

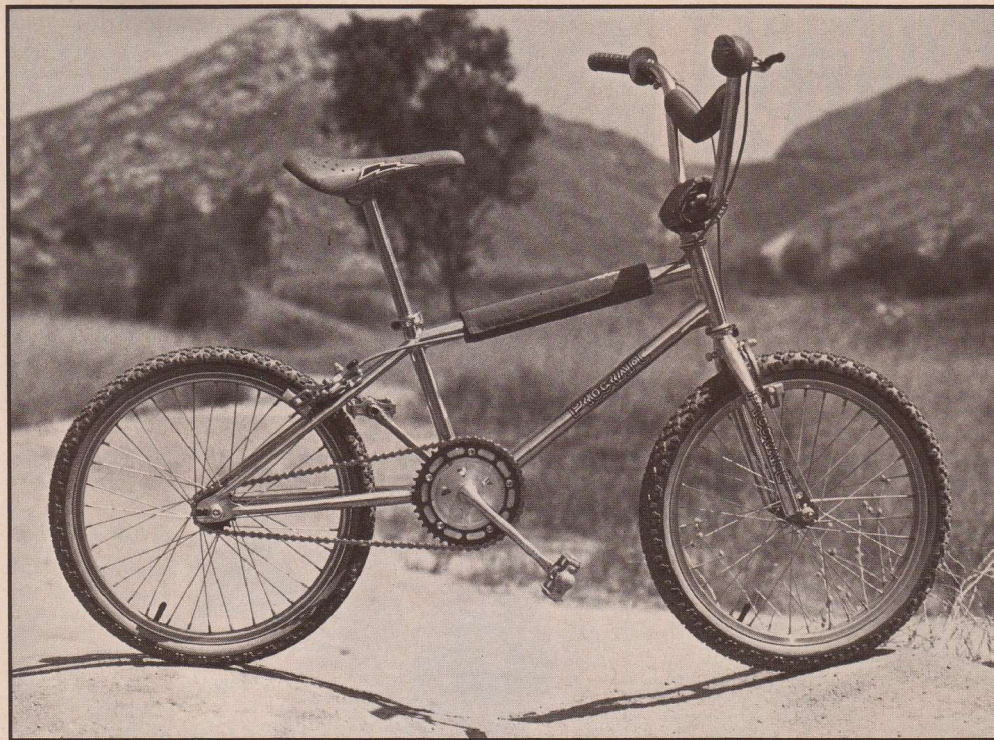
PROCRAFT

Miranda riding high on Procraft—the crest of a new wave of great things to come out of Taiwan.



ULTIMA 20

Riding the Crest of a New Wave



Procraft—Pro performer, crafty competitor, and Ultima bargain with no strings attached.

By Bob Hadley
Photos by John Ker

An economist would call it "a buyer's market." These days you can have a lighter, faster, and better bicycle for your money than ever before. The mid-price-range bicycles, the bikes between \$225 and \$325, have been undergoing a revolution. The outdated and overweight bikes of yesterday's thrasher concept are being dealt out of the picture as more and more factories scramble to bring out their new, lightweight, "best-buy" racers. The writing is on the wall for anyone who wants to see it. The economic crunch underway throughout the country is apparently dictating the trend. Fewer and fewer people can afford to plow down the five or six hundred bucks for the top-of-the-line. They want—no, they need—a raceable BMX package for a reasonable price.

The newest entry into the mid-price lightweights is this month's test topic, the Procraft. It jumps into competition with brands like Diamond Back, Scorpion, and Kuwahara, all of whom are

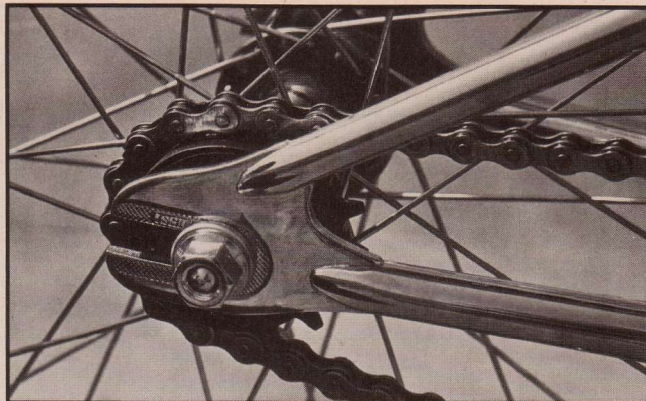
currently hard-selling the "best-buy" racers in their own line-ups. But unlike those brands, which have high-bucks racers in their line, Procraft is strictly geared for the mid-price battle. They have two models only, one for the lower end of the middle-price range at about \$250 and the other, the Ultima, aimed at the upper mid-price range at about \$340. The differences in the Ultima are that it offers a chrome-moly frame, Shimano DX pedals, an alloy chainring, the addition of a front brake, A'ME Tri grips, sealed bearing hubs, and double-butted stainless steel spokes.

Look closely at either model of Procraft and you'll find a very high grade of workmanship and a fantastic grade of components—considering the price. You'll also find something hard to believe about this bike: it's made in Taiwan. Although the tubing and some of the components are Japanese, the rest of the materials and the workmanship, including the welding of the frameset, are Taiwanese. As far as we know, this is the first serious effort to upgrade the raw quality of the framesets coming

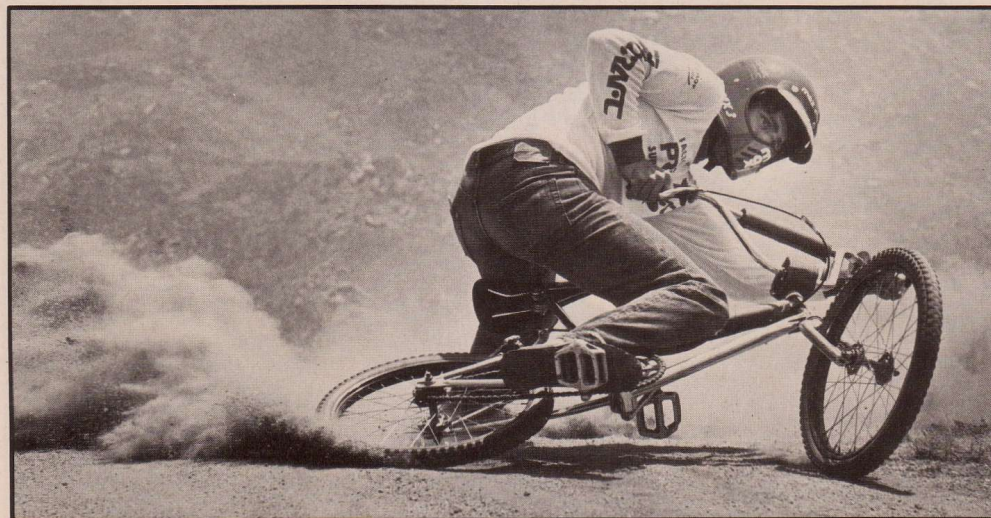
from Taiwan. According to David Clopton, the Procraft representative in the U.S., Procraft made a determined effort to match the quality of the American-made bikes. For the most part, they've done a nice job matching the quality of the welding done here in the U.S., but we did notice a couple of spots where the welds weren't quite perfect. First and most obvious were the welds at the head gussets (which are the small wedge gussets like Red Line uses—that design sure is getting popular). The beads didn't reach to the very end of either gusset along the down tube. Since both sides do look the same, there may be a chance that the factory has a reason behind it, but it just looks unfinished to us. We found two flaws in the welding on one of the Procraft forks. This may indicate that the company's welders may be less than completely proficient in inert-gas welding techniques. Either that or our unit slipped past the quality controller somehow. The flaws were in the form of small "blow" holes in the welding bead. One hole was hidden on the underside of the left fork leg at the fork stem. The other hole

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was more conspicuously located where the collar and right fork leg are welded to the stem. In this case the holes were more than likely caused because the operator failed to overlap the beads sufficiently as he was closing up the seam. The holes are small, but they could eventually cause problems if the bike ever saw continued stressful duty (what bike doesn't?). Since the holes were apparent on only one of the two Procrafts we had for testing, it's likely that it may not be



Clean. The Ultima frame incorporates both brazing and heli-arc welding construction. Rear stays and dropouts are beautifully brazed and finished.



How low can you go? Procraft's Moore on the edge of his seat and control in sideways suspense. The Procraft is an Ultima slider.

a common problem. Just the same, it's probably not a bad idea to check any frame or fork, regardless of make or origin, for welding flaws before you buy. Quality control at many BMX factories isn't as high a priority as it could be.

As mentioned earlier, the bit of welding on the head gusset was the only thing we could question on the frame. The remainder of the work appeared flawless, with no holes anywhere, further reason to suspect our fork was a fluke. Within the frame structure itself, we found that a substantial degree of "trickiness" exists—even without considering the price in this case. For instance, both heli-arc welding and brazing were applied in the construction of

the frame. It was just last month in our PL-20 Carrera test that we praised Red Line for being so innovative and daring (more daring than innovative, though) to use both heli-arc welding and brazing on the same frame. In case you missed last month's test on the Red Line (shame on you!), we will put it in a nutshell for you. In heli-arc welding, the filler rod is always similar to the material being "worked." The welding itself takes place in a shroud of inert helium gas in order to maintain the mechanical properties of the metal during fusion of the parts and filler rod. This makes heli-arc welding especially well suited for the butt-type joints that exist on BMX frame

triangles. In fact, due to tempering, the weld and the immediately surrounding area are always stronger than the material just outside the welded area. Brazing is generally considered by the traditional cycling world (the road buffs) to be the best method to join tube ends. In brazing the filler rod is a material dissimilar to that being worked. It's usually a silver or brass alloy that, with the aid of a flux, flows around and "clings" to the adjoining parts. What precludes the use of traditional brazing in most BMX applications is that it requires a lap-joint, such as a frame lug, in order to bond frame tubes sufficiently. In the ever-changing world of BMX, tooling up for frame



We know. These are KKT pedals but the Ultima will come stock with high steppin' Shimano DX platforms. Check out Procraft's new power disc, trick huh?

lugs isn't practical. The current practice of heli-arcing butt-joints is not only well proven, it gives a manufacturer the capability of almost instantaneous in-line changes. In areas where designers can allow for adequate surface contact between two frame components without a lug, like the rear dropouts on either the Procraft or the PL-20 Carrera Red Line, brazing is great. As well as offering great bonding strength, it's cleaner looking than any heli-arc weld.

Back to the trick stuff on the Procraft frame. The chain stays are radically tapered with the large ends at the hanger and the small ends at the dropouts. The tapered tube adds strength where it's needed—at the hanger where flex needs to be controlled—while still offering some of the weight economy of a small diameter tube. The seat stays are also tapered, though only slightly.

In the front triangle you'll find a standard five-inch head tube with a large diameter (1-1/4 inch) down tube and Red Line-style gusseting. The top tube is mildly elliptical (roughly .990" X 1.250"). The Procraft's Isawita tubing is very clean and sharp looking. A nice touch is the use of brazed-on cable guides on the lower-priced model.

The chrome-moly front fork used on both Procraft models is straightforward and simple: leading-axle style with slightly ovalized (Tange TRX-style) fork blades. The ends of the forks aren't plugged and the edges of the dropouts are kind of rough, but in this price range, some short cuts are to be expected. Wisely, Procraft opted for short cuts that don't affect performance.

Componentry Considering The Price

Some of the more critical components on the Procraft are Japanese made: the rims, hubs, stem, and calipers. The rims are basic Araya or Ukai alloys, but the hubs (especially the sealed ones on the better Procraft), stem, and calipers are the grade of equipment not usually found on mid-price bikes. Depending on the Procraft model, the stem is either a SunTour or a Sugino, both of which are equally top-notch. The hubs are Sunshine loose-ball or Suzue sealed, and the calipers are Dia-Compe MX, no doubt one of the best available brakes. (Only the more expensive Procraft Ultima has both front and rear brakes.) The rest of the components are mostly Taiwan-made and, while still very good, are more like the quality you'd find on a mid-price bike. The list of Taiwan-made parts consists of the headset, the bottom bracket, chain, seat, seatpost clamp (the chrome-moly Ultima has a Dia-Compe Tech-2 clamp), grips (the Ultima will have A.M.E. Tri grips), brake lever, and tires and tubes. Except for the tires, all of these components worked up to our every expectation.

To say we weren't won over by the tires was an understatement. They were LHR from Taiwan. (Editor's note: Procraft has since decided to switch to the use of higher quality Japanese-made Bermbuster tires on the Ultima.) The tire is virtually identical in looks to Mitsubishi's famous Competition III. Because of the looks we expected to get Comp III performance. We didn't get it. Where the Comp III sticks, this one slips. Why? The answer lies in the tread compound, the actual recipe of ingredients that goes into the molding of the tread. The tread compound is every bit as critical as tread design, and you can bet that once a tire company finds one that works, it is kept top secret from competing tire makers. The LHR proves this. They copied the tread design of a great tire, but they still don't have a great tire.

Finding the correct compound isn't luck. It takes lots of research as well as a keen understanding of the product requirements. Obviously, the bottom line is you want a compound that will grip the surface well, but things are much more complicated than that. The recipe for a tread compound may consist of varying amounts of any number of ingredients: synthetic



Presenting Moore radness, Moore air, and Moore style on the Procraft Ultima—more scoot for less loot.

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Conclusion

Price was obviously a major factor in the evaluation of this bicycle. Typically, what you see is what you get. With Procraft, what you see are good components and show-quality looks. What you get are extremely

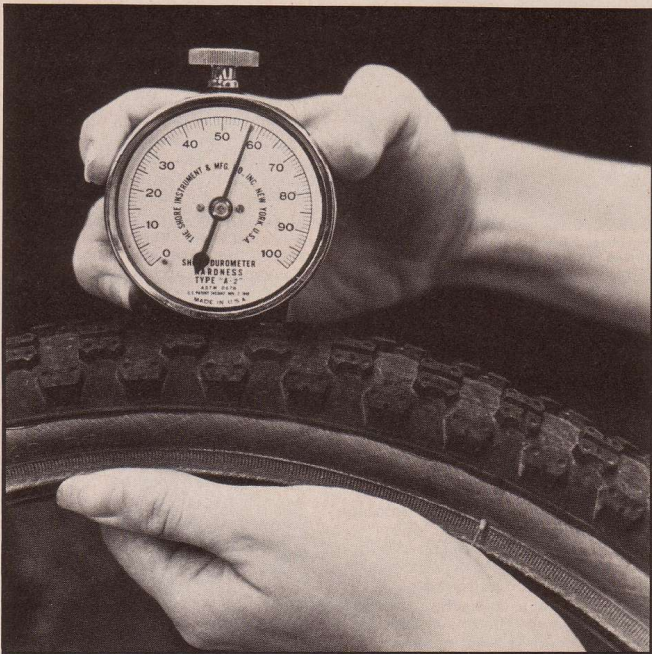
decent weight and geometry with handling that's fit for a pro.

In the final analysis is where the *value* plays the biggest factor. Both Procrafts do the job as well as many machines that cost up to one hundred dollars more.

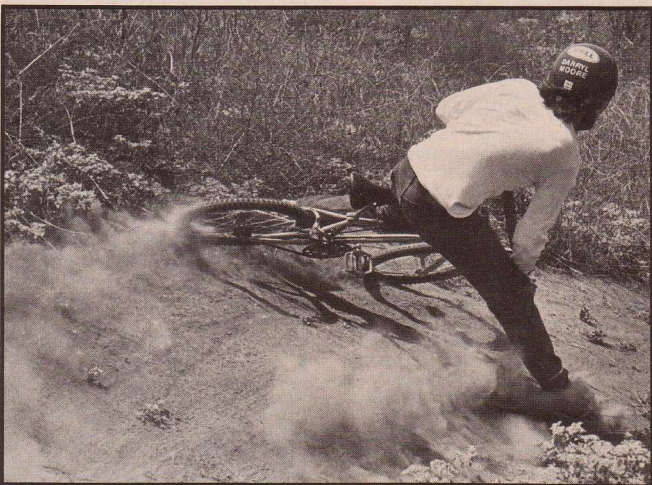
polymers, antidegradants, antiozonates, antioxidants, carbons, plus various processing agents and oils. Still, most people boil it all down to, "This compound is harder (or softer) than that one!" Harder or softer? Although that alone doesn't tell you the entire tire story, it gives you a good clue. For this we use a durometer.

A durometer is a device used to measure the hardness of a given compound. It gives a reading on the Shore Hardness scale. On the durometer our LHRs read from 55 to 59 around various points of the tread. The Mitsuboshi Comp III we tested was harder, ranging from 66 to 68. We consulted some top pros about their tires and found out something very interesting. Of those who use Comp III's, none will use colored Comp III's; they use only the black ones! Again the clues lie in the durometer reading that we got off of a blue Comp III: 57 to 59, very near the LHR's readings! It's pretty safe to assume that the harder compound of the black Competition III's is the reason for their success. A test ride on hard pavement confirmed this suspicion—the softer LHR tread seemed to scrub-out, or squish and deform, causing a loss of traction under heavy cornering loads.

Tires are just one part of the performance chain. Overall performance is the result of many factors; weight, transmission efficiency, steering characteristics, and rider suitability are just a few. The Procraft addressed each of these factors very well. The weight, at twenty-five pounds for the more expensive Procraft, is very competitive for racing as is, right out of the box, for many riders in the 14 and over group. The handling and balance characteristics are somewhat conservative. Its even balance and slow neutral handling make the bike easy and predictable to ride. "Twitchiness" and instability do not exist with the Procrafts. About the only difference you can feel between the Ultima chrome-moly Procraft and the standard "high-tension" steel Procraft is the slight bit of flexing in the lower-priced model, detected during heavy sprints and starts; but unless you're an expert, you probably won't notice it much.



Meet our durometer. It's designed to measure surface hardness. In our never-ending battle to bring you more technical insights we'll be using it to rate tires, grips, etc.



It's no less than Moore (Dary, that is), our guest tester and Procraft's 17-Expert up-and-comer, going down and around. In light-turned situations the Ultima turns every which way but loose.

Bike: *PROCRAFT ULTIMA*
 Age Range: *12 YEARS AND UP.*
 Country of Origin: *TAIWAN*
 Intended Use: *RACING/HIGH PERFORMANCE*
 STREET Frame: *PROCRAFT 4130 CHROME-MOLLY, HELI-ARC WELDED AND BRAZED, DOUBLE NICKEL-CHROME-PLATED. TOP TUBE O.D. 1 1/4", DOWN TUBE 1 1/4", AMERICAN STYLE BOTTOM BRACKET* Fork: *PROCRAFT, LEADING AXLE, 4130 CHROME-MOLLY, HELI-ARC WELDED, CHROME PLATED; LEG O.D. 1", RAKE 1 1/4" Wheelbase.*
 Top Tube Length: *17 1/4"* Chainstay Length: *15 1/2"*
 Bottom Bracket Height: *11 1/8"* Steering Head Angle: *71°*
 Seat Tube Angle: *70°* Head Tube: *5"*
 Wheels: *RIMS: UKAI POWERBITE, 20" X 1.75", ALLOY, 36-HOLE W/POLISHED SIDES*
 SPOKES: *14/15 GAUGE, DOUBLE-BUTTED, CADMIUM PLATED. HUBS: SUZUE SEALED BEARING, LOW-FLANGE, ALLOY. TIRES: BERM BUSTER SKINWALL, 20" X 1.75" REAR, 20" X 2.125" FRONT* Drive Train: *CRANKS: TAKAGI ONE-PIECE CHROME-MOLLY, 175MM W/YST RETAINERED-BALL BOTTOM BRACKET SET. PEDALS: SHIMANO DX ALLOY PLATFORM W/ 1/2" CHROME-MOLLY SHAFT. CHAIN: 1/2" X 1/8" TAIWANESE.*
 FRONT SPROCKET: *TAKAGI 42T, QUICK CHANGE STYLE, ALLOY W/ PROCRAFT ALLOY DISC. FREEWHEEL: SHIMANO 17 T BRAKES: DIA-COMPE MX-1000 CALIPERS FRONT & REAR W/ DIA-COMPE CABLES AND DX-TYPE LEVERS. HEADSET: MX-3-TYPE CHROME-PLATED STEEL W/ RETAINERED BALLS. STEM: SUGINO, ALUMINUM 4-BOLT CLAMP W/ CHROME-MOLLY SHAFT. HANDLEBARS: PROCRAFT CHROME-MOLLY V-TYPE, 7" RISE X 26" WIDTH, HELI-ARC WELDED CHROME-PLATED. GRIPS: A'ME TRI.*
 SEAT: *PROCRAFT PLASTIC AERODYNAMIC SEAT BY VISCOUNT, W/ 7/8" CHROME-PLATED CHROME-MOLLY 12" POST, SAFTY SEAT CLAMP AND DIA-COMPE TECH2 ALLOY SEATPOST CLAMP. OVERALL WEIGHT: 25 lbs. APPROXIMATE RETAIL COST: \$330± TO \$350±*
 FOR ADDITIONAL INFO CONTACT: *PROCRAFT, 17101 SOUTH CENTRAL, UNIT G, CARSON, CA 90746; (213) 537-8700*