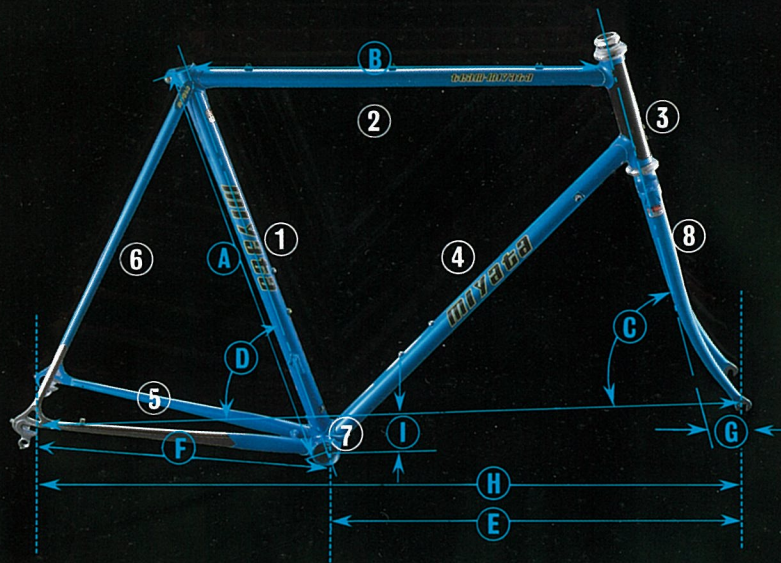




THE RIGHT FRAME OF REFERENCE

GIARDINO



Frame Geometry
 A Seat Tube Length
 B Top Tube Length
 C Head Tube Angle
 D Seat Tube Angle
 E Front Center Length
 F Chain Stay Length
 G Fork Offset (Rake)
 H Wheelbase
 I Drop

Frame Anatomy
 1 Seat Tube
 2 Top Tube
 3 Head Tube
 4 Down Tube
 5 Chain Stays
 6 Seat Stays
 7 Bottom Bracket
 8 Fork

You've probably heard the term, frame geometry. What does it mean? Simply stated: frame geometry is the relationship between the main frame tubes—the angles at which they intersect.

Why is this information important? Frame geometry dictates how well a bicycle can perform a specific task. So, your ultimate satisfaction with your new bicycle will depend on whether or not the frame was designed to do what you want it to.

THE RIGHT DESIGN

For example, steep tube angles are used for racing bicycles. The seat tube and head tube are more vertical than other frames, the angle of fork rake is reduced, and the seat and chain stays are shortened to pull the wheels close to the main tubes. The result is a very stiff frame with a short wheel base. A bicycle bearing such frame geometry quickly transforms all the cyclist's power to the rear wheel for tremendous break-away speed. It is quick, responsive and extremely maneuverable. But if you're planning a long road trip and have lots of gear to carry, you won't be happy.

But you can be happy that Miyata has a frame specifically designed for every use: Racing, Track, Triathlon, Touring, Mountain, City and Beach. Even bicycles that are designed to satisfactorily perform in a variety of situations for those of you who can't make up your mind (or resist buying more than one bicycle).

THE RIGHT STUFF

Once intelligent frame geometry has been achieved, sophisticated metallurgy must follow. If responsiveness has been the focus of the design, it must not be defeated by mass. To that end, Miyata has created its own special version of chrome molybdenum alloyed steel. CrMo. Exceedingly light weight, amazingly strong, it is processed to the industry's most exacting tolerances in our own plant. We're the only bicycle manufacturer to go to the trouble of processing our own tubing, but the reputation we've earned for frame excellence makes it well worthwhile. And because we process our own tubing, Miyata frames are already in their second generation of triple-butting—an evolution that has produced refinements in tubing design yet undiscovered by other frame makers.

Butting is simply the process of making the tubes thicker at the ends, where the tubes butt together, to create stronger joints. Double-butting then, means the tube walls are thicker on the ends than in the middle. In triple-butting, the two ends are two different thicknesses. When you have your own tubing mill, you can use the exact thickness dictated by frame dynamics instead of what you can buy from a tubing company's warehouse.

Miyata has never been content with yesterday's technology. To reduce weight still more without sacrificing strength, Miyata is introducing the latest refinement in tube design—the Spline. A discrete ridge

of CrMo steel that rifles its way around the interior wall of very, very thin tubing to give it the strength of tubing many times thicker. The advantages of Spline tubing in bicycle frame construction should be obvious. And they are: while seeking excellence for our own production frames, suddenly we have tubes sought after by the world's finest custom frame makers. Welcome.

THE RIGHT INVESTMENT

Assembly is perhaps the most critical phase in the creation of a bicycle frame. And it is at this stage that Miyata exceeds industry standards in every step of production. The specific geometry of the frame's design is maintained by carefully mitering the tubes by laser beam, then joining them with investment-cast lugs. Accuracy is crucial. Gaps in the molten brass flowing between lug and tube wall can create weak spots, and all the refinements in tube strength are instantly negated. The precision of investment-cast lugs assure that no compromise is made in the frame's integrity. Equally critical to frame strength are the temperatures used during brazing. Overheating or rapid cooling makes the metal brittle and prone to shatter under stress. Brazing is too delicate to be entrusted to an assembly line worker with a hand

Our computerized frame brazers...destroying a myth.

torch. If his concentration is lost for a moment or two, the joint could be overheated by a degree or two. The result is a joint destined to fail. That can't happen at Miyata. Machines and robots, every move infallibly ordained by computers, grasp, align and braze our frames in repetitious perfection. And, in so doing, ritualistically destroy the hand-crafted myth perpetuated by frame makers who have failed to make a commitment to advanced methods of manufacturing.

THE RIGHT LIGHT

Miyata, too, recognizes the virtues of aluminum. And to those who have been converted to the new faith, rejoice in the introduction of our first (and soon two more) all-aluminum bicycles. They're designed to be part of our racing line-up, all suitable for triathlon competition. All

three models will feature the two major advantages of aluminum—that of being dramatically lighter and stiffer than conventional metals. But this is not just another aluminum bicycle. In keeping with the Miyata tradition of innovation, this is the introduction of a new alloy for aluminum bicycle tubing. Our new recipe permits these frames to be welded with no appreciable loss in tube strength. Thus allowing a very competitive racing machine to be very competitively priced.

THE RIGHT DIRECTION

Beyond the introduction of Spline tubing and advanced aluminum and CrMo metallurgy is Miyata's research into carbon-fiber tubing. Varying designs in tube cross-sections (oval, square, triangular, etc.) to increase strength and reduce size. And building the chain stays unequally

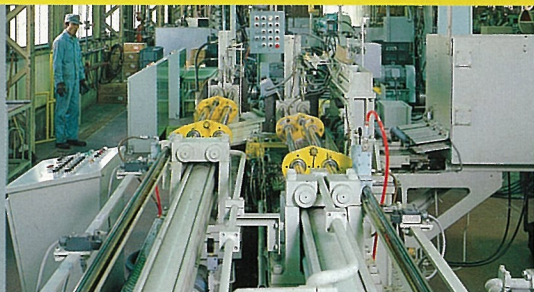
to compensate for greater stress on the chain-ring side of the frame. Forward looking. Forward thinking. A direction Miyata takes to quite naturally.

THE RIGHT FINISH

Every frame undergoes a seven-step process to hide all our good works. First it's polished and treated with zinc phosphate to improve paint adhesion and to eliminate rusting. The frame is painted, using the latest electrostatic techniques, with layers of primers and finishing lacquers. After the decals, a topcoat of hard, clear acrylic is applied to add a final deep lustre, and to protect the decals that declare the intelligence of your choice.



The finishing touch. See how beautifully we cover our butts.

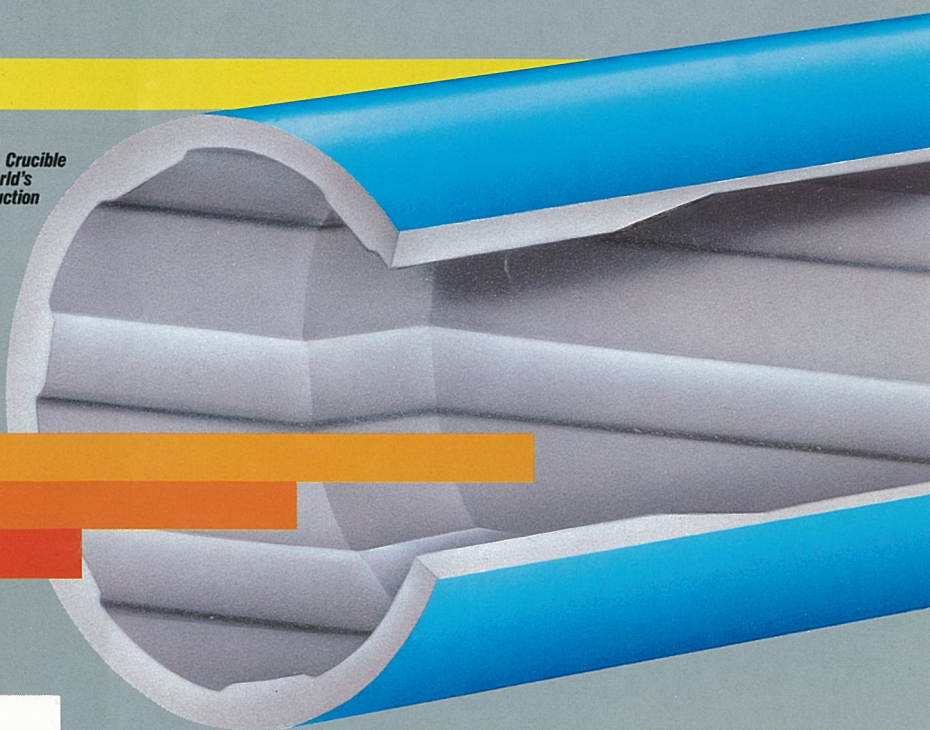


Our tubing machines. Crucible for the world's best production frames.

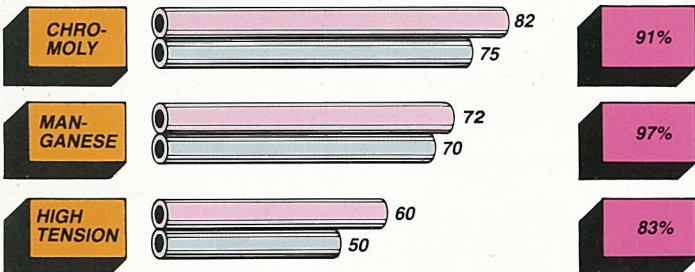
Butted ends taper to the thin, middle thickness (or thinness) of our Cr-Mo tubing.

The butted end. Each end a different thickness to exactly meet stress requirements.

The Spline. The ridge of steel that allows tubes to be lighter, yet stronger.



STRENGTH RETENTION DURING BRAZING



□ BEFORE BRAZING kg/mm² □ AFTER BRAZING kg/mm²

THE RIGHT CONCLUSION

Now that the frame is completed, a carefully balanced set of components is selected to help it fulfill its destiny Shimano. DiaCompe. SunTour. Names to be trusted. Products proven for superior reliability and performance.

Products that are available on other bicycles, to be sure. But the extent to which they're permitted to perform their various tasks satisfactorily depends on the frame to which they're attached. If you've read this far, you can only conclude that if they're attached to a Miyata frame, their proper function is assured.

And that's the right frame of reference.



PRO RACING SERIES

TEAM MIYATA



Designed and engineered for the triathlete and competitive racer alike. The Pro Miyata features a splined triple-butted Chromoly frame with a Suntour Sprint competition group. Aero brake levers, bald Kevlar belted tires, water bottle with cage, toe clips and straps and tools are all included. **Color:** Pepper Red with Yellow head tube. **Frame Sizes:** 50, 54, 57, 60, 63 cm. **Speeds:** 14

PRO MIYATA



Miyata's leadership in frame technology is readily apparent in this competition model. Splined triple-butted tubing in a Chromoly frame and front fork for added strength without added weight. Shimano New Dura Ace Gruppo. Investment-cast lugs throughout. The Team Miyata is designed to withstand the punishment of competitive racing. A Super Turbo

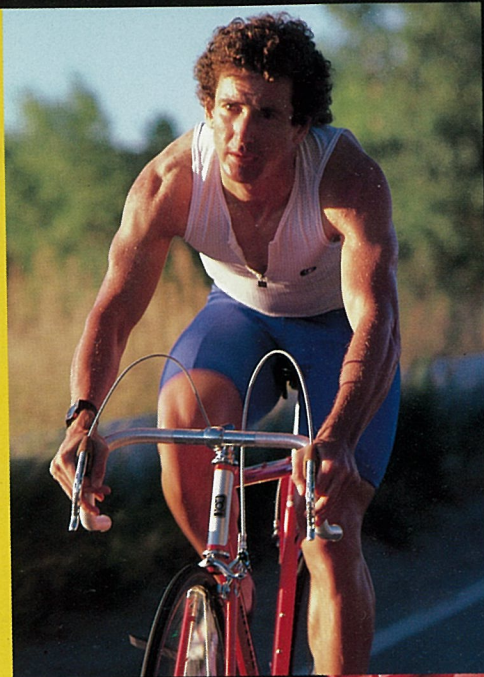
saddle, water bottle with cage, toe clips and straps, tools and rim cement are all standard equipment on the Team Miyata. **Color:** Team Blue with Black head tube. **Frame Sizes:** 50, 52, 54, 56, 58, 60, 63 cm. **Speeds:** 12

Racing bicycles. Here is where frame geometry becomes most critical. The steeply angled head tube thrusts the front wheel backward. Shortened chain stays pull the rear wheel forward, resulting in a compressed wheelbase that quickens response time to a heartbeat. A frame that's strong and inflexible. Designed to translate every ounce of energy the cyclist puts into it, into victory. Because you believe winning is everything, you have **THE RIGHT FRAME OF REFERENCE.**



Our semi-pro series offers no compromise to those who are very serious about competition or fitness. These chromoly frames are fully-lugged and finished with the same care as our top racers. They're strong. Light weight. Responsive. Yet, specifically designed to compensate for cyclists who, though not openly in pursuit of the Yellow Jersey, secretly covet entering a Tin Man or two. And we know helping you achieve your personal best is

THE RIGHT FRAME OF REFERENCE.



Triple-buted Chromoly tubing and larger-than-normal-diameter seat stays make this the ideal bicycle for triathlon competition. Chromoly front fork, Dia Compe Aero brake levers and super hard anodized rims are just a few of the outstanding features of the 710. **Colors:** Steel Blue with Yellow head tube, Pepper Red with Silver head tube. **Frame Sizes:** 46, 50, 54, 57, 60, 63 cm. **Speeds:** 12

710

TRIATHALON



COMPETITION/FITNESS

TRIATHALON



The bicycle triathletes everywhere prefer. Miyata's frame building technology is exemplified in the 912. This top-of-the-series model features a splined triple-butted frame and front fork for a stronger frame without the added weight. Features include Shimano's New 600 EX Groupo drive train system with a biopace chain ring, larger seat stays, triathlon saddle and bald tires for less rolling resistance. Extras include water bottle with cage, toe clips and straps and tool kit. **Colors:** Sterling Black with Pink head tube. **Frame Sizes:** 50, 54, 57, 60, 63 cm. **Speeds:** 12

TRIATHALON



An economical triathlon-engineered bicycle. Quick and responsive with a frame designed and built to withstand the rigors of competitive riding. Investment-cast seat lugs, 700c rims and spooned seat stays are just a few of the quality features you'll find on this model. **Colors:** Dark Platinum with Red head tube, Cream Teal with Silver head tube. **Frame Sizes:** 50, 54, 57, 60, 63 cm. **Speeds:** 12

PISTA



The stiff ride of this Miyata track bicycle makes it ideal for those just beginning competitive riding. Chromoly double-butted tubing, Mangalight front fork and tapered seat stays combine with Sugino and Suntour components to make the Pista an exceptional track bicycle value. And it weighs in at a scant 20½ lbs. Extras include tools. **Color:** Pearl White with Black head tube. **Frame Sizes:** 50, 54, 57, 60, 63 cm.

TOURING SERIES

Of all the specifically designed frames, the touring frame is the greatest challenge. It is not enough to simply extend the fork rake to provide a longer wheelbase. Ultimate performance requires exotic combinations of angles and stresses. A touring frame must provide stability when burdened with gear, yet be quick and responsive. It must be flexible enough to absorb road shock, yet strong enough to hold together on the worst of them. It must position the rider for efficient cycling, yet comfortably enough to spend long hours in the saddle. Miyata succeeds because we know you believe getting there is all the fun. That's **THE RIGHT FRAME OF REFERENCE.**



210

210M

The economy-minded touring cyclist will find many features on this model not found on other makes. Rear carrier, toe clips and straps, 40-hole rear wheel, quick release hubs and cantilever brakes. Like most Miyata bicycles, the 210 has triple-butted Chromoly tubing and a clear protective coating to preserve the paint finish and decals. **Colors:** Rocky Blue, Sandstone. **M:** Rocky Blue, Sandstone. **Frame Sizes:** 19 1/2", 21", 23", 25"; 19 1/2" (M). **Speeds:** 18



610

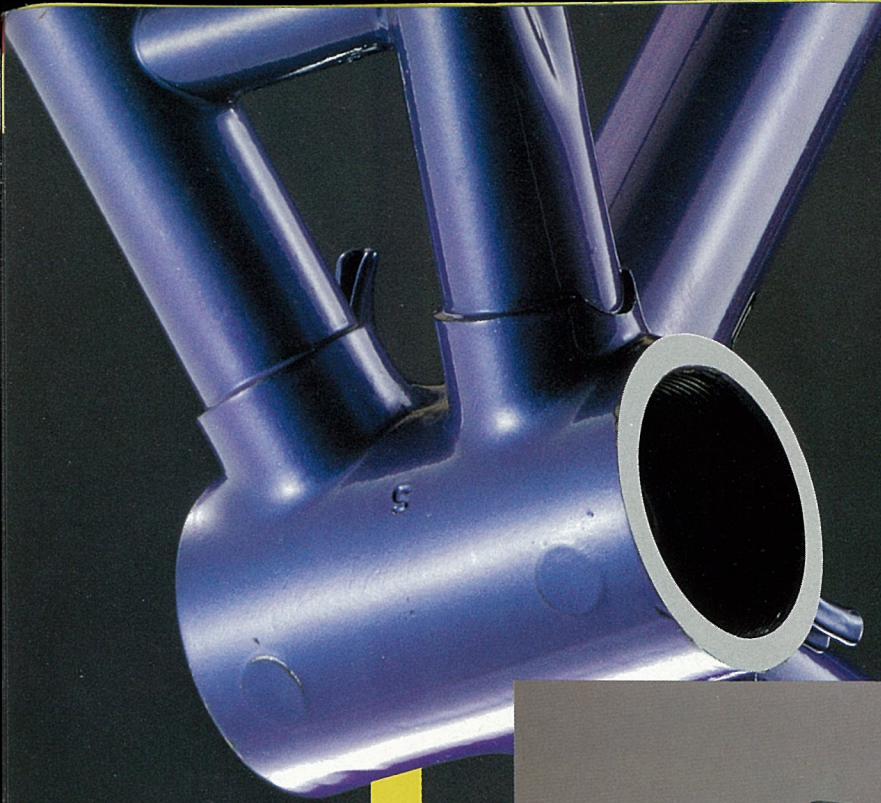
The 610 has been designed to combine the features of both the touring and sport bicycles. The frame is designed for touring while the steering is a bit quicker and the ride slightly stiffer. Like the 1000, this model features an 18-speed biopace crank set. Sealed hubs and head set, radial tires, 40-hole rear wheel and cantilever brakes are some of the other outstanding features. **Color:** Claret Red with Silver head tube. **Frame Sizes:** 45, 50, 54, 58, 63 cm. **Speeds:** 18



Our finest touring model is designed for enjoyment. Miyata's manufacturing reputation means fewer frame-related problems. And that means a trouble-free ride. Splined, triple-butted tubing is used for the frame and front fork. Sealed hubs and head set and a 18-speed biopace crank set provides you with an almost effortless ride. Many extras include a rear carrier, internal wiring and radial tires. **Color:** Royal Platinum with Gold head tube. **Frame Sizes:** 50, 54, 57, 60, 63 cm. **Speeds:** 18

1000





The frame and unicrown fork are made of Chromoly tubing for added strength to stand up under all kinds of off-the-road conditions. An 18-speed biopace crank system allows you to adjust to any riding situation. Quick-release front wheel and cantilever brakes are standard equipment. **Color:** Royal Platinum. **Frame Sizes:** 17½", 19½", 21", 23", 25". **Speeds:** 18

TRAIL RUNNER



All-terrain bicycles are turning the bicycle world upside down. We could do no less. We took a whole new look at frame design to create bicycles that can best be appreciated by masochists. We lead the industry with frame dynamics that redefines strength as resiliency: It's better to give a little rather than break.

So when you take on mountain boulders or city potholes you'll come away with your machine still under you. Going to the edge does not mean going over it, and that's

THE RIGHT FRAME OF REFERENCE.



TERRA RUNNER



Chromoly triple-butted tubing and a unicrown Chromoly front fork combined with Miyata's engineering know-how has produced a frame that challenges you to ride it everywhere, secure in the knowledge that the frame won't fail you. Suntour, Shimano and Dia Compe components are matched up to give you performance you expect from a Miyata bicycle. **Color:** Rocky Blue. **Frame Sizes:** 17½", 19½", 21", 23". **Speeds:** 18

Bone-jarring rocks, twisting trails, heart-stopping descents. That's no time for a mechanical failure. This top of the line All Terrain Bicycle from Miyata gives you the confidence to explore the unknown. To go where few have been before. Suntour XC brake, the strongest yet devised for a mountain bicycle. Biopace chain ring. Triple-butted Chromoly tubing and unicrown front fork. **Color:** Sterling Black. **Frame Sizes:** 17½", 19½", 21", 23". **Speeds:** 18

RIDGE RUNNER



ATB SERIES

ATB SERIES

SR-L



SHORE RUNNER



Ride it anywhere. At the beach or in the city, the Shore Runner is equally at home. An excellent value for the money, this model features Suntour, Shimano and Dia Compe components. For the enthusiast who wants to enjoy all-terrain bicycling at a modest cost, the Shore Runner is an ideal choice. **Color:** Claret Red. **L:** Claret Red. **Frame Sizes:** 19 1/2", 21", 23", 17 1/2" (L). **Speeds:** 12

CITY RUNNER



Riding boulevards or backroads, the City Runner can bring you through. Miyata technology and a fully-lugged Mangalight frame combine to give you a bicycle capable of withstanding all types of road surfaces. Unicrown fork, front wheel quick-release and cantilever brakes are some of its features. **Colors:** Steel Blue, Cream Teal. **L:** Steel Blue, Cream Teal. **Frame Sizes:** 17 1/2", 19 1/2", 21", 23", 17 1/2", 21" (L). **Speeds:** 12

CR-L

