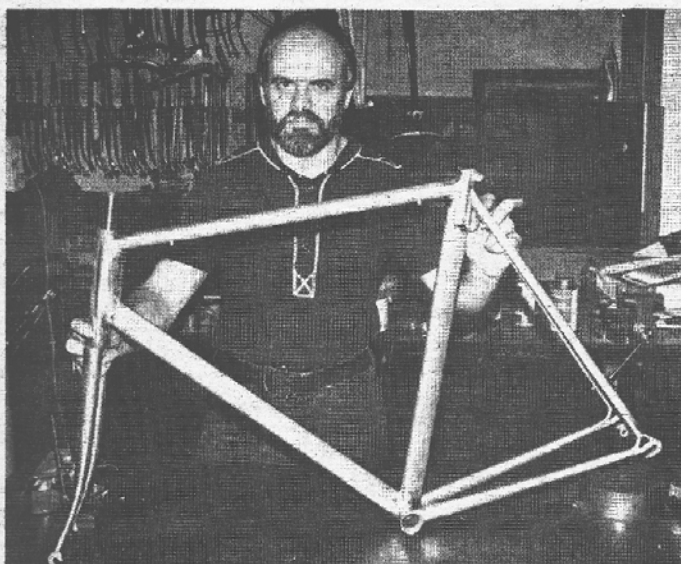
“One of our traditional areas of loss is in cycling clothing,” he said. “The riders tend to think of it as souvenirs or something that they have earned.

Now we're going to require a deposit of \$200 from each rider as they get their equipment. The money will be returned only when everything is returned.

"Also, we will be inventorying each stage of the process as equipment comes out of the building, is shipped to races

and returned. Through these measures we plan to keep better track of it."

An estimated 75% of the new equipment the federation has each year is donated by such companies as Campagnolo-USA, Ultima, Schwinn, Avocet, Maillard, Paris Sport, Mavic and 3M.



Above, DAVE MOULTON displays a finished frame. Below, the almost-flat tubes are brazed into the bottom bracket. (Tom Moorehead photos)

