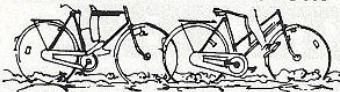


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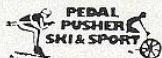
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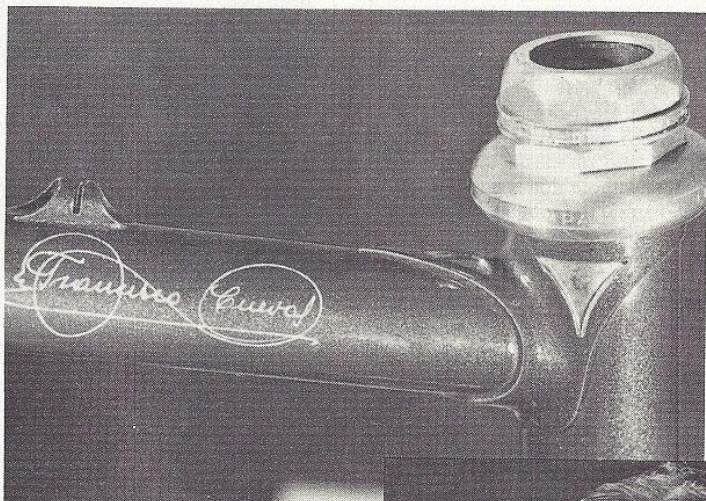


The Workshop

Francisco Cuevas

35,000 Frames and Counting...

Tom Sahagian and Rudolph E. Greco, Jr.



Cuevas's finished joints show off his handiwork. No blobs of brass or gaps appear under these lugs.



The hands of experience: Francisco Cuevas puts the torch to yet another frame. Gary Connelly photos.

"Sex, drugs and rock and roll" reads the graffiti scrawled across an unassuming one-story building in Astoria, Queens, in New York City. Only a few decals on the front door give a clue about what goes on inside. Open the door and the interior appears equally diffident: there are a few bicycle frames hanging from the ceiling, some tables, a couple of men talking, and some old guy playing with a welding torch.

The "old guy" is Francisco Cuevas, 66 years old, and he is in the process of building one of the more than 35,000 frames he says he has made in his lifetime. Cuevas has been building frames, first in a factory in his native Spain, then in shops in Spain and Argentina, and now in Queens, since he was 14 years old.

The torch señor Cuevas wields so deftly is one of the few concessions to the industrial age in his shop. There are an

aging (and seldom used) drill press in one corner and a bench grinder in another. The rest of his tools are a gaggle of files and a few hacksaws; virtually all his work is done by hand.

And not slowly, either. Despite his age and his methods, Cuevas can turn out a custom frame in about 14 hours.

The Workshop

Yet the speed with which Cuevas builds is not the most interesting aspect of his work. Far more amazing is that Cuevas constructs all his frames without benefit of jigs or pins. Almost no one does this any more, and with good reason: it is extremely difficult and requires extraordinary patience and experience.

Some might argue that Cuevas is just being stubborn and making things needlessly difficult for himself. But as his apprentice, Frank Matthews, explains (Cuevas's English is somewhat spotty), there is a reason for it.

"When the frame tubing is heated, it expands and contracts in various ways. If the tubing is clamped to a jig, the induced stresses have nowhere to go and can build up. If you use pins instead of a jig, you are making a hole in the tubing near the point of greatest stress. Also, pins make repair more difficult."

Building a frame without jigs or pins is one thing, having it come out right is another. Cuevas scurries across the shop and brings a just-brazed frame triangle over to the aligning table. Clamping it parallel to the table's surface, he slides a measuring probe along the tubes and lugs. Perfect! If there had been some misalignment, Cuevas would have cold set the frame by carefully bending it a few millimeters into place. This one needs no adjustment.

It is this kind of precision, and an Old World passion for detail, that distinguish Cuevas from many other American framebuilders. After all, they use similar tubing (Cuevas prefers Reynolds 531), lugs (Prugnat) and components (Campagnolo). So the differences must be found elsewhere.

For example, Cuevas brazes extra pieces onto his lugs and custom-makes the seatpost bolt area, as much for aesthetic as structural reasons. He files fine decorative cutouts into the lugs, more for looks than lightness. He brazes an "X" of metal into the steering tube to give the fork extra strength. He fashions his own cable braze-ons by hand from automobile gas line so they will sit lower on the frame tube and have more brazing area.

The Master at Work

Watch him make such a braze-on. In a moment he has cut off a small piece of tubing and clamped it in a vise. With obvious enjoyment and the serenity of a man who loves and is confident in his work, he quickly files the metal to the proper shape with a few smooth strokes. Another moment with the hacksaw, and it is done. Perhaps a minute has gone by. He is fast without appearing to be in a hurry.

A half-century of experience subtly asserts itself.

Surprisingly, Cuevas's artistic spirit and the attention to detail are in some ways relatively new phenomena. Although he has always taken pride in his work, Cuevas has not always had the luxury of time necessary for custom assembly. His first framebuilding experience came at the age of 14 in a bicycle factory in Barcelona, Spain. Soon after, he became an apprentice to some local custom builders, and began working on his own at the age of 18 in 1932.

A stint of fighting in the Spanish Civil War shut down his business temporarily, although he remained in Spain until 1951. He resettled in Argentina; economic conditions compelled him to make bicycles, not one at a time but several at a time. He and his assistants cranked out 25 frames a week during his 18-year tenure. It was during this period that Cuevas began to lose touch with his craftsman's ethos.

"In Argentina, quality was not appreciated," says Andres Cuevas, Francisco's son. "He got into a production mentality."

Political upheaval in Argentina propelled Cuevas to the United States in 1969. He worked mostly as a mechanic in New York City and did not build many frames until 1977, when he was hired by Paris-Sport in New Jersey. Even then, it was not until he was invited to work for six weeks with the well-known French framebuilder Pepi Limongi in 1979 that his interest in craftsmanship was rekindled.

Now Cuevas builds about 150 to 175 frames a year in his shop across the river from Manhattan. Andres does all the paint work, and Matthews is Francisco's only apprentice.

Matthews' presence in the shop is a story in itself and is perhaps a measure of the respect others feel for Cuevas. A New York City homicide detective and a 17-year veteran of the force, he stopped just short of a master's degree in criminal justice to work with Francisco in his spare time. He is about two years through a four-year apprenticeship and hopes to work full-time when it is completed. Originally a Cuevas customer, he was enthralled that the old man used virtually no power tools. This strapping, city-toughened cop describes Cuevas and his work with heartfelt reverence. "If I work hard enough and I can equal him," Matthews says, "I want to preserve the Old World values that he has preserved for me."

It is easy to become seduced by the almost ethereal air that surrounds Cuevas and his circle of admirers. But, as

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By ERIC HJERTBERG

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Eric and co-builders Jon Hjertberg and David Long.

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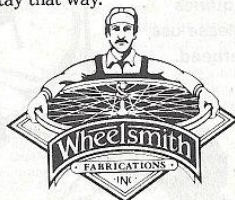
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The Workshop

with any other framebuilder, there are those who are critical of Cuevas and his methods. Some speak from ignorance; others have worries about overheating the frame with the high temperatures of brass brazing.*

Whatever the criticisms, and whatever their validity, there is one indisputable fact about Cuevas and his skill that comes as no surprise to his many admirers. Recently, Cuevas was given approval by TI Ltd., makers of Reynolds 531 tubing, to make frames with their new 753 tubing. Few framebuilders have won such approval; by itself it would be a significant accomplishment. But Cuevas went one step further in his approval bid: the frame he sent TI was *brass-brazed*—supposedly an impossibility with this tubing. In fact, the company insisted he use only silver when building with 753; apparently they're still too nervous about brass.

Señor Cuevas, of course, feels no such nervousness. He continues to work with

**The incredibly technical argument about the merits of silver brazing versus brass brazing was last covered in "Reynolds versus Columbus versus the Framebuilder's Torch," Bicycling, September/October 1981. Author Mario Emiliani did extensive metallurgical testing and concluded that the higher temperatures of brass brazing do not cause the problems people have been fearing.*

a glint in his eye and a calmness in his smile. He continues to go out riding with his friends and leaves them gasping for breath after 50 miles. He continues to go to races and bask in the deference and attention paid him by racers and officials alike. In a drab corner of Queens the old man has found his niche, and he shines.○

Ten Steps to a Cuevas Frame

1) Before taking a potential client's body measurements, Cuevas encourages the customer to go out and see what Cuevas's competition has to offer.

2) When the prospect returns, measurements are taken at the inseam, arms, torso, and across the shoulders — inseam and torso measurements, predictably, are the most critical — and are recorded, along with all other requested frame details, on a chart.

3) Frame tubing — usually Reynolds 531 SL double-butted — is cut to measure, and the ends are milled by hand.

4) Frame triangle lugs are filed and shaped into fancy designs. The main triangle is then brazed by hand without jigs or pins.

5) The frame triangle is cold set (that is, bent into alignment) if necessary. Chainstays and seatstays are brazed to the triangle and then joined to rear wheel dropouts.

6) Integral fittings — cable guides, water bottle brackets, etc. — are brazed to the frame. These fittings are usually handmade by Cuevas.

7) The cosmopolitan Cuevas fork: English tubing, French lugs, Italian crown, and Spanish technique. Cuevas adds an "X" of metal inside the steerer tube for added strength.

8) The frame is sent out to be blasted with aluminum oxide to clean the metal.

9) Head tube and bottom bracket are faced and tapped. Frame is polished with a file and emery cloth, then taken for a last check on the aligning table.

10) Two coats of epoxy primer, two color coats, and one coat of clear varnish compose the paint job. Decals, along with Francisco and Andres's signatures, complete the job.

Cuevas frames are distributed by Zeus Cyclery Corp., 84 N. Park Ave., Rockville Centre, NY 11570, phone: 516/678-6706.

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