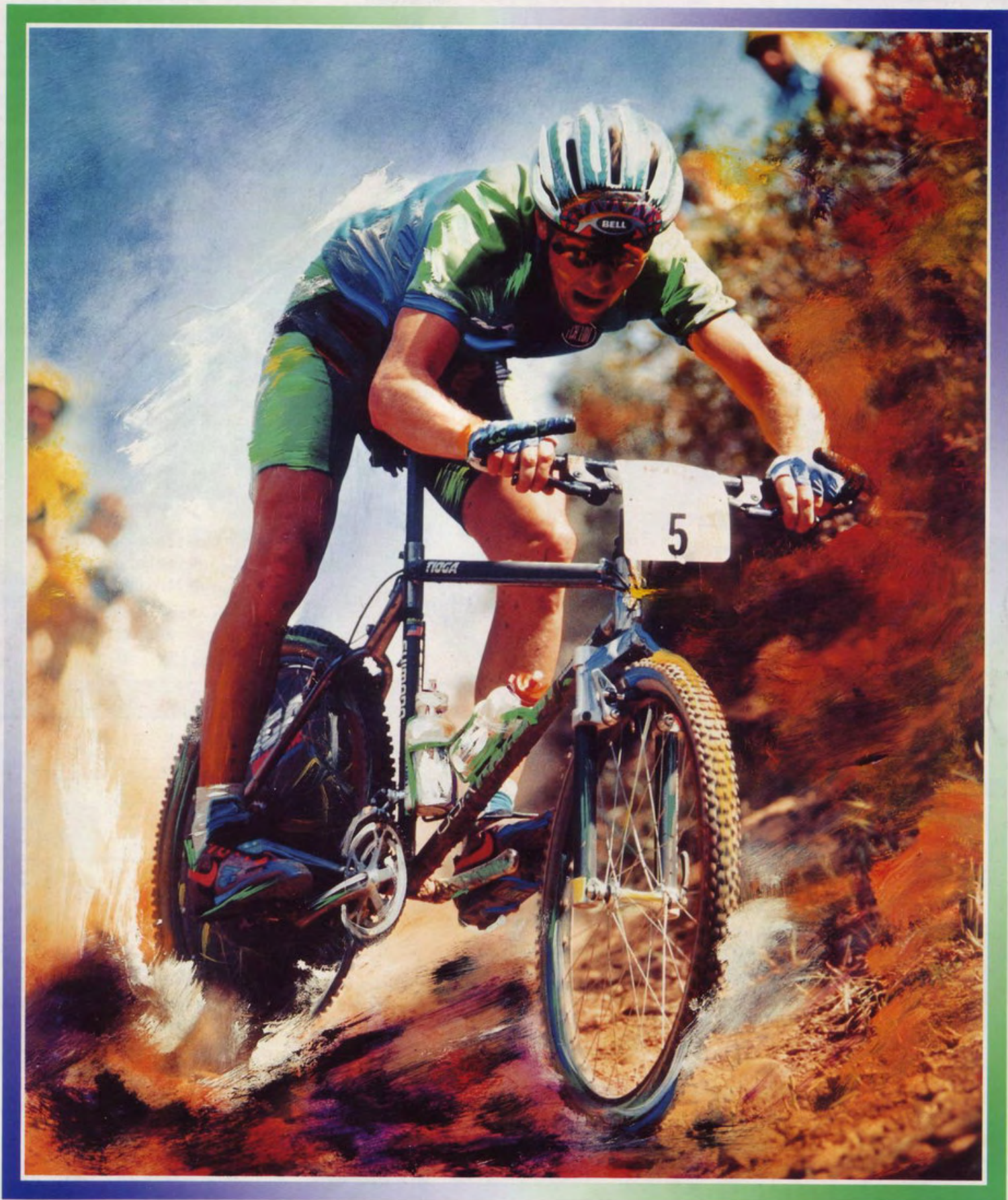


# 1993 TIOGA Components Catalog



 **TIOGA**



## Headsets

AVENGER  
OS



### AVENGER DL

#### Model OS-H6

- Triple-sealed mechanism
- Duraluminum, with heat-treated, polished chromoly ball races
- Silver or black anodized
- 33.5mm stack height
- Avenger Oversize, 34.0 x 30.0mm
- 107grams (Retainers: 14 grams)



### MASTER DL

- Triple-sealed mechanism
- Duraluminum, with heat-treated, polished chromoly ball races
- Silver or black anodized
- 33.5mm stack height
- 85 grams (Retainers: 13 grams)



### beartrap®

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

AVENGER  
OS



### AVENGER DSL

#### Model OS-H7

- Triple-sealed mechanism
- Duraluminum, with heat-treated, polished chromoly ball races
- Non-structural areas drilled for reduced weight
- Silver or black anodized
- 33.5mm stack height
- Avenger Oversize, 34.0 x 30.0mm
- 103 grams (Retainers: 14 grams)

AVENGER  
OS



### AVENGER CR

#### Model OS-H3

- Triple-sealed mechanism
- Chromoly, with heat-treated, polished chromoly ball races
- Duraluminum alloy top lock nut
- Black chrome plated
- 31.5mm stack height
- Avenger Oversize, 34.0 x 30.0mm
- 130 grams (Retainers: 14 grams)



### EXPERT CR

- Triple-sealed mechanism
- Chromoly, with heat-treated, polished chromoly ball races
- CP or black chrome plated
- 33.5mm stack height
- 120 grams (Retainers: 13 grams)



### MTB-I

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

## Head Lock Nuts

AVENGER  
OS



### Deadbolt™

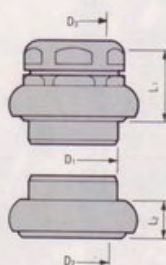
- Specially designed set screw for improved resistance against headset loosening
- Fits Avenger Oversize ATB headsets
- Available in either lightweight Duraluminum alloy (Model OS-NA) or steel (Model OS-NS)
- Silver or black (Duraluminum), CP or black (Steel)
- 13 grams (Duraluminum), 38 grams (Steel)

AVENGER  
OS



### AVENGER Oversize

- Cable stopper type available in alloy with 20mm drop (Model OS-CHA-AL)
- Nut/bolt type cable adjuster available in steel with 12mm drop (Model OS-CHA)
- Swivel type tubular cable adjuster available in alloy with 20mm drop (Model OS-CHB-AL) or steel with 12mm drop (Model OS-CHB)
- Black EDP finish
- Alloy: 21 grams (OS-CHA-AL), 34 grams (OS-CHB-AL)
- Steel: 26 grams (OS-CHA), 44 grams (OS-CHB)



Technical Specifications (mm):

MODEL	STACK HEIGHT			D1	D2	D3	THREADING
	L1	L2	(L1+L2)				
Avenger DSL	22.0	11.5	33.5	34.0	30.0	25.4	BC 1.1/8"x26 TPI
Avenger DL							
Avenger CR	21.0	10.5	31.5				
MASTER DL	22.0	11.5	33.5	30.0 (30.2)	27.0 (26.4)	22.2	BC 1"x24 TPI
Expert CR							
Beartrap	26.0	12.0	38.0				
MTB-1	24.5		36.5				

## Cable Hangers



### Standard Size

- Nut/bolt type cable adjuster (Model CHA) or swivel type tubular cable adjuster (Model CHB)
- Black chrome plated
- 21 grams (Standard type), 32 grams (Swivel type)

# Handlebar Stems

## T-bone Features:

- Exclusive tubular design
- Chromoly expander and binder bolts
- Strong and lightweight Prestige chromoly column
- Alloy cap and wedge
- CP or black chrome plated
- Handlebar clamp diameter 25.4mm



## T-bone® Superlite Model OS-TBP-SL

- Constructed of lightweight and strong TIG-welded Prestige chromoly
- Butted, thin-walled construction
- Available in 105, 120, 135 or 150mm extensions without cable routing
- Column diameter 25.4mm (Avenger Oversize)
- 265 grams \*



\* Weights shown are for 120mm extension stems

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

## Bar Ends



## Power Study

- Light alloy extensions, available in long or short type
- Light alloy cold forged clamps that bind with a minimum of torque
- Silver, black or titanium finish
- 178 grams (Short type), 198 grams (Long type)

## Handlebars

### Model HBA-H101

- Constructed of Duraluminum
- Small radius curves offer rider hand positions not possible with standard bar end/handlebar combination
- Easy installation with most ATB stems
- Silver or Neon Purple finish
- 550 mm width
- 25.4 mm bar center diameter, 22.2mm bar end diameter
- 327 grams



### CARBO

- Constructed of multiple layers of carbon fiber mesh for extra shock absorption and reduced weight
- Black, red, green, blue or yellow finish
- 560mm width
- 6 degree bend
- 25.4mm bar center diameter, 22.2mm bar end diameter
- 179 grams

### DL2001

- Constructed of triple-butted Duraluminum alloy
- Silver, black, black textured or copper finish
- 560mm width
- 4 degree bend
- 25.4mm bar center diameter, 22.2mm bar end diameter
- 140 grams
- (2001 is a registered trademark)

### DL2000

- Constructed of triple-butted Duraluminum alloy
- Silver, black or black textured finish
- 560mm width
- 6 degree bend
- 25.4mm bar center diameter, 22.2mm bar end diameter
- 170 grams

### PRESTIGE II

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



## Internal Cable Routing Type

### Models TBPI & OS-TBPI

- Available in 105, 120, 135 or 150mm extensions
- 327 grams (Standard size), 351 grams (Avenger Oversize) \*

## Vertical Cable Routing Type

### Models TBPV & OS-TBPV

- Available in 90, 105, 120, 135 or 150mm extensions
- 325 grams (Standard size), 349 grams (Avenger Oversize) \*

## Standard Type

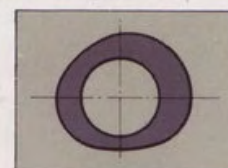
### Models TBP & OS-TBP

- Available in 90, 105, 120, 135 or 150mm extensions
- 325 grams (Standard size), 338 grams (Avenger Oversize) \*

## Handlebar Grips

### BioGrip Features:

- 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
- Designed to fit 22.2mm handlebar ends



Patented Multi-radii, Variable Thickness Design.

### BIOGRIP®

- Non-slip flared ends
- Constructed of exclusive closed-cell foam compound
- Black
- 125 mm length
- 90 grams/pair



### BIOGRIP-II

- Non-slip flared ends
- Constructed of Tioga's exclusively formulated Kraton rubber
- Black or neon colors (pink, green, yellow or orange)
- Open-ended version available to accommodate the use of handlebar end attachments
- 125mm length
- 129 grams/pair

### BIOGRIP-PRO

- Non-slip flared ends
- Constructed of Tioga's exclusively formulated Kraton rubber
- Multi-directional surface grooves for secure, non-slip grip
- Black
- 127mm length
- 85 grams/pair

### BIOGRIP-PRO X

- Constructed of Tioga's exclusively formulated Kraton rubber
- Textured surface for secure, non-slip grip
- Open-ended version available to accommodate the use of handlebar end attachments
- Black
- 122 mm length
- 85 grams/pair



## Brake Lever Covers

### Brake Tamers

- Specially formulated rubber for non-slip grip
- 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



# Replacement Wires & Cables

## DUROCABLE Universal Replacement Inner Wire



- Rust-proof stainless steel material for longer life
- Tioga's special 7 x 7 braided core with 12 filament overlay, 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 brake and shifting levers
- Available in 1.2mm diameter for shifters, and in 1.6mm or 2.0mm diameter for brake levers

### Technical Specifications:

DIAMETERS		LENGTHS		
INNER WIRES	1.2mm for shifter	78"		
	1.6mm			
	2.0mm for brakes	70"		
BRAKE CABLES	1.6 x 5mm	Front 31" x 35"		
	2.0 x 6mm	Rear 55" x 60"		
	1.6 x 5mm	Front 26" x 31"		
		Rear 49" x 55"		

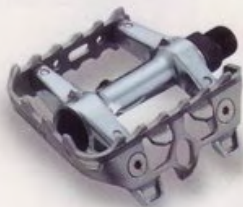
## DUROCABLE Universal Replacement Brake Cable



- 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

## Pedals

### Surefoot VI



- Light alloy body with integral double flips, chromoly axle, replaceable alloy cage
- Double cage flips spaced to complement the body flips, for easy toe clip entry
- Exclusive dual strap retention bolts
- Convenient grease-injection nipple
- 330 grams/pair

### Surefoot V



- Light alloy body, chromoly axle with sealed bearing, replaceable black alloy cage
- Specially designed strap nails prevent straps from slipping 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

### Surefoot IV



- Light alloy body, chromoly axle, replaceable black alloy 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 III



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

### Surefoot -II



- Lightweight black resin body, chromoly axle, replaceable notched rings, double cage flips
- Specially designed strap stopper
- 319 grams/pair

## Toe Clips

### POWER CLIP™



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

### POWER CLIP -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 or Large size
- 63 grams/pair (Size: Medium)

### 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

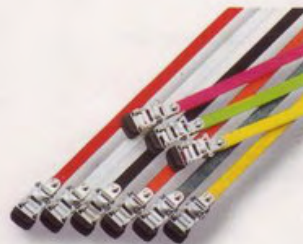
## Toe Straps

### 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

### QUICK FLICK III™



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

## 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

# Tubular Cranks



## REVOLVER

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

## 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 holes) 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

## DISK DRIVE PRO

- Professional version, with transparent tension sheets, without alloy mesh
- 260 grams



# Chain Rings



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



### DISK DRIVE 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 at left) of more than 3mm.

Hubs : All cassette type, 36 hole ATB hubs.

# Avenger Front Forks

## Features:

- Avenger Oversize double-butted chromoly steerer
- Machined one-piece cantilever bosses
- Investment cast dropouts
- Headset race diameter 30.0mm (Avenger Oversize)



### Model OS-F7

- Oversize, double-butted chromoly blades that taper from 31.8mm to 25.4mm
- 840 grams (150mm steerer)



### Model OS-F4

- Oversize, triple-butted, non-tapered 28.6mm chromoly blades
- 920 grams (150mm steerer)



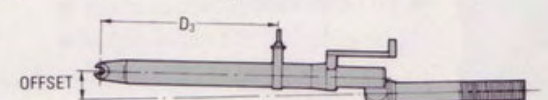
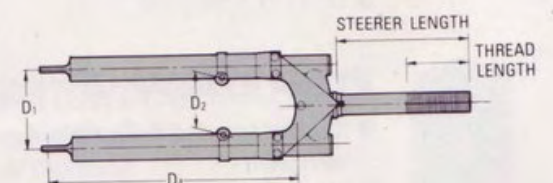
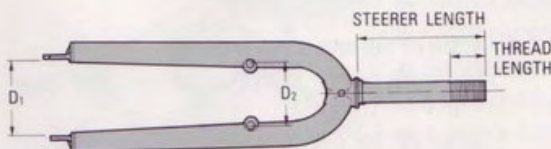
## AVENGER OS

## SHOCKFORK

- Chromoly CP steerer, struts and upper leg assembly
- Alloy blades with machined alloy dropouts
- Maintenance-free double elastomer dampening system
- Interchangeable elastomers in 3 different densities (hard, medium, soft) available separately, for dampening adjustment
- 1,350 grams (160mm steerer)

### Technical Specifications (mm):

MODEL	D1	D2	D3	D4	R	OFFSET	STEERER LENGTH	THREAD LENGTH
OS-F4		92	254	355	R600	45	150,190, or 240	60
OS-F7	100	80			R500			
SHOCKFORK			247	341		34	160,190, or 220 (TRAVEL 40mm)	



## Tires



Note: Tire widths represent the cross sectional dimension casing-to-casing, when tire is mounted on a 25.5mm wide ATB rim and is properly inflated.



### HOUND DAWG

- Knobby tread for maximum traction and superior cornering ability, especially in hard pack or sandy conditions
- 26" x 1.50" (504 grams)
- 26" x 1.95" (648 grams with steel beads, 618 grams with Kevlar beads)



### MUD DAWG

- Specially designed blocks for superior climbing, straight-line acceleration and self-cleaning ability. Performs best on the rear but also suitable as a front tire
- 26" x 1.95" (660 grams with steel beads, 628 grams with Kevlar beads)



### TRAIL DAWG

- Multi-sided blocks for superior directional control, cornering and braking. Performs best as a front tire for NORBA-style racing under dry conditions
- 26" x 1.95" (660 grams with steel beads, 628 grams with Kevlar beads)



### WONDER DAWG

- Unique tread design provides superior traction for all-around recreational use
- 26" x 1.95" (688 grams with steel beads, 655 grams with Kevlar beads)
- 26" x 2.10" (740 grams)



### FARMER JOHN

- Bold chevron tread pattern for enhanced power in uphill climbing
- 24" x 1.95" (696 grams)
- 26" x 1.95" (714 grams)



### FARMER JOHN'S COUSIN

- Symmetrical pattern for superior directional control and self-cleaning
- 24" x 1.95" (664 grams)
- 26" x 1.95" (712 grams)



### FARMER JOHN'S NEPHEW

- Condensed chevron tread pattern for enhanced recreational riding
- 24" x 1.95" (688 grams)
- 26" x 1.50" (510 grams)
- 26" x 1.95" (734 grams)



### City Slicker

- Semi-slick tire for comfortable city riding, commuting or cruising
- 700 x 32C (360 grams)
- 700 x 38C (376 grams)
- 26" x 1.25" (390 grams)
- 26" x 1.50" (500 grams)
- 26" x 1.95" (752 grams)



### GREYHOUND

- Specially designed tread pattern for light off-road hybrid or cross bike use
- 700 x 32C (410 grams)
- 27" x 1.3/8" (420 grams)



### MONGREL

- Deep-set teardrop tread pattern for comfortable on-road riding even in wet conditions
- 700 x 38C (532 grams)
- 27" x 1.3/8" (410 grams)
- 26" x 1.50" (530 grams)



### BLOODHOUND

- All purpose on/off-road tire exhibiting excellent cornering ability and long tread life
- 700 x 38C (473 grams)
- 27" x 1.3/8" (460 grams)
- 26" x 1.25" (390 grams)



### PSYCHO

- Race-proven, high-resiliency tread provides superior performance in demanding mountain terrains
- 26" x 1.95" (645 grams)



### PSYCHO-II

- The all-terrain version of Psycho, with condensed tread pattern
- 26" x 1.95" (680 grams)

### PSYCHO-K

- The super lightweight Kevlar-beaded version of Psycho, for MTB competition
- 26" x 1.95" (540 grams)

## Rim Tapes



- Durable polyurethane material, thin and lightweight
- 20mm width, to suit all standard ATB rims
- A set of two rolls
- 33 grams/set (20mm width)

## Inner Tubes



- Available in a wide variety of sizes with American (Schradler), English (Dunlop) or French (Presta) valves
- 20" x 1.75", 20" x 2.125" or 20" x 1.1/8"
- 24" x 1.50" or 24" x 1.75"
- 26" x 1.50" (for 1.20" to 1.50" tires)
- 26" x 2.00" (for 1.95" to 2.30" tires)
- 700C x 35C (for 32C to 43C tires)

## BB Unit



### Model MTB-SK

- Tioga's exclusive self-contained design with integral Water Sheath
- Available with 3R, 3NL or 7NL bolt type axle, with 2 degree taper
- Size: 1.37" x 24 TPI
- Fits 68 or 73mm BB shells
- 360 grams

## BB Axles

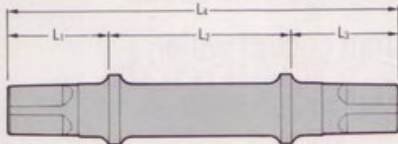


### Models D7NL-H & D7EL-H

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

#### Technical Specifications (mm):

MODEL	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>
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			42.0	126.0
D3T-H			39.0	123.0
D3S-H	32.0		37.5	121.5
D3N-H		52.0		120.0
D3NL-H	34.5		36.0	122.5
D3NN-H	36.0			124.0
D3P-H	32.0			119.0



## BB Sets

### Model BB-501

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



### Model BB-401

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



## BB Set Cover



### WATER SHEATH

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

## Seat Pins

### POWER PIN



- Exclusive cam-action QR alloy lever, with rubber cover
- Positive lockdown within a single half turn of the lever
- Durable chromoly pin
- Loose-proof aluminum/nylon composite nut
- 44 grams

### Powerpin II



- Exclusive internal cam mechanism, steel construction, with QR alloy lever
- Positive lockdown within a single half turn of the lever
- Durable steel pin
- Loose-proof aluminum/nylon composite nut
- 45 grams

## Locks

### WATCHDOG U-LOCK



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

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

## Seat Pillars

### CARBO

#### Model SPC-301

- Strong and lightweight carbon fiber mesh with light alloy reinforcement tube
- Light weight with superior shock absorption
- Tioga's specially designed cold forged light alloy saddle clamp with micro adjuster
- Available in 26.8, 27.0 or 27.2mm diameter, in 300mm length
- 240 grams (26.8mm x 300mm)



### DL2001

#### Models SPDL-301 & SPDL-351

- Constructed of durable light alloy
- Tioga's specially designed cold forged light alloy saddle clamp with micro adjuster
- Black super hard anodized
- Available in 26.8, 27.0, 27.2, 29.4, 29.6 or 29.8mm diameter, in 300mm or 350mm length
- 250 grams (26.8mm x 300mm)



(2001 is a registered trademark)

### WATCHDOG CABLE LOCK



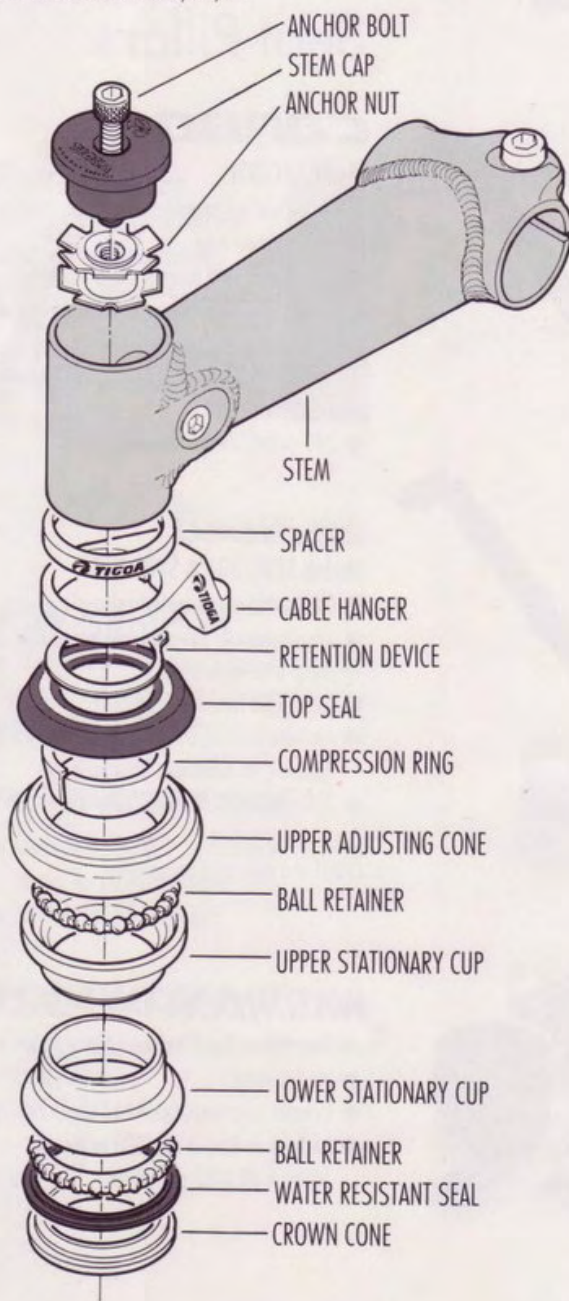
- Heat-treated 7 x 7 braided cable
- Vinyl-covered
- Includes mounting bracket and spare key
- Available in 8mm x 6ft (300 grams) or 10mm x 6ft (482 grams) size

# ALCHEMY

## STEERING SYSTEM



Licensed from U.S. PATENT No. 5,095,770



What you see on this page is much more than just an exploded view of steering system parts. The Alchemy system is designed to offer significantly better performance with less weight and with fewer adjustments. It is stronger, lighter and easier to service than just about anything else on the market.

Setting up the Alchemy system is simple and quick. All of our threadless headsets adjust with a single allen key, which eliminates the need for awkward headset wrenches. Sealed at both top and bottom against water, mud and dust, Alchemy headsets stay adjusted even in the roughest terrain.

The flagship stem of the system is the Alchemy DL model, an innovative design featuring Tioga's internal dual wedge steerer binding mechanism. This patent-pending mechanism provides unrivaled binding power and replaces the pinch binder bolts of other stems that can injure a rider's knees, making the Alchemy DL sleek and streamlined.

A choice of two alloy cable hangers help make Alchemy a versatile system for many applications. Both the standard and swivel-type hangers ensure clean cable routing, the latter featuring an integrated barrel adjuster for quick and easy cable adjustments.

Pure science makes Alchemy a steering system that's greater than the sum of its parts. Exclusively from Tioga.

**Warning:**

Alchemy Steering System components are not compatible with standard threaded fork steeres. Applying these components to theaded steeres is hazardous and would result in loss of control of tfe bisycle and in serious injury.





## Headsets



### Model OS-NSS-AL-S

- Double-sealed mechanism, featuring an exclusive steel/synthetic rubber composite top seal
- Duraluminum upper cup, with heat-treated chromoly ball races
- Stem assembly retention device (patent pending)
- Compression ring centering system
- Black or silver/satin finish
- 28.0mm stack height (Retention device: 1.5mm)
- 121 grams (Retainers: 14g)



### Model OS-NSS-DL-S

- Double-sealed mechanism, featuring an exclusive steel/synthetic rubber composite top seal
- Duraluminum, with heat-treated, polished chromoly ball races
- Stem assembly retention device (patent pending)
- Compression ring centering system
- Black or silver anodized
- 28.5mm stack height (Retention device: 1.5mm)
- 116 grams (Retainers: 14g)



### Model OS-NSS-ST-S

- Double-sealed mechanism, featuring an exclusive steel/synthetic rubber composite top seal
- Heat-treated steel/resin composite construction
- Stem assembly retention device (patent pending)
- Compression ring centering system
- Black EDP finish
- 28.0mm stack height (Retention device: 1.5mm)
- 129 grams (Retainers: 14g)

## Handlebar Stems



### Alchemy DL

#### Model OS-NSS-DL

- Tig-welded light alloy construction
- Internal dual wedge steerer binding mechanism (patent pending)
- 8mm vertical height adjustment
- Steerer binder stack height 53mm
- Handlebar clamp diameter 25.4mm
- Avenger Oversize (1.1/8") compatible
- Black or silver anodized
- 201 grams



### Alchemy CR

#### Model OS-NSS-CR

- TIG-welded chromoly construction
- Double bolt steerer binding device
- 8mm vertical height adjustment
- Steerer binder stack height 45mm
- Handlebar clamp diameter 25.4mm
- Avenger Oversize (1.1/8") compatible
- Black EDP or titanium finish
- 231 grams

#### Technical Specifications (mm):

STEM	EXTENSIONS	ANGLES
ALCHEMY DL only	90	96.7°
	105	95.7
	120	95.0
ALCHEMY DL / CR	135	94.5
	150	94.0

## Anchor Nuts & Bolts



### Model OS-NSS-CD

- Nut, bolt and resin cap, a set of 3 pieces
- 24 grams

## Spacers



- Light alloy
- A set of 1mm, 2mm, 4mm and 8mm sizes
- Used in various combinations, the spacers allow displacement in 1mm increments up to 15mm
- Avenger Oversize (1.1/8") compatible
- Black or silver anodized
- 1mm: 3 grams, 2mm: 5 grams, 4mm: 8 grams, 8mm: 12 grams

## Cable Hangers



### Models OS-CHA-NSS & OS-CHB-NSS

- Light alloy, with 20mm drop
- Binder for application to threadless steerers
- Swivel type tubular cable adjuster (Model OS-CHB-NSS) or step-drilled cable guide only (Model OS-CHA-NSS)
- Stack height 9mm
- Black or silver anodized
- 21 grams (Model OS-CHA-NSS), 34 grams (Model OS-CHB-NSS)

## Alchemy Tools

- Anchor nut setter, consisting of guide tube and impact rod, a set of two pieces



- Retention device setter, consisting of tapered guide and press, a set of two pieces



- Headset adjustment tool, consisting of threaded rod, threaded handle and holder, a set of three pieces



Note: The headset adjustment tool is intended for professional riders only; as a weight-saving device that substitutes for the anchor nut/bolt assembly. The standard anchor nut/bolt assembly is recommended for safe securing of the Alchemy steering system.

# Roadracing Components

## Headsets



### MASTER DLS

- Triple-sealed mechanism
- Lightweight and strong Duraluminum alloy construction
- Heat-treated, polished chromoly ball races
- Silver or black anodized
- 92 grams (Retainers: 10 grams)



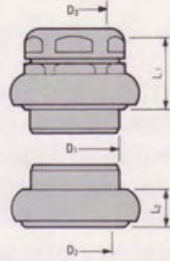
### EXPERT

- Double-sealed mechanism
- Heat-treated steel/resin composite construction
- Satin or black chrome plated
- 123 grams (Retainers: 13 grams)



### ELITE

- Triple-sealed mechanism
- Lightweight and strong chromoly construction
- Heat-treated, polished chromoly ball races
- Black chrome plated
- 127 grams (Retainers: 10 grams)



Technical Specifications (mm):

MODEL	STACK HEIGHT			D1	D2	D3	THREADING
	L1	L2	(L1+L2)				
MASTER DLS		22	33.5	30.0 (30.2)	27.0 (26.4)	22.2	BC 1"x24 TPI
EXPERT	11.5	20	31.5				
ELITE							

## Handlebar Stems



### Bone Racer

- Unique, sleek and exclusive tubular design
- Strong and lightweight Prestige column
- Machined Duraluminum alloy cap
- CP or black chrome plated
- Available angles : 73, 90 or 105 degrees
- Available extensions : 80, 90, 100, 110, 120 or 130mm
- 343 grams (80mm extension)

## Handlebars



### Model 7000

- Lightweight and strong Duraluminum alloy
- Bar center diameter 26.0mm or 25.4mm
- Available in 380mm, 390mm, 400mm, 410mm or 420mm widths
- 135mm drop, 95mm reach
- Silver anodized, polished
- 270 grams (380mm width)



### Model 5000

- Lightweight and strong aluminum alloy
- Bar center diameter 26.0mm
- Available in 370mm, 380mm, 390mm, 400mm, 410mm or 420mm widths
- 135mm drop, 95mm reach
- Silver anodized
- 315 grams (380mm width)

## Tubular Crank Sets



### REVOLVER

- Fits 68mm wide BB shells, 1.37" x 24TPI or M36 x 24TPI
- Compatible with most standard chain rings with 130mm bolt circle diameter
- Available with 165, 170, 175 or 180mm crank arms
- 735 grams with 170mm crank arms (not including weight of chain rings)
- See page 4 for general features

## DISK DRIVE GEODESIC WEBBING



- The roadracing version of the original ATB model
- A set of two high-tensile lattices of Kevlar cord, laminated with weatherproof, shock-resistant film
- Provides strength, durability and suspension for 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 road rims (700C, 32 holes) except aero types 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, and instruction manual
- 250 grams

## Replacement Wires & Cables



### DUROCABLE Universal Replacement Inner Wire

- Cable ends fit most road brake and shifting levers
- Available in 1.2mm diameter for shifters, or in 1.6mm diameter for brake levers
- See page 3 for general features



### DUROCABLE Universal Replacement Brake Cable

- Cable ends outfitted with adapters to fit almost all road brake levers
- Available in universal replacement lengths
- Outer cable available in 5mm diameter
- See page 3 for general features

## Tires



### PROLINE S

- Slick centerline for ultra low rolling resistance, and water channels for safe traction in wet conditions
- Polyrubber 3405 compound, Tektite casing
- Kevlar beads or Kevlar belting optional



### PROLINE F

- Herringbone tread pattern, fine-textured at the center to minimize rolling resistance, rough-textured at the edges to maximize traction in cornering
- Polyrubber 3405 compound, Tektite casing
- Kevlar beads or Kevlar belting optional

#### Technical Specifications:

SIZES	OPTIONS	WEIGHTS
700 x 18C	Steel Beads	255 grams
	Kevlar Beads	185 grams
700 x 20C	Steel Beads	245 grams
	Steel Beads w/Kevlar Belt	265 grams
700 x 23C	Steel Beads	205 grams
	Steel Beads w/Kevlar Belt	285 grams
700 x 25C	Steel Beads	245 grams
	Steel Beads w/Kevlar Belt	325 grams
	Kevlar Beads	285 grams

## Rim Tapes



- Durable polyurethane material, thin and lightweight
- 16mm width, to suit all standard road rims
- A set of two rolls
- 32 grams/set



## Inner Tubes

- Available with American (Schrader), English (Dunlop) or French (Presta) valves:

26" x 1.3/8"  
27" x 1.1/8" or 27" x 1.1/4"  
700C x 35C (for 32C to 43C tires)

- Available with French (Presta) valves only:

700C x 19C (for 18C or 19C tires)  
700C x 20C (for 20C to 23C tires)  
700C x 25C (for 25C to 28C tires)

## OverSize Tools



1. Model OS-TWS Double-sided 36mm hexagon/octagon headset wrench, and double-sided 36mm headset/15mm pedal wrench, a set of two pieces
2. Model OS-TRC Fittings for 18mm O.D. race press tool
3. Model OS-TRP Fittings for 22mm O.D. race press tool
4. Model OS-TCR Headset cup remover
5. Model OS-THR Headtube reamer & facer
6. Model OS-TRH Headtube reamer alignment cone
7. Model OS-TFS Fork column die and handle set, B.C.26.6mm x 26TPI
8. Model OS-TFC Fork crown race cutter  $\phi$ 30.0mm
9. Model OS-TBR Fork crown race setter
10. Model OS-TFR Fork crown race remover
11. Model OS-TSC Adjustable seat tube reamer,  $\phi$ 29.1 to  $\phi$ 32.2mm
12. Model OS-TSH Reamer handle
13. Model OS-TSB Replacement blades for OS-TSC, a set of six pieces

## 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")
- Model BRB-501**  
for BB-501 and BB-401 (11 balls, 1/4")
- Model BRB-301**  
for BB-301 and BB-201 (9 balls, 1/4")

## 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

## Titanium Expander Bolts

- Ultra lightweight expander bolts replace standard bolts for weight reduction
- Binder for application to threadless steerers

#### Technical Specifications:

MODEL	HEAD DIA.	LENGTH	THREAD	WEIGHT
TB-130	$\phi$ 13	130	$\phi$ 8 x P1.25	26g
TB-130C	$\phi$ 12	130	$\phi$ 8 x P1.0	26g
TB-145	$\phi$ 13	145	$\phi$ 8 x P1.25	29g
TB-165	$\phi$ 13	165	$\phi$ 8 x P1.25	32g

## Fixing Nuts & 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

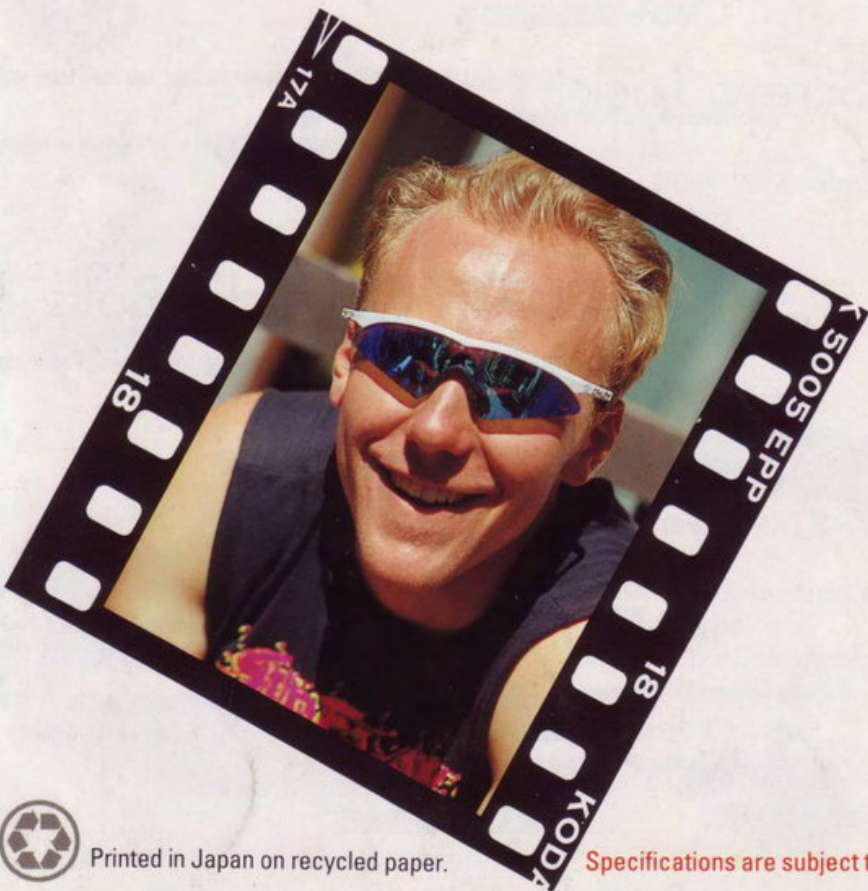
## Titanium Bottle Cage Bolts

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

#### Technical Specifications:

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

 **TIoga**



Printed in Japan on recycled paper.

Specifications are subject to change without notice.