1992 Tioga Mountain Bike Components Catalog



TIOGA

"Climb the mountains and get their good
as sunshine flows into trees. The winds will
storms their energy, while cares

——— John Muir

The Tioga Pass

It opened in 1883 when a group of pioneering gold miners built simple bridges over hazardous streams and blazed trails through thickets of bushes as a means of reaching their mine. The trail remained in a similar condition for almost 80 years and snaked its way through lush green alpine meadows, past crystal-clear lakes, and followed natural trails in the majestic canyons. Finally modernized in 1961, the Tioga Pass now provides a vital east-west link between California's high desert and the Yosemite Valley.

One drive down the Tioga Pass Road and it is apparent that Mother Nature spent eons carving the area's granite cliffs, smoothing its meadows, refining its grandeur. John Muir spent quite a bit of time here and was so awed by its perfection that he was moved to campaign for its protection. Our first visit to the area was similarly inspiring. We were so moved that we devoted all of our energy to the creation of the world's most advanced bicycle components, to allow people to safely reach and enjoy nature's glory.

At Tioga, we admire Mother Nature's exhaustive labors and careful attention to detail. All our products endure years of research, continuous refinements, and extensive lab and field tests before they are worthy of the name. Our creativity, craftsmanship and dutiful attention to quality can be found in every product within these pages. They are our guarantee to you that when you ride with Tioga components, you are riding perfection.



tidings. Nature's peace will flow into you
blow their own freshness into you, and the
will drop off like autumn leaves."

The father of America's National Parks



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Steering Systems



JOHN TOMAC

Complete and integrated steering systems made up of quality components that work together are our goal. The components on the following pages represent years of research and development of the ultimate in ergonomic steering systems. Every components is capable of interfacing fully with any of Tioga's other steering system parts or with the parts on your bike.

Start with a high quality Tioga headset: we have a multitude of choices available. From triple-sealed light alloy versions to our ever-popular Beartrap® with its exclusive loose-proof mechanism. Install the Tioga headset of your choice, and you can feel its durability, light weight and uncompromised workmanship immediately. Need extra security against loosening? Try Tioga's new Deadbolt™ headset lock or our popular Double Locknut.

For years, Tioga's steering systems have included the industry-leading Tioga T-Bone® stem. Tioga pioneered the use of TIG-welded tubular chromoly for handlebar stems, and the T-Bone remains the standard by which other stems are measured. Made of lightweight Prestige or standard chromoly steel, the T-Bone's unique design absorbs and disperses off-road shock, and is offered with varying types of cable routing and extensions.

The next component of any Tioga steering system is your choice of several high quality handlebars. From the ultra-lightweight DL2001 with its triple-butted Duraluminum construction, to the shock absorbing Carbo, to our ever-popular Prestige-II. No matter what type of terrain you encounter, we have the handlebar to fit your needs.

For the most comfortable grip available, be sure to use a pair of Tioga's patented BioGrip® handlebar grips (U.S. Patent Number 4,964,192). Contoured to custom fit each of your hands, BioGrip's variable thickness design puts padding in all the right places, bringing you greater control, improved handling and maximum comfort in any riding situation. The BioGrip is constructed of a shock absorbant closed-cell racing compound, while the BioGrip-II comes in Kraton rubber and fashionable colors.

But wait! No dependable steering system would be complete without a pair of Tioga's colorful Brake Tamers brake lever covers. They fit virtually any ATB brake levers, insulated against cold weather and allow for a sure-fire grip every time you need it.

Designed to work together as a team, Tioga's headsets, stems, handlebars and BioGrip handlebar grips will streamline your bike's appearance and allow you to steer ahead of the pack with unsurpassed off-roadability.



AVENGER DSL

Model OS-H7

- Triple-sealed mechanism.
- Lightweight and strong Duraluminum alloy construction.
- Heat-treated chromoly ball race.
- Non-structural areas drilled for reduced weight.
- Silver or black.
- 33.5mm stack height.
- Avenger Oversize, 34.0 × 30.0mm.
- 103 grams (Retainers: 14 grams).



AVENGER DL

Model OS-H6

- Triple-sealed mechanism.
- Lightweight and strong Duraluminum alloy construction.
- Heat-treated chromoly ball race.
- Silver or black.
- 33.5mm stack height.
- Avenger Oversize, 34.0 × 30.0mm.
- 107grams (Retainers: 14 grams).



AVENGER ST

Model OS-H2

- Triple-sealed mechanism.
- Durable chromoly construction with chromoly ball race for smooth rotation.
- Satin or black chrome plated.
- 33.5mm stack height.
- Avenger Oversize, 34.0 × 30.0mm.
- 162 grams (Retainers: 14 grams).



AVENGER CR

Model OS-H3

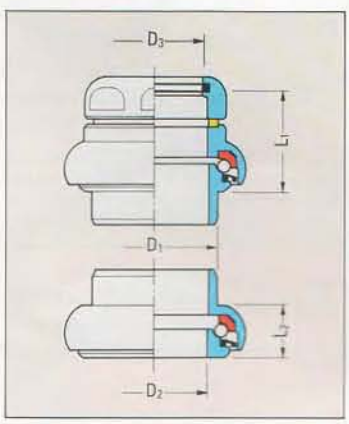
- Triple-sealed mechanism.
- Lightweight and strong chromoly construction with Duraluminum alloy top lock nut.
- Black chrome plated.
- 31.5mm stack height.
- Avenger Oversize, 34.0 × 30.0mm.
- 130 grams (Retainers: 14 grams).



AVENGER RX

Model OS-HX

- Double-sealed mechanism.
- Heat-treated steel/resin composite construction.
- Satin or black.
- Avenger Oversize, 34.0 × 30.0mm.
- 162 grams (Retainers: 14 grams).



Technical Specifications (mm) :

MODEL	L1	L2	STACK HEIGHT (L1 + L2)	D1	D2	D3	THREADING
Avenger DSL	22.0	11.5	33.5	34.0	30.0	25.4	BC1.1/8" × 26 TPI
Avenger DL							
Avenger CR	21.0	10.5	31.5				
Avenger ST	22.5	11.0	33.5				
Avenger RX							





MASTER DL

- Triple-sealed mechanism.
- Lightweight and strong Duraluminum alloy construction.
- Heat-treated chromoly ball race for smooth rotation.
- Silver or black.
- 33.5mm stack height.
- 85 grams (Retainers: 13 grams).



EXPERT CR

- Triple-sealed mechanism.
- Lightweight and strong chromoly construction.
- CP or black chrome plated.
- 33.5mm stack height.
- 120 grams (Retainers: 13 grams).



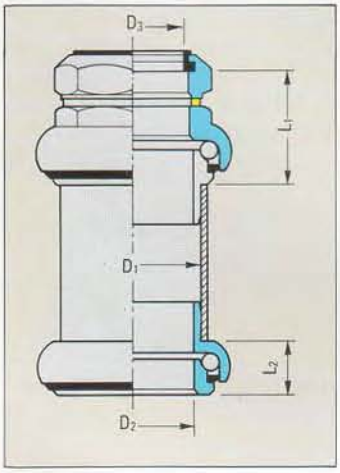
beartrap®

- Triple-sealed mechanism with exclusive Beartrap® loose-proof mechanism.
- CP or black chrome plated.
- 142 grams (Retainers: 12 grams).



MTB-I

- Triple-sealed mechanism.
- CP or black chrome plated.
- 141 grams (Retainers: 12 grams).



Ball Retainers



Model BRH-OV
for Avenger Oversize (22 balls, 5/32").



Model BRH-DL
for Master DL and Expert CR (20 balls, 5/32").



Model BRH-ST
for MTB-I and Beartrap (16 balls, 5/32").

Technical Specifications (mm) :

MODEL	L1	L2	STACK HEIGHT (L1 + L2)	D1	D2	D3	THREADING
MTB Master DL	22.0	11.5	33.5	30.0 (30.2)	27.0 (26.4)	22.2	BC1" × 24 TPI
MTB Expert CR							
MTB Beartrap	26.0	12.0	38.0				
MTB-I	24.5		36.5				

Headset Lock Nuts



Double Lock Nuts

Models LA & OS-LA

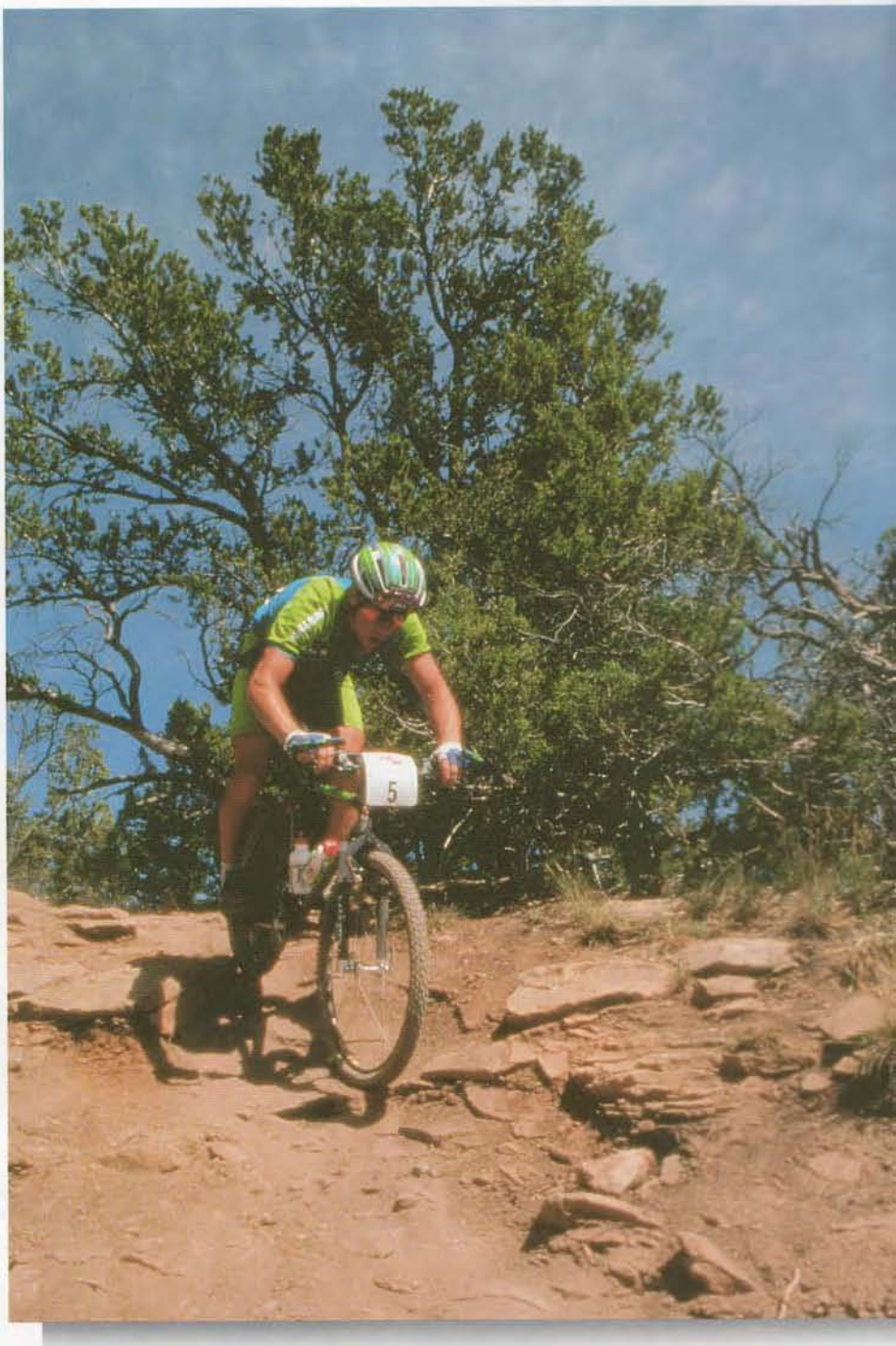
- Provides improved locking and water resistance.
- Constructed of lightweight and strong Duraluminum alloy.
- Silver or black.
- 17 grams (Standard size), 23 grams (Avenger Oversize).
- Note: This item is not intended, and should not be used, as a stem height enhancer.



Deadbolt™ Lock Nuts

Models OS-NA & OS-NS

- Specially designed set screw for improved resistance against headset loosening.
- Fits Avenger Oversize ATB headsets.
- Available in either lightweight Duraluminum alloy or steel.
- Silver or black (Duraluminum), CP or black (Steel).
- 13 grams (Duraluminum), 38 grams (Steel).



JOHN TOMAC

Handlebar Stems



JOHN TOMAC

OS-TBPV



Cable Hangers





Models CHA & OS-CHA

- Light alloy barrel adjuster and light alloy lock nut.
- Black chrome plated (Standard size) or black electronic deposition finish (Avenger Oversize).
- 21 grams (Standard size), 26 grams (Avenger Oversize).

Models CHB & OS-CHB

- Swivel-type tubular cable guide with barrel adjuster.
- Black chrome plated (Standard size) or black electronic deposition finish (Avenger Oversize).
- 32 grams (Standard size), 44 grams (Avenger Oversize).

T-bone® Stems

- Unique, sleek and exclusive tubular design.
- Strong chromoly expander and binder bolts.
- Strong and lightweight Prestige column.
- Machined Duraluminum alloy cap and wedge.
- CP or black chrome plated.
- Handlebar clamp diameter 25.4mm.
- Available with columns for Standard size or Avenger Oversize.



Extensions	Angles
90mm	130°
105	127.5°
120	114°
135	106°
150	100°

Titanium Expander Bolts

- Ultra lightweight expander bolts replace standard bolts for weight reduction.
- Refer to table below for available sizes and weights.



Internal Cable Routing Type

Models TBPI & OS-TBPI

- Available in 105, 120, 135 and 150mm extensions.
- 327 grams (Standard size), 351 grams (Avenger Oversize).※

Vertical Cable Routing Type

Models TBPV & OS-TBPV

- Available in 90, 105, 120, 135 and 150mm extensions.
- 325 grams (Standard size), 349 grams (Avenger Oversize).※

Standard Type

Models TBP & OS-TBP

- Available in 90, 105, 120, 135 and 150mm extensions.
- 325 grams (Standard size), 338 grams (Avenger Oversize).※

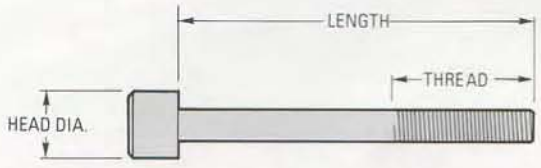


T-Bone® Superlite Stem

Model OS-TBP-SL

- Constructed of lightweight and strong TIG-welded Prestige chromoly.
- Thinner walls, butted construction and light alloy wedge and cap.
- Available in 105, 120, 135 and 150mm extensions without cable routing.
- Handlebar clamp diameter 25.4mm.
- Column diameter 25.4mm (Avenger Oversize).
- 265 grams.※

※ Weights shown are for 120mm extension stems.



Technical Specifications (mm) :

MODEL	HEAD DIA.	LENGTH	THREAD	WEIGHT
TB-130	ϕ13	130	ϕ8 × P1.25	26g
TB-130C	ϕ12	130	ϕ8 × P1.0	26g
TB-145	ϕ13	145	ϕ8 × P1.25	29g
TB-165	ϕ13	165	ϕ8 × P1.25	32g

Handle



CARBO

Carbon Fiber Mountain Bike Handlebar

- Constructed of multiple layers of lightweight and strong carbon fiber mesh for extra shock absorption and reduced weight.
- Available in black, red, green, blue, yellow or gold.
- 560mm length.
- 6 degree bend.
- 25.4mm bar center diameter, 22.2mm bar end diameter.
- 179 grams.



DL200i

Duraluminum Mountain Bike Handlebar

- Constructed of lightweight and strong triple-butted Duraluminum alloy.
- Silver, black, black textured, or copper finish.
- 560mm length.
- 4 degree bend.
- 25.4mm bar center diameter, 22.2mm bar end diameter.
- 140 grams.

(2001 is a registered trademark)



bars

DL2000

Duraluminum Mountain Bike Handlebar

- Constructed of lightweight and strong triple-butted Duraluminum alloy.
- Black or black textured.
- 560mm length.
- 6 degree bend.
- 25.4mm bar center diameter, 22.2mm bar end diameter.
- 168 grams.



PRESTIGE II

Prestige Mountain Bike Handlebar

- Constructed of strong and lightweight triple-butted Prestige chromoly.
- CP or black chrome plated.
- 560mm length.
- 6 degree bend.
- 25.4mm bar center diameter, 22.2mm bar end diameter.
- 263 grams.







MASTER

Aluminum Mountain Bike Handlebar

- Constructed of lightweight and strong aluminum alloy.
- Silver, black or textured finish (hi-tech grey, silver or black).
- 600mm length.
- 6 degree bend.
- 25.4mm bar center diameter, 22.2mm bar end diameter.
- 274 grams.

Handlebar Grips



JOHN TOMAC

BIOGRIP®

Bioergonomic Handlebar Grips

- Anatomically shaped matching pairs to fit the contours of both right and left hands.
- Patented multi-radii design (U.S. Patent Number 4,964,192) allows greater control and improved handling even for riders with small hands.
- Variable thickness places padding where it is needed most for maximum shock absorption.
- Non-slip flared ends.
- Constructed of exclusive closed-cell foam compound for added comfort.
- Black.
- Designed to fit 22.2mm handlebar ends.
- 125mm length.
- 90 grams/pair.



BIOGRIP-II

Bioergonomic Handlebar Grips

- Anatomically shaped matching pairs to fit the contours of both right and left hands.
- Patented multi-radii design (U.S. Patent Number 4,964,192) allows greater control and improved handling even for riders with small hands.
- Variable thickness places padding where it is needed most for maximum shock absorption.
- Non-slip flared ends.
- Constructed of Tioga's exclusively formulated Kraton rubber compound.
- Black or neon colors (pink, green, yellow or orange).
- Designed to fit 22.2mm handlebar ends.
- Open ended version available to accommodate the use of handlebar end attachments.
- 125mm length.
- 129 grams/pair.

Patented Multi-radii, Variable Thickness Design.

Brake Tamers

Brake Lever Covers

- Specially formulated rubber for non-slip grip.
- Easy to install.
- Will fit most ATB brake levers including two-and four-finger models.
- Black or neon colors (pink, green, yellow or orange).
- 70mm length.
- 9 grams/pair.







DUROCABLE

Universal Replacement Inner Wire

- Rust-proof stainless steel material for longer life.
- Tioga's special 7 × 7 braided construction for extra flexibility, superior strength and durability.
- Special surface treatment to minimize cable friction.
- Pre-stretched to avoid primary stretching and adjustment.
- Cable ends fit most ATB shifting levers.
- Available in 1.2mm diameter for shifters, and in 1.8mm and 2.0mm diameters for brake levers.

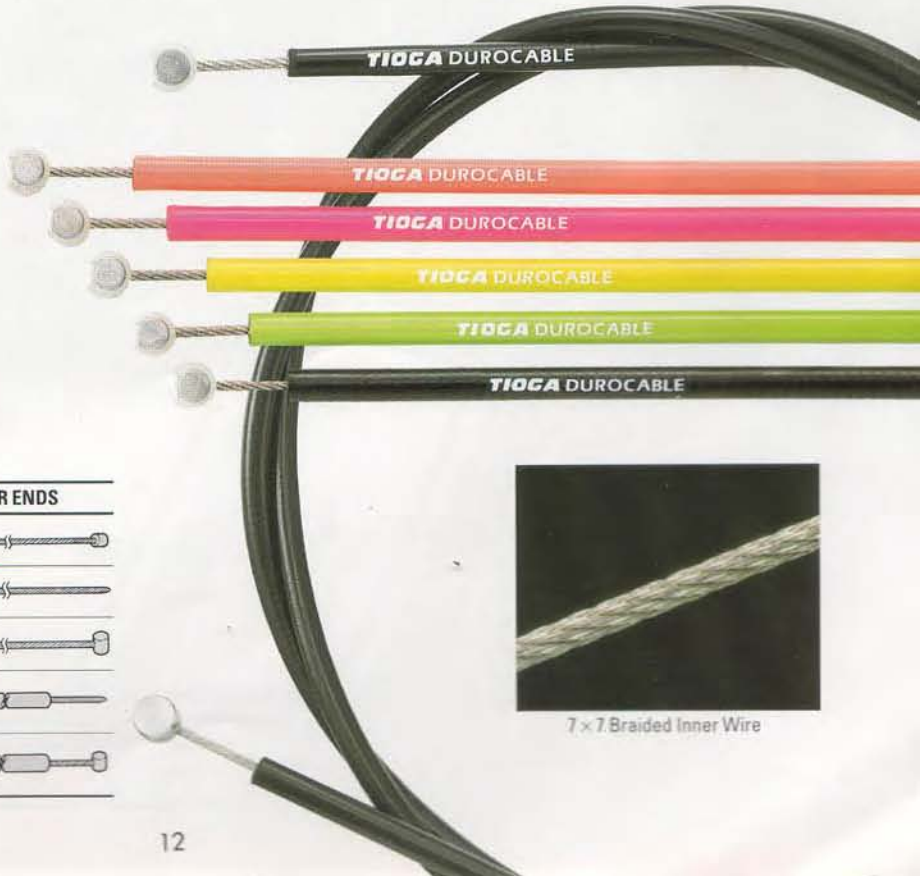


DUROCABLE

Universal Replacement Brake Cable

- Special Duracon housing liner minimizes friction.
- Flat-wound steel housing coil prevents cable compression during braking.
- Tioga Durocable stainless steel inner wire.
- Black or neon colors (pink, green, yellow or orange).
- Cable ends outfitted with adapters to fit almost all ATB brake levers.
- Available in universal replacement lengths.
- Outer cable available in 5mm or 6mm diameter.

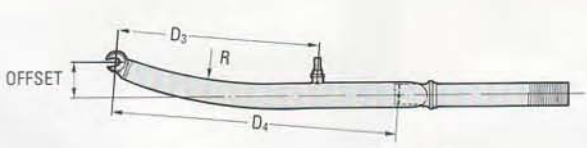
	DIAMETER		LENGTH	APPLICATION	INNER ENDS
INNER	ϕ1.2mm		49"	Shifters	
	ϕ1.6mm		60"	Road	
	ϕ2.0mm			ATB	
INNER AND OUTER	ϕ1.6 × ϕ5mm	Front	24" × 30"	Road	
		Rear	51" × 57"		
	ϕ2.0 × ϕ 6mm	Front	28" × 35"	ATB	
		Rear	53" × 60"		

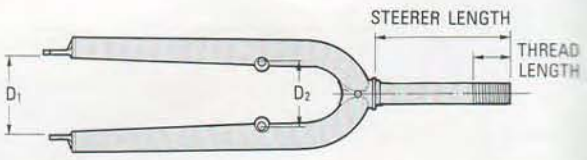


7 × 7 Braided Inner Wire

Front Forks







Technical Specifications (mm) :

MODEL	D_1	D_2	D_3	D_4	R	OFFSET	STEERER LENGTH	THREAD LENGTH
OS-F4	100	92	254	355	R600	45°	150, 190 or 240	60
OS-F7		80			R500			



OS-F7

- Oversize double-butted chromoly steerer.
- Machined one-piece cantilever bosses.
- Investment cast dropouts.
- Oversize, double-butted chromoly blades that taper from 31.8mm to 25.4mm.
- Headset race diameter 30.0mm (Avenger Oversize).
- 840 grams (150mm steerer).

TIOGA AVENGER OVER SIZE TUBING

OS-F4

- Oversize, double-butted chromoly steerer.
- Machined one-piece cantilever bosses.
- Investment cast dropouts.
- Oversize, triple-butted, non-tapered 28.6mm chromoly blades.
- Headset race diameter 30.0mm (Avenger Oversize).
- 920 grams (150mm steerer).

Pedal System



TINKER JUAREZ

When you know that you're headed for tough terrain, be sure your bike is equipped with Tioga's Pedal System components. The pedal system components within these pages are all capable of completely interfacing with each other or with the parts on your bike.

Begin with the Tioga Surefoot pedal that's right for your type of riding. The lineup includes our aggressive Surefoot-I, -III, and -IV, for non-stop ATB riding and racing. If you ride a cross bike, our Surefoot-II, with its platform construction is sure to please you.

To get a vise-like grip on your pedal, be sure to use Tioga's PowerClip® toe clips. Constructed of light yet tough Polycarbonite® and featuring our exclusive Power Strut™ design, the PowerClip resists flexing like no other clip in existence. A heavy duty arch secures any shoe or boot, while the double strap holder permits a wider, flared opening for quick, one shot entry and exit without pinching.

Strap yourself in with Tioga's Quick Flick® toe straps. Our high-tensile, nylon straps hold tight without stretching or slipping. A flick of your hand across the spring-loaded buckle releases your foot quickly for safety and convenience.

You'll have no slip-ups with our all-new Hot Tip® toe strap end buttons, designed to make tightening your straps so easy that you can concentrate on the terrain ahead.

Outfit your bike with Tioga Pedal Systems. Our pedal components are the tools you need to place more power, comfort and safety into all of your rides.



Surefoot-II

- Specially designed strap stopper.
- Constructed of lightweight black resin and a chromoly axle with replaceable notched rings and double cage flips.
- 319 grams/pair.

Surefoot III

- Low-profile grey resin body with black steel cage and chromoly axle.
- Double cage flips for easy toe clip entry.
- 416 grams/pair.





Surefoot IV

- Light alloy body, a chromoly axle and black alloy replaceable cage.
- Unique double cage flips enable riders to quickly flip the cage to an upright position for easy toe clip entry.
- Specially designed strap stopper.
- Convenient grease-injection nipple.
- 320 grams/pair.

Surefoot V

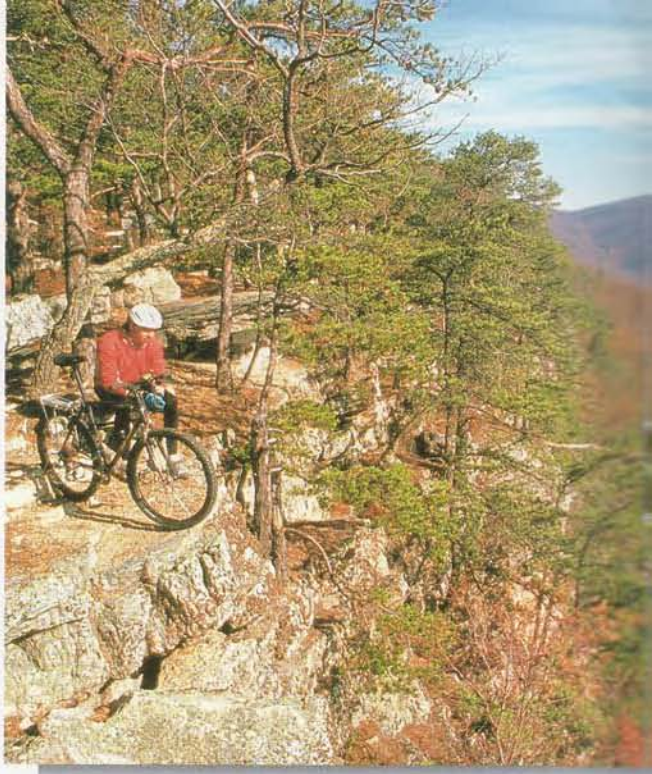
- Light alloy body, a chromoly axle with sealed bearing, and a black alloy replaceable cage.
- Specially designed strap nails prevent straps from slipping from side-to-side while preventing mud build-up by retaining the straps vertically.
- Unique double cage flips enable riders to quickly flip the cage to an upright position for easy toe clip entry.
- Specially designed strap stopper.
- 284 grams/pair.



POWER Cup™

- Constructed of durable and resilient Polycarbonite® material.
- Twin strap guide loops with bridge support.
- Exclusive "Power Struts" to reinforce the toe box.
- Black.
- 63 grams/pair .





POWER Cup™ -II

- Constructed of durable and resilient material.
- Twin strap guide loops with bridge support.
- Exclusive "Power Struts" to reinforce the toe box.
- Black or neon colors (pink, green, yellow or orange).
- Available in Medium and Large sizes.
- 63 grams/pair. (Size: Medium).

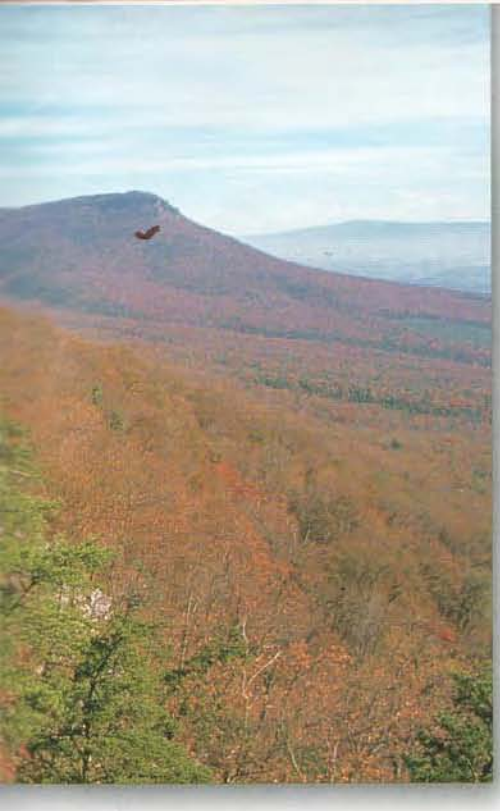




QUICK-FLICK II™

- Exclusive quick-release resin buckle extension.
- Black, grey, or neon colors (pink, green, yellow or orange).
- 450mm length.
- 54 grams/pair.





QUICK-FLICK®

- Anti-swivel buckle with exclusive quick-release resin buckle extension.
- Strap constructed of nylon with an anti-tear, reinforced rivet hole.
- Black, white, red or neon colors (pink, green, yellow or orange).
- 440mm length.
- 54 grams/pair.



HOT Tip

Toe Strap End Buttons

- Anatomically shaped to fit thumb and finger contours.
- Colorful and functional accents for any bike.
- Fits all standard toe straps.
- Black, blue or neon colors (pink, green, yellow or orange).
- 6 grams/pair.





SureClip

- Constructed of durable and resilient material.
- Half-clip design eliminates the need for toe straps.
- Exclusive "Power Struts" to reinforce the toe box.
- Black.
- 54 grams/pair.



Tioga Tires



JOHN TOMAC

At Tioga, we are very proud of our reputation as a leader in bicycle tire design. Riders with backgrounds in bicycle motocross fondly remember Tioga's Comp-IIIs because of their past and present dominance in BMX racing. In fact, a recent survey showed that a vast majority of professional BMX racers prefer Tioga tires over any others.

Our first entry into ATB tire design was the Farmer John series. Proven winners, Farmer Johns continue to be the industry's example for quality tire designs. Farmer John tires were ridden to victory around the globe by racers like John Tomac who used them to win his very first mountain bike world championship. Farmer Johns continue their popularity today, but today's spotlight is mainly on our second generation of mountain bike treads.

With the guidance of pro racers like John Tomac, Tinker Juarez and Paul Thomasberg, our second generation ATB tires, the Dawg™ series, was born. The Dawgs maintain the tradition of Tioga tires as witnessed by their dominance during the 1991 NORBA and Grundig racing seasons. Because the series was designed to match a variety of terrain, riding conditions and applications, you are sure to find the exact tire you need among Tioga's kennel of Dawgs.

But Tioga tires are not only designed to be used by racers. With the advent of hybrid bikes and their growing popularity, we have used the lessons learned from our racers to develop a fine line of tires for your hybrid or city bike. With tires that range from our semi-slick City Slicker to our aggressive Bloodhound®, we are sure that we have the tire you need to match your type of riding.

So take a look at the tires on the following pages. We are confident that whether you are a serious mountain bike racer, or a weekend cruiser, Tioga tires are just right for you.

DISK DRIVE

GEODESIC WEBBING

- A set of two high-tensile lattices of Kevlar cord, laminated with weatherproof, shock-resistant film and covered with impact-resistant alloy mesh.
- Provides strength, durability and suspension far superior to a spoked wheel, with the lightness and advanced aerodynamics of a disc wheel. Stays true longer than a spoked wheel.
- Mounts to most standard ATB rims (26", 36 hole) and hubs (36 hole) via bolted-on hub rings and nipples.
- One set includes: right/left tension sheets (1 pair), hub fixing nuts and bolts (plus spares), tension bolts (plus spares), spare nipples, nipple wrench, valve extension, Screw Lock, carrying case and instruction manual.
- 350 grams.



JOHN TOMAC



SCREW LOCK

- Prevents loosening of tension bolts, hub fixing bolts, spoke nipples and screws.
- Even after hardening, bolts and screws can still be repeatedly tightened and loosened.





DISK DRIVE PARTS

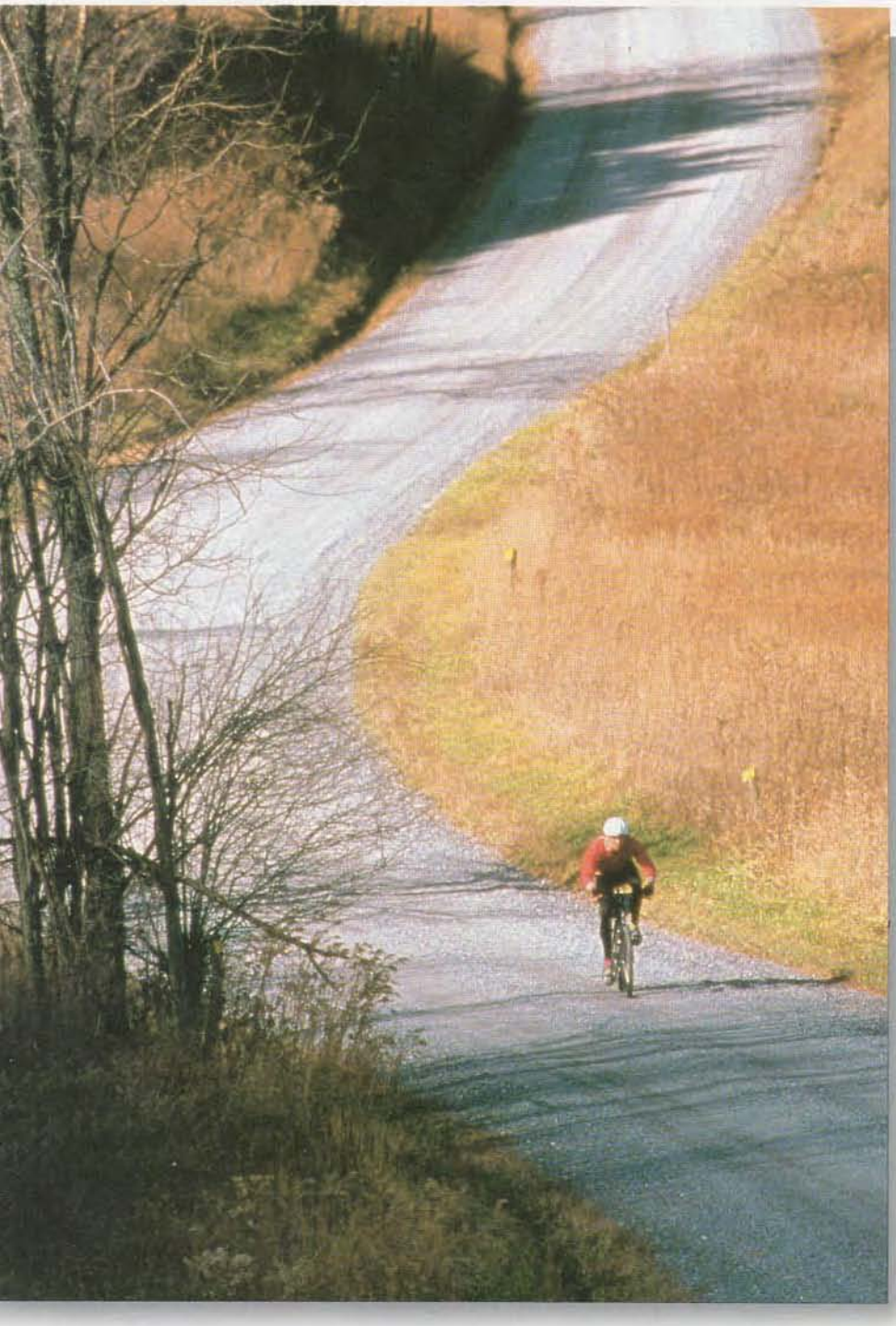
- Spare parts available separately include hub fixing nuts and bolts, tension bolts, nipples, nipple wrench, valve extension and Screw Lock.
- Available from your local Disk Drive retailer.

COMPATIBILITY:

Rims – • All 26", 36 hole hooked edge ATB rims. Not compatible with aero-type rims and other rims having an inside diameter of less than 540mm or a wall thickness ("A" in the diagram above) of more than 3mm.

Hubs – • All cassette type, 36 hole ATB hubs.

DRIVETRAIN COMPONENTS



For years, riders have trusted in the quality, dependability and durability of Tioga's bottom bracket parts. Today, Tioga has taken its expertise in bicycle system designs one step further by creating integrated drivetrain components.

The newest addition to Tioga's line of quality parts is the Revolver® tubular crank set. Tioga's engineers took the knowledge of TIG-welded tubular chromoly gained from the development of T-Bone® stems, and applied it to a high-quality ATB crank set. The result is one of the lightest, strongest and most attractive crank sets available for your ATB.

Once you've chosen your crank set, try out a set of Tioga chain rings. Compatible with most ATB cranksets, and offered in sizes ranging from 24 to 54 teeth, Tioga's round ATB chain rings are sure to fit your gearing needs.

When you need a bottom bracket cup set, check out our BB501, BB401 and BB301 cup sets. All feature Tioga's unique double sealing mechanism with effective penetration-resistant channels. Once properly in place, the seals work to keep grit, grime and moisture from ruining your bottom bracket bearings. When the cup sets are enveloped by Tioga's protective Water Sheath, the unit becomes almost completely impervious to Nature's hindrances.

With the right axle, your system will be complete. Tioga offers a wide variety from which to choose. Our quality line-up includes nut-, bolt-, and hollow-type spindles that can fit a variety of BB shells, from 68 to 73mm wide.

If you prefer a complete bottom bracket, try Tioga's MTB-SK. With its exclusive self-contained design and integral Water Sheath you get all of the features of Tioga's component systems in a ready-to-use package.

So when you're looking for durable, precision-made drivetrain components, there's no need to piece together a system from several different makers. Because with Tioga's drivetrain component systems, you know that compatibility, quality and dependability are assured.

CHAIN RINGS

- Constructed of light and strong Duraluminum alloy.
- Sizes available:
  Outer Rings (110mm bolt circle diameter):
  46, 48, 50, 52 or 54T.
  Middle Rings (110mm bolt circle diameter):
  30, 32, 34, 36, 38, 40, 42 or 44T.
  Inner Rings (74mm bolt circle diameter):
  24, 26 or 28T.
- 23 grams (26T), 43 grams (36T), 68 grams (46T).
- Inner rings are also available in stainless steel for extra strength and abrasion resistance.

REVOLVER

Tubular ATB Crank Set

- Constructed of lightweight and strong TIG-welded tubular chromoly.
- Light alloy spider.
- Hollow splined axle (integral with left crank arm) and sealed bearing BB set included.
- Fits 68mm or 73mm wide BB shells, 1.37" × 24 TPI.
- Compatible with most ATB chain rings and front derailleurs.
- 734 grams (not including weight of chain rings).
- Available with 170mm or 175 mm crank arms.



Stainless Steel Inner Chain Rings

Sealed Bearing BB Unit





Model MTB-SK

- Features Tioga's exclusive self-contained design with integral Water Sheath.
- Axle with 2 degree taper.
- Size: 1.37" × 24 TPI.
- 3P or 3R axle available.
- 360 grams.

BB Cup Sets



Model BB-501

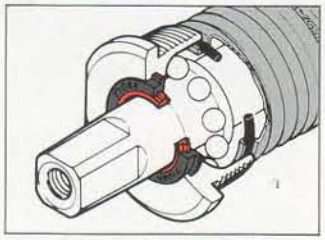
- Unique double-sealed construction.
- Polished ball race with 11 balls for smoother rotation.
- Lightweight.
- Satin finish.
- Size: 1.37" × 24 TPI.
- 95 grams (Retainers: 26 grams).

Ball Retainers

Model BRB-501
for BB-501 and BB-401 (11 balls, 1/4").



Model BRB-301
for BB-301 (9 balls, 1/4").



Exclusive Interlocking Inner (red) and Outer (black) Seals



Model BB-301

- Unique double-sealed construction.
- 9 balls.
- Lightweight.
- CP or black chrome plated.
- Size: 1.37" × 24 TPI.
- 94 grams (Retainers: 24 grams).

Model BB-401

- Unique double-sealed construction.
- 11 balls.
- Lightweight.
- Satin finish.
- Size: 1.37" × 24 TPI.
- 95 grams (Retainers: 26 grams).







BB Axles

WATER SHEATH

Bottom Bracket Set Cover

- Protects the bottom bracket set against water, moisture and dust.
- Features Tioga's exclusive design with outer O-ring seals.
- Fits 68mm and 73mm BB shells.
- 5 grams.



Models D7NL & D7EL

- Bolt type axles.
- Constructed of chromoly steel.
- Extra long to suit 73mm BB shells.
- 211 grams (D7NL), 219 grams (D7EL).

Models D7NL-B & D7EL-B

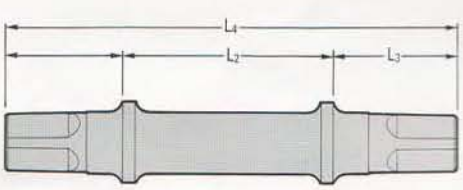
- Bolt type axles.
- Constructed of chromoly steel.
- Polished ball race for smoother rotation.
- Extra long to suit 73mm BB shells.
- 211 grams (D7NL-B), 221 grams (D7EL-B).

Models D7NL-H & D7EL-H Hollow Type BB Axles.

- Bolt type axles, hollowed-out for reduced weight.
- Constructed of chromoly steel.
- Polished ball race for smoother rotation.
- Satin finish.
- 164 grams (D7NL-H), 174 grams (D7EL-H).

Technical Specifications (mm) :

MODEL	L_1	L_2	L_3	L_4
D7NL, D7NL-B, D7NL-H	32.0	57.0	33.5	122.5
D7EL, D7EL-B, D7EL-H	35.5		36.5	129.0
D3R-H	32.0	52.0	42.0	126.0
D3T-H			39.0	123.0
D3S-H			37.5	121.5
D3N-H			36.0	120.0
D3NL-H	34.5			122.5
D3NN-H	36.0			124.0
D3P-H	32.0			119.0



Seat Pillars & Seat Pins



When you're really hammering, the last thing you want to worry about is the reliability of your seat post and pin. After all, if your seat binder loosens, or your pin loses its grip, you can be sure that you won't win the race. That's why you should always depend on Tioga's seating systems.

Tioga's seatposts and seat pins feature the highest quality materials and designs. Each Tioga seatpost is meticulously designed for the utmost in weight savings, ergonomic styling and dependable saddle retention. If you think you're already familiar with Tioga's seat pillars, look again. For 1992, we've redesigned our Carbo seat pillar and given it a new cold-forged head.

Check out our all-new DL2001 seat post. It is the result of painstaking research into lightweight alloys and features our specially designed cold forged light alloy clamp to securely hold saddle rails in place. Veterans of Tioga's lineup include our popular T-Bone seat pillar with its innovative tubular clamp for infinite adjustability, and our light alloy SPA seat pillar for lighter weight at an affordable price.

For a seat pin you can count on, try out our all-new PowerPin™. Tioga's exclusive specially designed cam action quick-release mechanism ensures that you need only a light touch to get pure holding power.

So if you want the safety and security of the best seating components available, check out the quality parts on the following pages and see your local Tioga dealer.



POWER PIN

Model QR-C101

- Tioga's specially designed cam action quick-release mechanism.
- Aluminum alloy cam lever with black rubber cover, super strong chromoly pin, and aluminum/nylon composite loose-proof nut.
- 48 grams.



CARBO

Model SPC-301

- Strong and lightweight carbon fiber mesh with light alloy reinforcement tube and cold forged clamp for light weight with superior shock absorption.
- 300mm length.
- Available in 26.8, 27.0 and 27.2mm diameters, in 300mm length.
- 240 grams (26.8mm × 300mm).

DL2001

Models SPDL-301 & SPDL-351

- Constructed of durable, lightweight and strong light alloy.
- Features Tioga's specially designed cold forged light alloy clamp.
- Black super hard anodized.
- Available in 26.8, 27.0, 27.2, 29.4, 29.6 and 29.8mm diameters, in 300mm and 350mm lengths.
- 250 grams (26.8mm × 300mm).

(2001 is a registered trademark.)

Trbone

Models SPTP-250, SPTP-300, SPTP-350 & SPTP-400

- Constructed of lightweight chromoly with a light alloy saddle mount.
- Features Tioga's unique and exclusive tubular clamp for infinite seat angle adjustment.
- CP or black chrome plated.
- Available in 26.4, 26.6, 26.8, 27.0, 27.2, 29.8, 30.2 and 30.4mm diameters, in 250, 300, 350 and 400m lengths.
- 320 grams (26.8mm × 300mm).

Models SPA-300 & SPA-350

- Black super hard anodized.
- Available in 25.8, 26.2, 26.4, 26.6, 26.8, 27.0, 27.2, 28.6, 29.4, 29.6 and 30.0mm diameters.
- 300mm length available for all diameters, 350mm length available for 26.6, 26.8, 27.0, 27.2 and 30.0mm diameters only.
- 300 grams (26.6mm × 300mm).



SEAT PIN

Model QR-6

- Quick-release mechanism, with Tioga's specially designed universal adapter spacers.
- Soft resin lever cover.
- Constructed of strong and durable chromoly material.
- CP or black electronic deposition painted.
- 92 grams.



Locks & Nuts and Bolts

WATCHDOG U-LOCK

- Specially heat-treated shackle resists bolt cutters, hacksaws, prying and smashing.
- Cylindrical barrel mechanism resists lock picking.
- $1,000 guarantee against bicycle theft.※
- Black vinyl-covered shackle and shaft.
- Includes mounting bracket and spare key.
- Available in 110 × 200mm (916 grams), 110 × 290mm (1,080 grams) and 133 × 250mm (1,060 grams) shackle sizes.



※ Valid in the U.S. and Canada only. Application included inside package.

CABLE LOCK

- Heat-treated 7 × 7 braided cable.
- Vinyl-covered.
- Includes mounting bracket and spare key.
- Available in 8mm × 6ft. (300 grams). and 10mm × 6ft. (482 grams) sizes.





CHAIN RING FIXING NUTS AND BOLTS

- Each set of ten pieces fits double or triple chain rings.
- Steel construction.
- CP, black or neon colors (pink, green, yellow or orange).
- 24 grams/set.



TITANIUM BOTTLE CAGE BOLTS

- Constructed of aircraft-grade titanium alloy for extra weight savings.
- Intended for specific applications. Read package warning label prior to use.

THREAD	LENGTH	WEIGHT
M5 × P0.8	10mm	1.4g
M5 × P0.8	12mm	1.6g
M6 × P1.0	15mm	2.7g



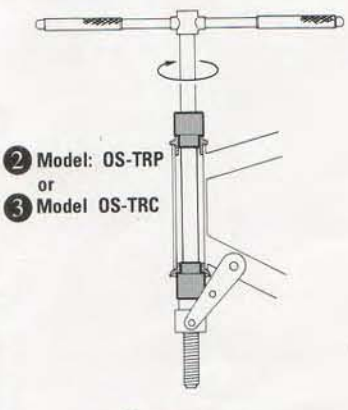
Tools

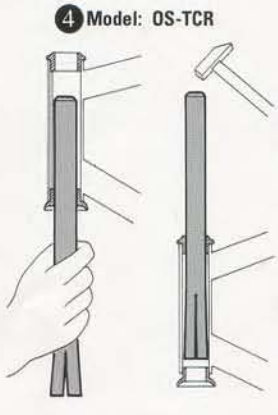


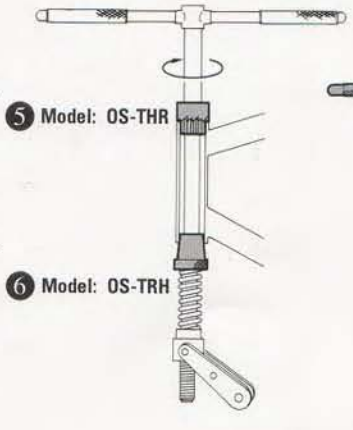
AVENGER® TOOLS

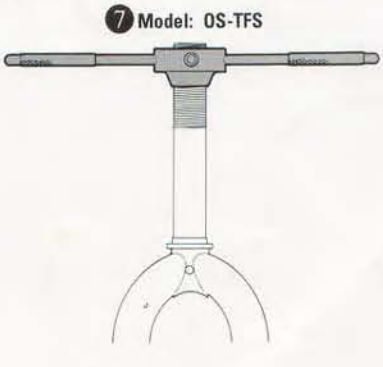
- ❶ Model: OS-TWS — Two-piece wrench set, double-sided 36mm hexagon/octagon headset wrench, and double-sided 36mm headset/15mm pedal wrench
- ❷ Model: OS-TRC — Fittings for 18mm O.D. race press tool
- ❸ Model: OS-TRP — Fittings for 22mm O.D. race press tool
- ❹ Model: OS-TCR — Headset cup remover
- ❺ Model: OS-THR — Headtube reamer & facer
- ❻ Model: OS-TRH — Headtube reamer alignment cone
- ❼ Model: OS-TFS — Fork column die and handle set, B.C. 28.6mm × 26TPI
- ❽ Model: OS-TFC — Fork crown race cutter ϕ30.0mm
- ❾ Model: OS-TBR — Fork crown race setter
- ❿ Model: OS-TFR — Fork crown race remover
- ⓫ Model: OS-TSC — Adjustable seat tube reamer, ϕ29.1mm ~ ϕ32.2mm
- ⓬ Model: OS-TSH — Reamer handle
- ⓭ Model: OS-TSB — Replacement blades for OS-TSC, set of six pieces

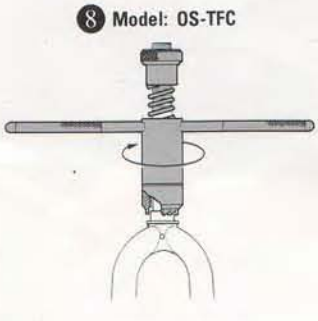


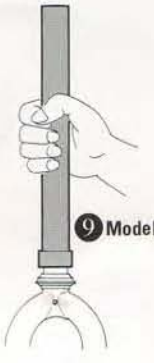


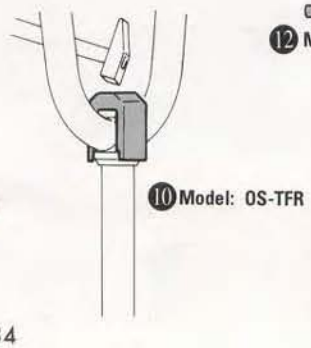


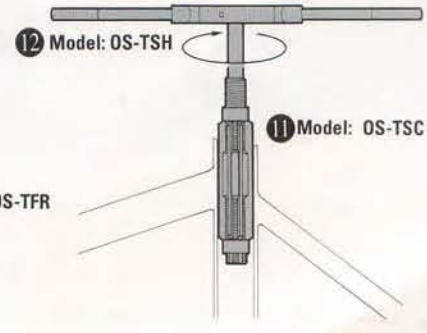






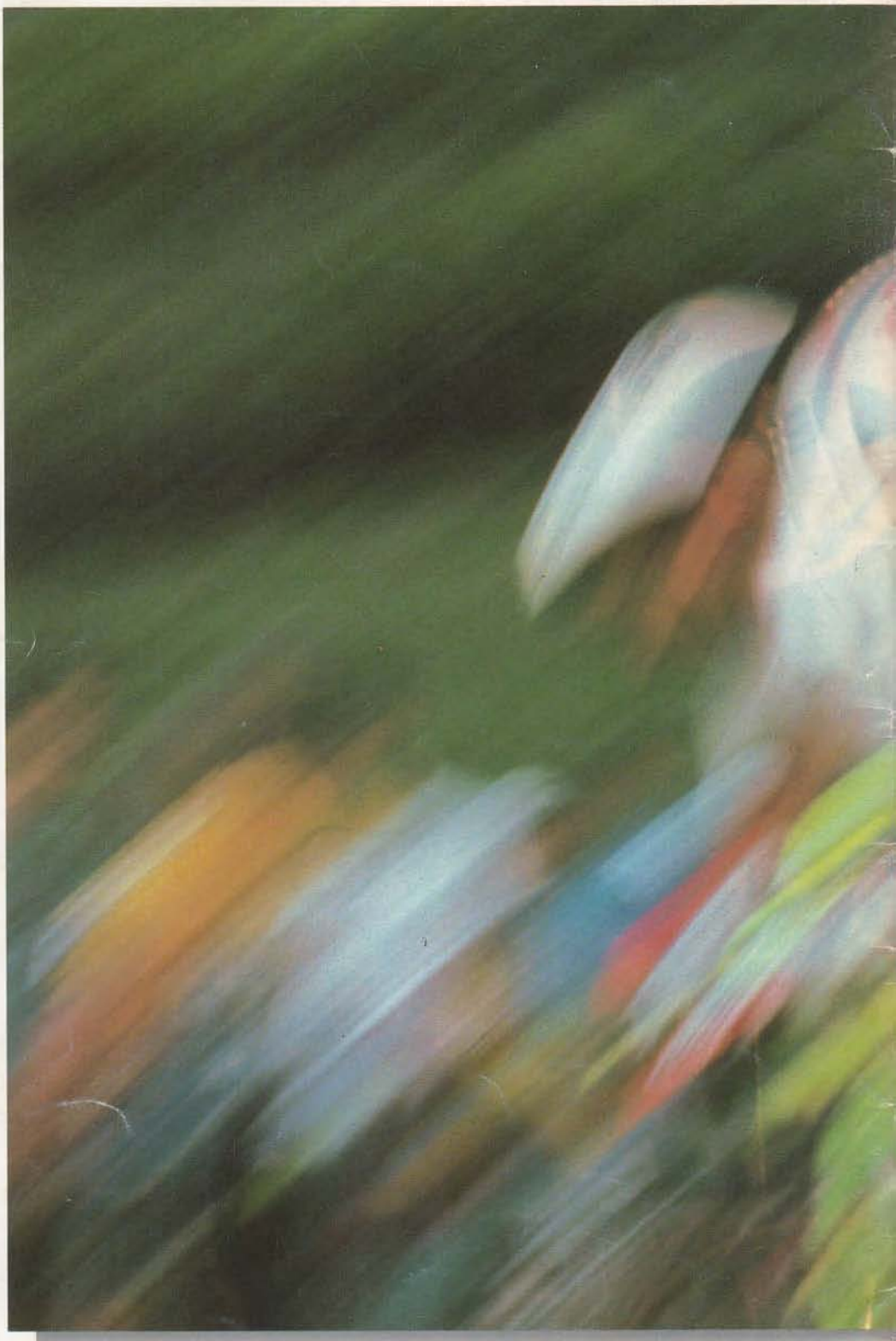






TIOGA

Tioga® recommends that you ride with care, and only on approved trails. Always wear a helmet and other appropriate safety equipment.



Specifications are subject to change without notice.

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