SHIMANO BICYCLE SYSTEM COMPONENTS







SHIMANO



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SHIMANO SYSTEM COMPONENTS SPECIAL INNOVATIONS

10 10mm Pitch System

In the world of bicycle racing a split second can make all the difference. This means light-weight, but at the same time, strong components are as important as the rider's racing skills.

Many methods have been tried to make bicycles as light as possible; for example, reducing the chain wheel and other parts to their bare minimum, and even to the point of putting helium into the tires. However, extreme lightness often resulted in structural weakness. It has been impossible to reconcile such seemingly contradictory racing requirements as lightness and strength until now.

Shimano's engineers, after intensive research and tests, have successfully reduced the pitch of the chain from one half inch (12.7mm.) to 10mm. The new 10mm. pitch system reduces the overall weight and size of other drive train components, such as the chainwheel and rear sprocket without affecting the bicycle's durability.



10mm and 12.7mm Comparison

For the past eighty years the chain pitch has been fixed at an industry standard of ½inch (12.7mm.). No one ever attempted to alter it until Shimano recognised this 'blind spot' in the conventional concept of the bicycle. This revolutionary innovation was the result of Shimano's research and development on the basic elements of the bicycle.

Features of the 10mm. Pitch System

1. Miniaturization of Components—
   By reducing the chain pitch from 12.7mm. to 10mm., the diameters of the front chainwheel and rear sprocket have been reduced by a corresponding factor of 10/12.7. This means the front chainwheel has been made 21% smaller in size and 38% lighter in weight.
2. Increased Efficiency—
   As the rotating parts of the 10mm. pitch system have been made lighter, the rear sprocket wheel rotates more easily, increasing accelerating efficiency. The rider's energy is transmitted to the bicycle faster and with less power loss due to components' mass and friction. Just a light step is enough to set the bicycle in motion.
3. Reduced Deflection—
   The 10mm. pitch's smaller drive train greatly reduces bending or flexing due to deflection. Since the rider's energy is transmitted more directly and efficiently from the front chainwheel, through the chain and rear sprocket, to the wheels, less effort is wasted.



DURA-ACE 10—DURA-ACE Comparison Chart * Weight Comparison (Track Models)

	Dura-Ace 10	Dura-Ace	Saving
Right Hand Crank	8.5 oz. (239 g.)	9.8 oz. (277 g.)	1.3 oz (38 g.)
Chainwheel (49T)	2.2 oz. (63 g.)	4.1 oz. (116 g.)	1.9 oz. (53 g.)
Chain	11.6 oz. (330 g.)	11.8 oz. (335 g.)	0.2 oz. (5 g.)
Rear Hub W/Lock Ring	10.4 oz. (295 g.)	11.0 oz. (313 g.)	0.6 oz. (18 g.)
Rear Sprocket (14T)	0.8 oz. (22 g.)	1.4 oz. (38 g.)	0.6 oz. (16 g.)
TOTAL	33.5 oz. (949 g.)	38.1 oz. (1079 g.)	4.6 oz. (130 g.)

Synchro-Line Mechanism

The Synchro-Line Mechanism, the newest addition to the Dura-Ace Rear Derailleur, keeps the adjusting barrel and the cable fixing pin constantly aligned and therefore the inner cable straight while the derailleur changes speeds. This reduces strain on the cable, prolongs the cable's service life, and facilitates a "positive shift" feeling at the shift lever.

The Dura-Ace derailleur is smaller in size and weight; its links are shortened by 0.2" (5mm.) and it weighs only 6.14oz. (174g.).

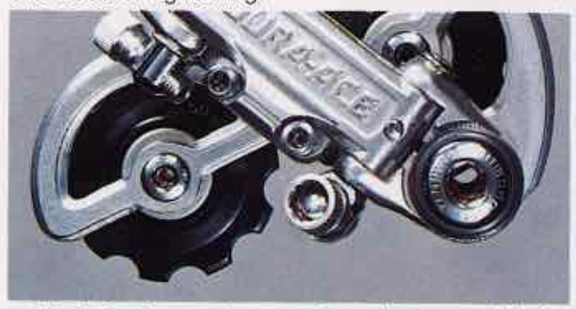


Low Gear Position.



High Gear Position.

All bolts on the Dura-Ace derailleur are either 3mm. or 6mm. hexagonal bolts for easier servicing and securer tightening.

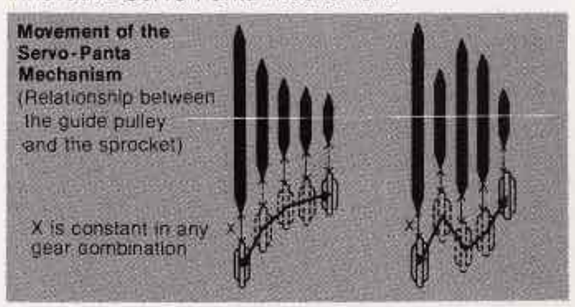


All the bolts are 3mm. or 6mm. hexagonal bolts.

Servo-Panta Mechanism

The rear derailleur is the most important part in a 10 speed bicycle. It transforms the cable's longitudinal motion into lateral motion, shifts the chain into the desired gear, and determines the most appropriate gear ratio for the particular gear change. The Pantograph design is presently the most widely used derailleur. Shimano improved it by inserting a spring inside the bracket body (B tension) of the rear derailleur. This enables the derailleur guide pulley to maintain the proper distance from the freewheel sprocket teeth no matter what the combination of gears may be. The chain is guided accurately, resulting in sure and precise speed changes. This is most easily recognized when selecting low gear while climbing a hill. All of Shimano's derailleurs utilize this innovative Servo-Panta Mechanism.





SHIMANO SYSTEM COMPONENTS SPECIAL INNOVATIONS

Uniglide Mechanism

10 speed bicycles now command the major share of the bicycle market. At Shimano we have pushed forward a series of developments based on our "System Components" principle. We believe that in order to innovate the structure of a bicycle, the function of each component has to be re-evaluated and the individual part seen as it relates to the whole.

Our engineers studied the complete power train of the bicycle and singled out the chain and freewheel as being the basis for fundamental improvement. The outcome was the introduction of the Uniglide freewheel (UG freewheel). As components especially designed for multi-speed bicycles, the chain and freewheel heighten gearshift performance and won attention as a revolutionary development.

Uniglide Chain



The UG Chain. Outerplates are widened to the level of chainpin heads.

Bicycle chains were originally designed to align the front chainwheel with a rear single speed sprocket and drive the rear wheel. However, the chain on multi-speed bicycles must be able not only to simply rotate but also move up-and-down and side-to-side to transmit the driving force. Moreover, reducing the friction of the chain against its related parts to an absolute minimum became of utmost importance to increase the efficiency of a 10-speed bicycle.

The outer plates of the Uniglide chain are widened to the level of the chainpin heads. This increased width speeds up gear engagement because the outerplate can engage the gear teeth as soon as the chainpin hits the gear. This eliminates the need for overshifting and improves gearshift efficiency. It also minimizes friction, the cause of irritating noise. The Uniglide chain has remarkable durability and doubles the service life of such components as the derailleur, front chainwheel and freewheel.

Uniglide Freewheel

Many attempts have been made to improve the freewheel sprocket teeth, but the shape of the sprocket teeth remained unchanged in a non-parallel plane in relation to the chain's movement during gear shifts.

The teeth of the UG freewheel have been beveled to an angle to accommodate the movement of the chain. When gears are being shifted from high to low gear, the chain moves parallel to the UG freewheel teeth, resulting in a surer, faster gear change. Conversely, when shifting from low gear to high, the chain moves in at a non-parallel angle to the teeth. The downward moving chain does not slip back onto the same sprocket and is smoothly transported to the next gear. With the "Twist" sprocket teeth now available, smooth, positive shifting can be enjoyed every time. Conventional freewheels allow chains to slip over the gear teeth, resulting in either inaccurate gear shifting or overshifting. However, with the UG freewheel, all the gearshift completion points come before the gear's center line. This means that the need to overshift is eliminated.



UG Teeth

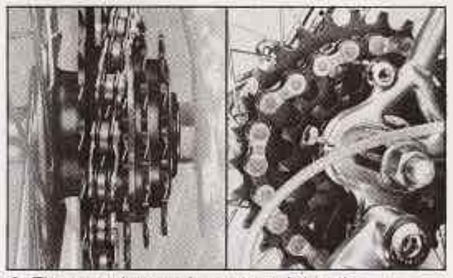


Conventional Teeth

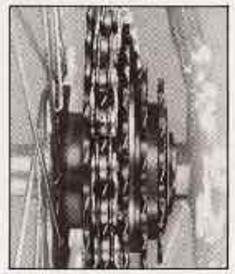
• Gearshift with a UG Freewheel (UG Chain Is Used)



1. The chain moves smoothly off the sprocket teeth and quickly moves onto the adjacent gear.



2. The sprocket teeth run parallel to the incoming chain and swiftly engage the chain links. The chain does not slip, so "overshifting" is not necessary to make a proper engagement.

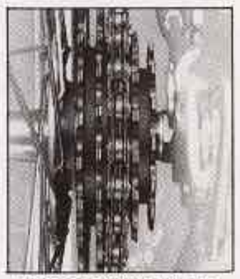


3. A smooth and natural gearshift is completed without undue stress on the chain.



*When shifting from low to high gear, the teeth move in at an angle to the chain and engage the chain links securely.

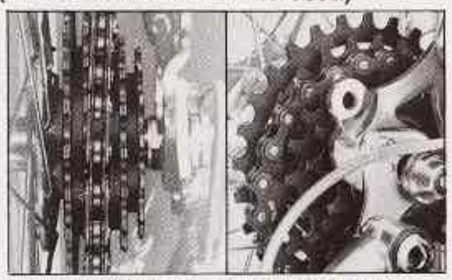
• Gearshift with a Conventional Freewheel (A Conventional Chain Is Used)



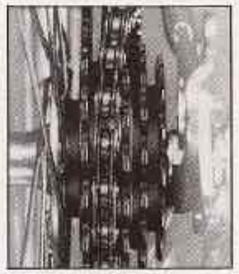
1. The chainpins hit the sprocket of the adjacent larger gear.



2. The chain does not move swiftly off the teeth which delays movement onto the next gear.



3. It is difficult for the sprocket teeth of the adjacent larger gear to catch the incoming chain links. The chain tends to slip over the sprocket instead of engaging the gear.



4. The gear teeth and the chain are under excessive strain resulting in an uneven gearshift and extra wear.

Positive Mechanism

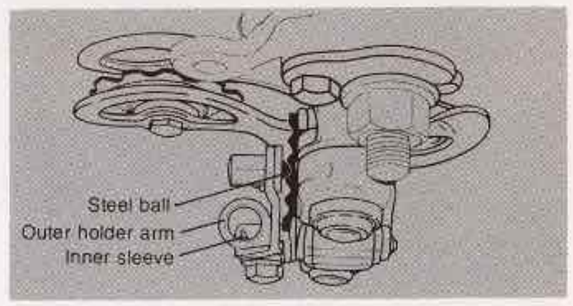
Even with more and more people using both 5- and 10-speed multi-speed bicycles, such conventional shifting mechanisms have required considerable shifting practice to make smooth gear changes. Because of the difficulties involved, Shimano conducted a research program to develop a gear shifting mechanism which would enable everyone to shift gears easily, accurately and safely. The Positive Mechanism is the fruit of this research. The rear derailleur is equipped with the Positive Indexing Mechanism which so simplifies shifting that no special skill is needed. Gears always shift with a positive "click".





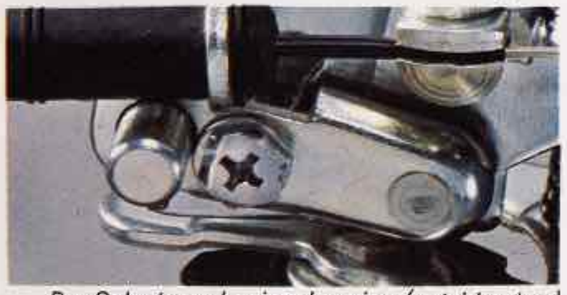


Positron-II indexing mechanism.



Pre-Select Mechanism

With the conventional derailleur mechanism, it was necessary to pedal and to move the gearshift lever simultaneously. This required a considerable amount of practice. Shifting to the desired gear was a difficult maneuver, even for a skilled cyclist,



Pre-Select mechanism housing (outside view).

not to speak of a novice.

The introduction of Shimano's Pre-Select Mechanism has changed the concept of gearshifting altogether. The rider can now shift gears while coasting or even when the bicycle is not in motion. Simply shift the lever into the desired gear, and when the bicycle rolls forward it will automatically shift into that gear. The Pre-Select Mechanism has made gearshifting completely independent of pedalling, making easy, positive and safe cycling possible under any circumstances.

This Pre-Select Mechanism, combined with Shimano's Positive Mechanism, make up Shimano's PPS System, the ideal derailleur system of today.



Pre-Select mechanism (view of interior).

Push-Pull Mechanism

Shimano's Push-Pull Mechanism has completely eliminated the common problem of wire stretching arising from continual gearshifting, making troublesome periodic adjustments virtually unnecessary. This innovative mechanism transmits



Shifting lever cable assembly.



Rear derailleur cable assembly.

the same amount of force whether the lever is pushed or pulled. The two-way movement of the Push-Pull Mechanism has replaced the return spring of the derailleur, making operation of the lever smoother, easier, and more stable.



Push-Pull Cable.

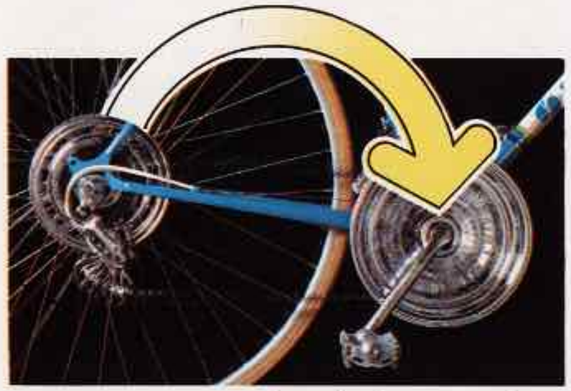
Comparison of Push-Pull and conventional Mechanisms

		H → L → H								
Rear Derailleur	Lever	1	2	3	4	5	4	3	2	1
Positron-II	Positron	2.6	2.5	2.2	2.4	2.5	2.5	2.6	3.0	(kg)
Conventional		4.5	4.8	5.4	6.5	0.9	1.2	1.4	1.6	(kg)

It can be seen from the above chart that the Positron mechanism maintains a constant pressure level. The conventional mechanism, however, goes to the extremes of too stiff pressure when moving from high to low and too weak pressure when moving from low to high.

Front Freewheeling Mechanism

Shimano's revolutionary gearing innovation utilizes a freewheel mechanism combined with the front chainwheel. Our engineers have overcome numerous problems to make gearshifting easier and safer. This mechanism has altered the requirement for pedalling and shifting a conventional bicycle.



Freewheel moves up Front.

With the FF System, the chain moves as long as the bicycle is moving, thus enabling gearshifting without pedalling. The difficulties caused by conventional derailleur bicycles in changing gears while climbing hills or going around curves are virtually non-existant in the FF System. Furthermore, the chain is subject to less strain while shifting.

Features of the FF System

1. Shifts Without Pedalling—
   Whether pedalling or just coasting, the rider can shift gears securely by a simple lever operation because the chain always keeps moving forward.
2. Shifts Easily Even on Inclines—
   Many riders on conventional bicycles have difficulties properly timing gearshifting with pedalling when going uphill. The FF System allows a rider to easily climb hills by simply shifting the lever from high to low gear without any coordination with the pedalling.
3. Gears Change Smoothly While Slowing Down or Coasting—
   As shifting can be done without putting pressure on the pedals, the shift itself will be easier and more precise. While coasting, the chain moves forward with uniform tension, so timing is unnecessary to execute a gear change. The result is unprecedented smoothness in shifting.
4. Shifts Easily into Low Gear before Stopping—
   Gear shifts can be made even when slowing



Front Freewheeling mechanism.

   down to a stop. Because the chain and the freewheel continue to rotate, gears can be changed by just shifting the lever. Thus you can shift from high to low gear while slowing down and be prepared for a quick, smooth start next time away.
5. Changes Gears with Just a Push of the Bicycle—
   Once a gear is pre-selected, a simple push forward will put the bicycle into the desired gear. This allows the rider to shift from high to low gear before mounting the bicycle, ensuring a smooth start.
6. Guarantees Safe Riding—
   Although the front chainwheel is freewheeling and the rear gear is fixed, if a pant cuff or something else gets caught up in the chain, the fixed rear gear will instantly start freewheeling, stopping the chain's movement. This feature makes riding much safer.

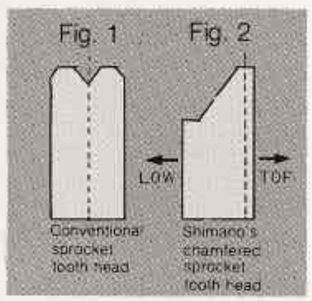
SHIMANO SYSTEM COMPONENTS SPECIAL INNOVATIONS

Chamfered Sprocket Teeth

To allow a better engagement, Shimano's tooth has been chamfered away, on the side nearest the larger gear, at the point where the conventional chain is notched. Its shifting point is located much closer to the top gear.

Whether the chain is changing up or down, the chamfered teeth are designed to offer the best possible engagement. The result is a surer, faster gear change every time.

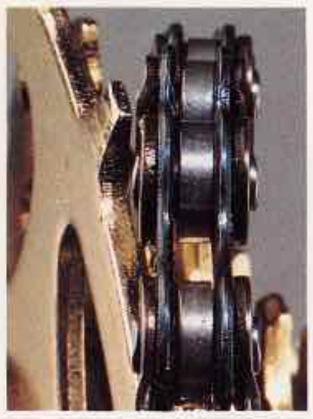




Alternate Tooth Sprocket

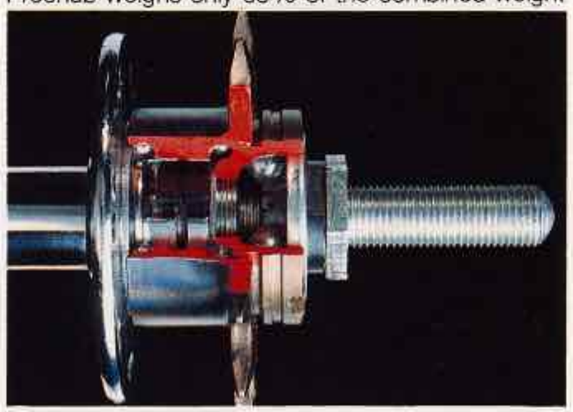
Shimano has removed every other tooth from the low gear sprocket, greatly reducing friction with the chain that interferes with smooth chain movement. The Alternate Tooth Sprocket thus enables a smooth gear change, especially when riding uphill and shifting a wide ratio cluster.





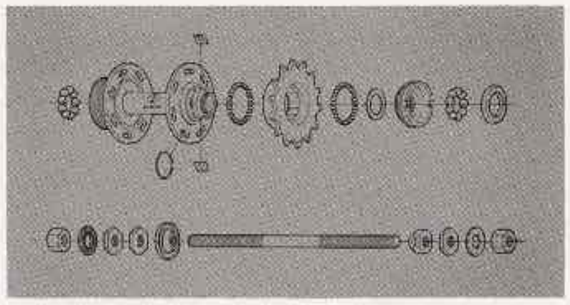
Freehub

The Freehub is so named because it combines the freewheel and hub into one component. It is stronger, smaller, lighter, and more economical than any conventional hub with freewheel. In addition, it eliminates assembly work. By combining the rear freewheel and hub into one body, the freehub unit has more strength than when the components are independently assembled. Also, it is much lighter and much more compact. The Freehub weighs only 63% of the combined weight



of a conventional hub and freewheel. Because the Freehub is a single unit, the conventional number of rear gear small sprocket teeth has been further reduced, resulting in a corresponding reduction of the number of front gear teeth, contributing to the overall weight reduction of the bicycle.

Shimano's new Freehub, by integrating the freewheel and the hub, has improved strength and durability manifold. It has also succeeded in eliminating disturbing lateral movement when loosening takes effect, resulting in even smoother rotation of the freewheel.



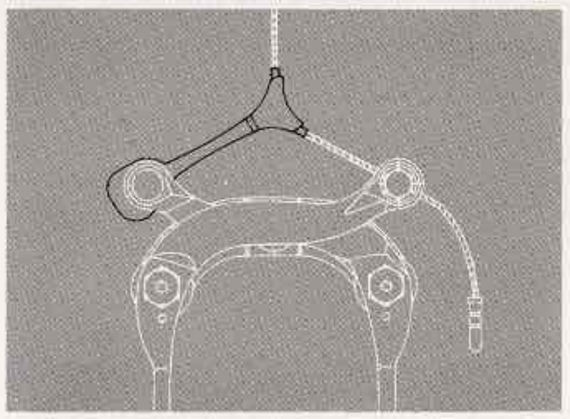
Link Mechanism

Shimano's Link Mechanism is a completely new component that combines the easy cable attachment of the side pull brake and the sure braking power of a center pull brake. This new "Link Type" brake solves the familiar problem of a centerpull caliper brake and when the carrier assembly slips slightly out of position and only one brake functions.

The "Link Type" brake has been tested 40,000 times in a running tester and has passed actual performance tests on a tandem bicycle, thoroughly establishing its reliability.

The Link Mechanism can be attached to a 19" sports bicycle.



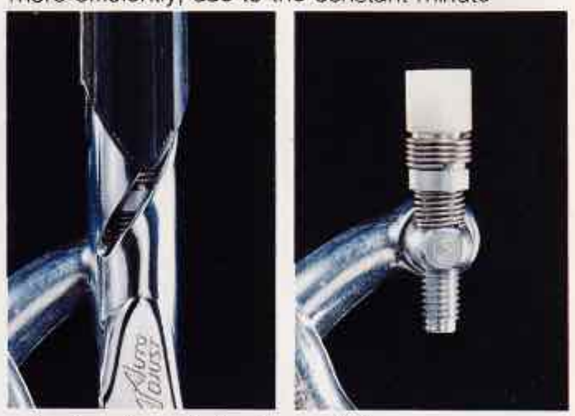


Auto Adjust Mechanism

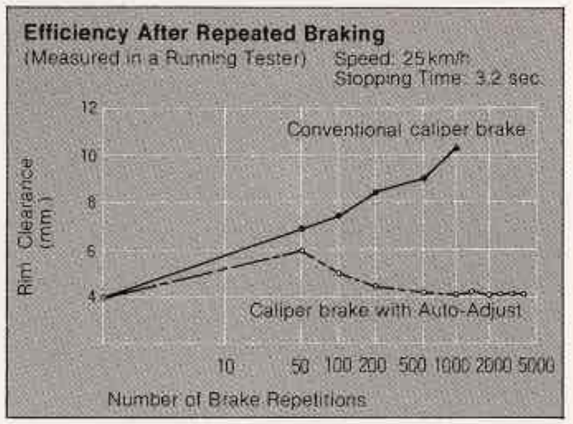
When brakes get worn and cables stretched, the rider grabs a handful of mushiness and the brake lever goes all the way to the handlebar.

Shimano's Auto Adjust brake mechanism compensates for worn out caliper or disc brake pads, as well as cable sloppiness. The Auto Adjust maintains the proper space between the brake pad and the brake surface (rim or disc).

A bike equipped with the Auto Adjust can stop more efficiently, due to the constant minute



adjustments made by the exclusive one way clutch. It's ideal for the person who doesn't like to tinker around making periodic adjustments, or who tends to forget the needed maintenance of his bicycle.

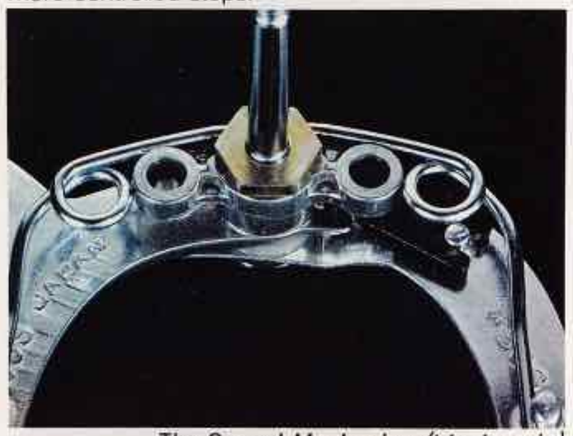


After initial adjustment, the auto-adjust is able to rectify its own clearance difference. The conventional brake steadily worsens and is soon in need of manual adjustment after 200 times.

Synpul Mechanism

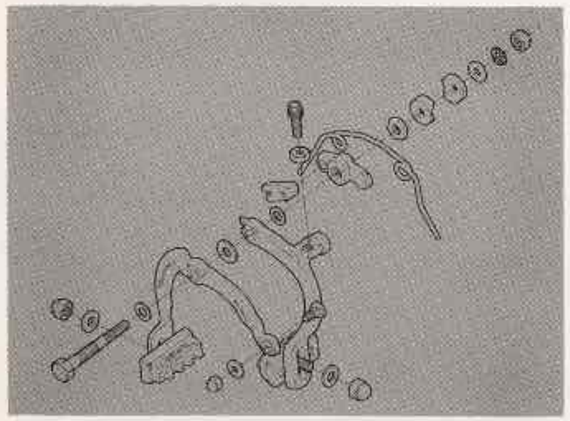
Side-pull caliper brakes are continually pulling to one side and requiring re-alignment. This problem is due to the design of the side pull arms which allows unequal force against the brake shoes,

Shimano's new "Synpul" design synchronizes the brake arms so that the same force from the rider's hand is distributed equally to the brake arms; and the brake shoes grip the wheel at the same time. Smooth, even braking means safer, more controlled stops.



The Synpul Mechanism (black resin).



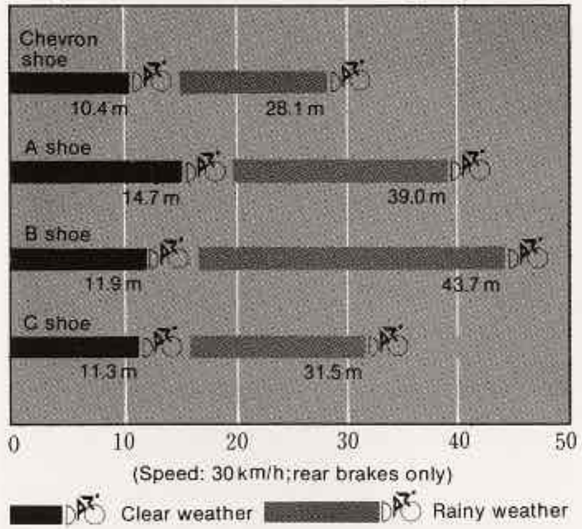


The Chevron Shoe Brake

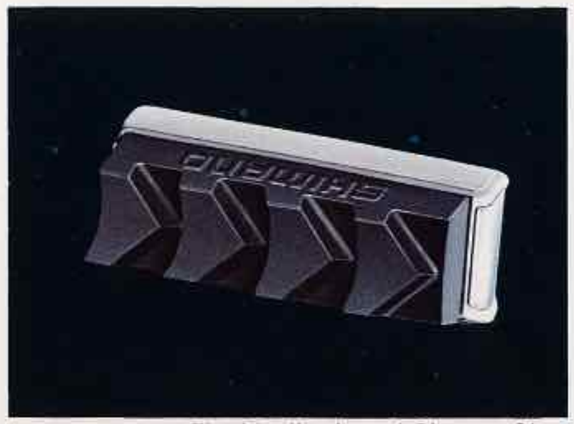
Much research has gone into finding a suitable material which is longlasting and grips well in both fine and wet weather.

But Shimano found that taking care of these factors was not enough in itself. In wet weather water deposits are liable to build up in and around the brake shoe treads. Braking efficiency is impeded. To solve this problem we designed

Comparison Test of Different Shoes' Stopping Distances



chevron shaped treads to spearhead their way through wet conditions. Now braking is much more reliable and safer in wet weather.



The ideally shaped Chevron Shoe —the result of Shimano's numerous brake tests.

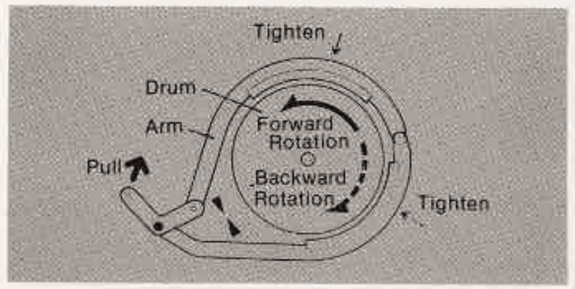
V-Brake Mechanism —Drum Brake RADIAX

At Shimano, we have conducted intensive research on the functions of brake components in junior sports bicycles and children's bicycles. Our engineers have closely examined conventional brake systems, such as the caliper, the band, the drum, the disc, the coaster and the hydraulic systems. We have been trying to develop a new



brake system which synthesizes safety, durability, lightness and economy, elements seemingly contradictory to each other. Now we are glad to be able to introduce a new drum brake, — the "RADIAX".

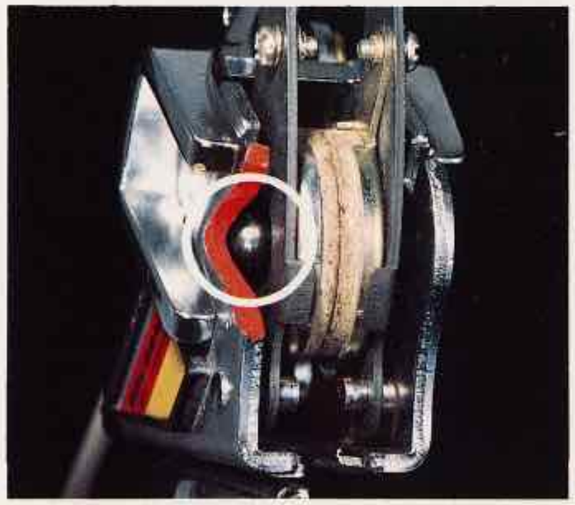
V-Brake Mechanism.



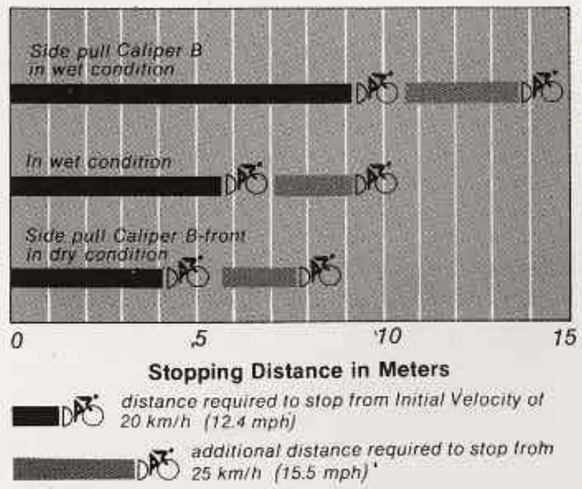
The V-Brake Mechanism's smooth braking retains its gripping power and remains safe even after many hours of use. It has made brake shoe maintenance virtually unnecessary. A bicycle equipped with a V-Brake Mechanism shows high braking performance on any road, in any weather.

Self-Energizing Disc Brake

The self energizing effect comes from the "toe-in" of the braking pads. The forward edges of the pads contact the disc plate and are pulled forward by the rotating disc. This natural rotation causes the pad to wedge itself against the plate until full braking force is attained. Thus, even light pressure on the brake lever yields great braking power. High



braking efficiency has enabled reduction of the size and weight of the brake. The disc brake has proven to be highly effective in all types of weather for safe riding.





SHIMANO
DURA-ACE
10
System Compo Series

The Pitch Revolution That Has Changed The World Of Racing.....10mm. Pitch Series.

Shimano's new Dura-Ace 10 Track System is the new standard among competitive bicycle components.

Dura-Ace 10 is the first major deviation from a standard that has existed in the bicycle industry since mass-production of bikes began some 100 years ago.

It was so simple; Shimano reduced the distance between the sprocket teeth from the old 1/2" to the new 10mm. dimension. Ten millimeter pitch allows the front chainwheel and the rear sprockets to be made smaller, and the chain shorter. The smaller size means less weight and more rigidity and when rotating parts are lightened acceleration is increased.

Now competitors on Dura-Ace 10 can climb hills faster, jump out of corners more quickly, and get the lead in the sprint.



DURA-ACE 10 SERIES TRACK ENSEMBLE

10mm Pitch Chaindriving System

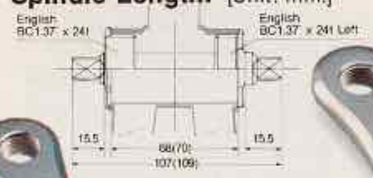
Front Chainwheel

Model GA-110 (without Bottom Bracket Set)
GB-100 (Bottom Bracket Set)

DURA-ACE 10

SPECIFICATIONS

Material: Extra Super Duralumin• Special Surface Treatment
Type: Cotterless
Chain Ring: 10mm. x 3mm.
Teeth: 46-53T
Crank Lengths: 6-1/2″ (165mm.), 6-3/4″ (170mm.)
Available by request 6-19/32″ (167.5mm.)
Crank Thread: 9/16″ x 20t
Cup Thread: English 1.37″ x 24t, French 35 x 1.0, Italian 36 x 24t
Super Polished Ball Race
Spindle Length: [Unit: mm.]





Front & Rear Hubs with Lock Ring

Model HA-310

DURA-ACE 10

SPECIFICATIONS

Weight: Front 7.9 oz. (225 g.) Rear 10.4 oz. (295 g.)/Including Lock Ring
Material: Duralumin • Anodized Finish
Over Lock Nut Dimensions:
Front 3.94″ (100mm.)
Rear 4.33″ (110mm.) 4.72″ (120mm.)
Fork End Slot Width:
Front 0.35″ (9mm.), 0.31″ (8mm.)
Rear 0.39″ (10mm.), 0.31″ (8mm.)
Sprocket Thread: BC33 x 24 T.P.I.
Spoke Holes: 28H, 32H, 36H
Lock Ring Thread: BC32 x 24 T.P.I. (Left)
Super Polished Ball Race



Drilled Out Shaft



Sprocket for Track Hub

Model FA-210

DURA-ACE 10

SPECIFICATIONS

Material: Nickel Chromium Molybdenum Steel
Standard Sprocket:
10mm. x 3mm.
Thread: BC33 x 24 T.P.I.
Teeth: 14T, 15T, 16T
Weight:

14T	0.8 oz. (22.0 g.)
15T	0.9 oz. (26.8 g.)
16T	1.1 oz. (30.8 g.)

Sprocket for Use with Standard Dura-Ace Track Hubs Only
Thread: 1.37″ x 24 T.P.I.
Teeth: 15T, 16T
Weight:

15T	0.9 oz. (26.0 g.)
16T	1.0 oz. (29.0 g.)



For Use with Dura-Ace 10 Track Hubs Only

For Use with Standard Dura-Ace Track Hubs Only

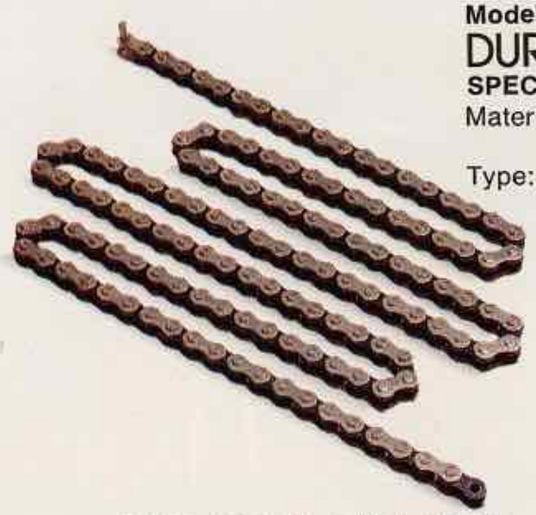
Chain

Model QA-100

DURA-ACE 10

SPECIFICATIONS

Material: Chromium Molybdenum Steel • Special Surface Treatment
Type: Bushed Chain



DURA-ACE 10—DURA-ACE Comparison Chart

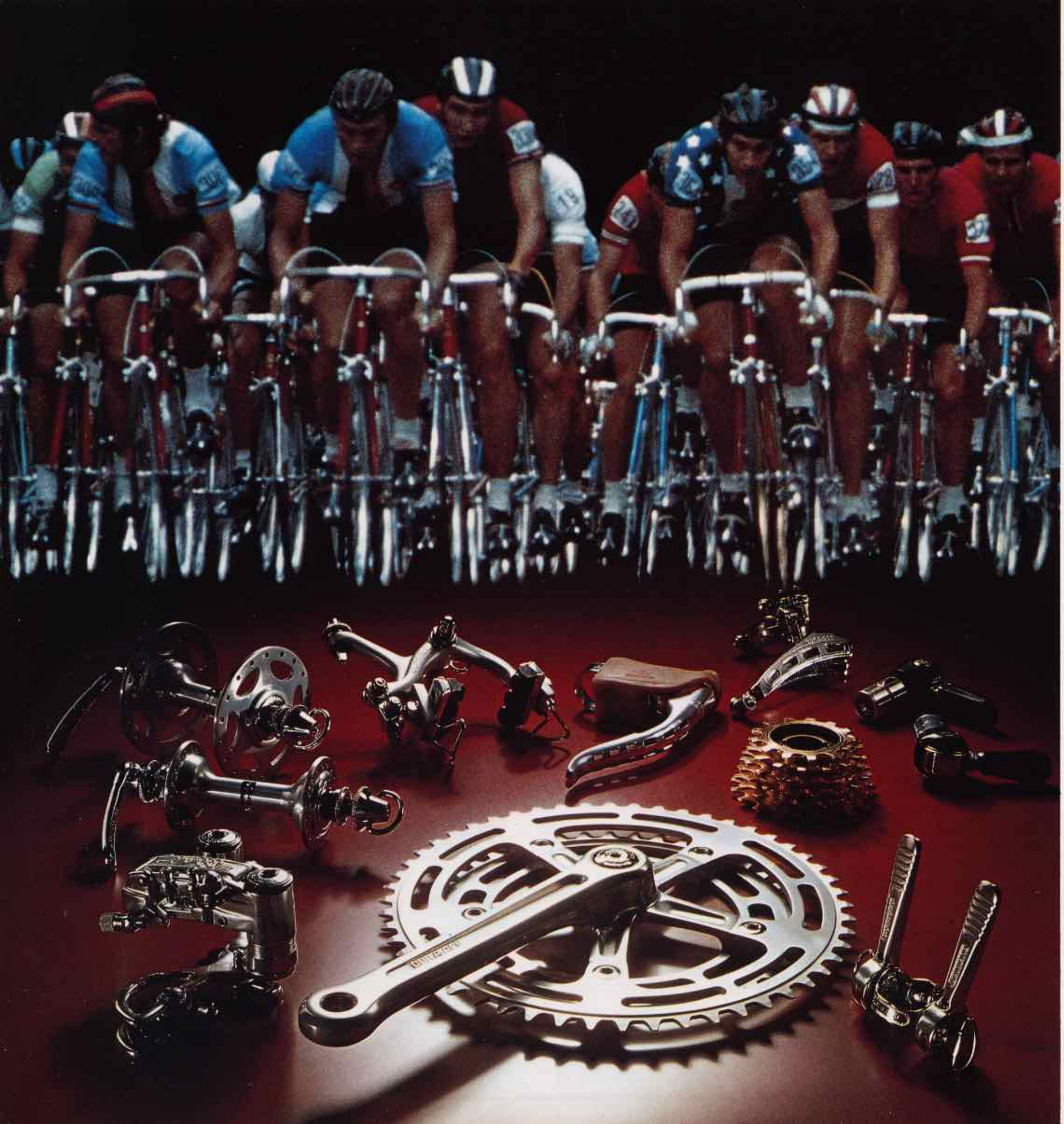
* Weight Comparison (Track Models)

	Dura-Ace 10	Dura-Ace	Saving
Right Hand Crank	8.5 oz. (239 g.)	9.8 oz. (277 g.)	1.3 oz. (38 g.)
Chainwheel (49T)	2.2 oz. (63 g.)	4.1 oz. (116 g.)	1.9 oz. (53 g.)
Chain	11.6 oz. (330 g.)	11.8 oz. (335 g.)	0.2 oz. (5 g.)
Rear Hub W/Lock Ring	10.4 oz. (295 g.)	11.0 oz. (313 g.)	0.6 oz. (18 g.)
Rear Sprocket (14T)	0.8 oz. (22 g.)	1.4 oz. (38 g.)	0.6 oz. (16 g.)
TOTAL	33.5 oz. (949 g.)	38.1 oz. (1079 g.)	4.6 oz. (130g.)

DURA-ACE 10—DURA-ACE Comparison Photo



Dura-Ace 10 series marked with a white square is shown together with Dura-Ace.



SHIMANO
DURA-ACE
System Compo Series

Designed For The Business Of Road Racing.

The Dura-Ace Road Ensemble is more than just individual components assembled under one name; Dura-Ace is a total set of the finest racing equipment; each piece designed to work in perfect harmony with the other.

This coordinated engineering cannot be achieved when a bicycle is equipped with different parts from different manufacturers.

The Dura-Ace Road Ensemble is designed for the business of road racing. Shimano has refined Dura-Ace from its experience gained through sponsorship of professional cyclists, pro teams and top class amateurs.

Precision is the byword in the Dura-Ace division of Shimano. Skilled craftsmen personally handle each product, some requiring 40 to 50 steps in finishing and assembly. Close tolerances result in the smooth functioning of the Dura-Ace product, and also increase resistance to contamination by water, grit, and other foreign particles. Final touches to the Dura-Ace Road Ensemble include either a lustrous finish, or a corrosion-resistant black anodized finish.

The Dura-Ace Ensemble has been proven on the toughest road circuits in the world. It is designed for the business of racing.



DURA-ACE SERIES ROAD ENSEMBLE

Rear Derailleur

Model DA-100

DURA-ACE

SPECIFICATIONS

Capacity: Front Difference/13 Teeth or Less
: Rear Largest Sprocket/26 Teeth or Less
Weight: 6.1 oz. (174 g.)
Material: Light Alloy • Anodized Finish
Type: Servo Panta Mechanism and Synchro-Line Mechanism. All bolts use either a 3mm. or 6mm. hexagon wrench key.



Model DB-100

CRANE

SPECIFICATIONS

Capacity: Front Difference/14Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 7.3 oz. (206 g.)
Material: Light Alloy • Anodized Finish
Type: Servo Panta Mechanism
Option: Adaptor



Front Derailleur

Model EA-200

DURA-ACE

SPECIFICATIONS

Capacity: 16 Teeth or Less
Weight: 3.9 oz. (110 g.)
Material: Light alloy
• Anodized Finish (Body), : Steel • Chromium Finish (Chain Guide)
Type: Lower Inlet Type 1-1/8″ Panta Mechanism



Model DB-110

CRANE-GS

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 7.6 oz. (216 g.)
Material: Light Alloy • Anodized Finish
Type: Servo Panta Mechanism
Option: Adaptor



Model EA-100

CRANE

SPECIFICATIONS

Capacity: 16 Teeth or Less
Weight: 3.9 oz. (110 g.)
Material: Light Alloy
• Anodized Finish (Body), : Steel • Chromium Finish (Chain Guide)
Type: Lower Inlet Type 1-1/8″ Panta Mechanism



Shifting Lever

Model LA-100

DURA-ACE

SPECIFICATIONS

Weight: 2.5 oz. (71 g.)
Material: Light Alloy • Anodized Finish
Type: Friction Type
Attachment Position: Down Tube
Lever Clamp Diameter: 1-1/8″

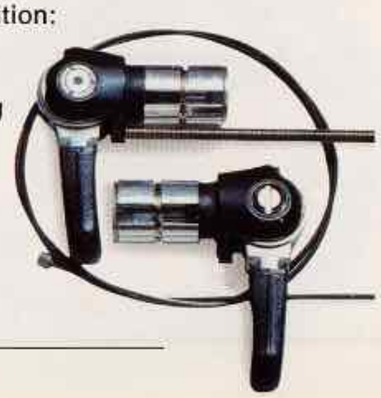


Model LD-500

DURA-ACE

SPECIFICATIONS

Weight: 5.6 oz. (160 g.)/Pair
Material: Light Alloy • Black Anodized Finish
Use: 10-speed
Attachment Position: Bar-End
Type: With Spiral Spring (Balance Spring)



Cable Parts

Model KA-100

CABLE GUIDE

SPECIFICATIONS

Material: Steel
Clamp Diameter: 1-1/8″
Use: 10-speed

Model KA-110

OUTER STOPPER

SPECIFICATIONS

Material: Steel
Clamp Diameter: 5/8″

Model KB-110

Material: Steel
Clamp Diameter: 1-1/8″
Use: 10-speed and Bar-End Control



Brazed on Parts

Model KA-300

CABLE GUIDE

SPECIFICATIONS

Material: Steel

Model KA-310

OUTER STOPPER

SPECIFICATIONS

Material: Steel

Model KA-320

LEVER AXLE

SPECIFICATIONS

Material: Steel



DURA-ACE Black Series



Front Chainwheel

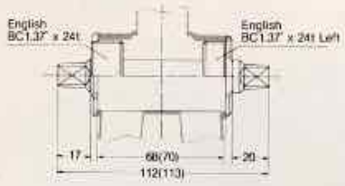
Model GA-200 (A Type/without B.B. Set)
GA-210 (B Type/without B.B. Set)
GB-100 (Bottom Bracket Set)

DURA-ACE

SPECIFICATIONS

Material: Super Duralumin
• Anodized Finish
Type: Cotterless
Chain Ring: 1/2″ x 3/32″ Chain (2mm.)
Teeth:
B Type (Extra Light Weight Chain Ring)/
Inner Chain Ring 42, 43, 44, 45T
Outer Chain Ring 50, 51, 52, 53T
A Type/
Inner Chain Ring 39T～48T
Outer Chain Ring 48T～55T
Crank Lengths: 6-1/2″ (165mm.), 6-3/4″ (170mm.), 6-7/8″ (175mm.)
Available by request 6-19/32″ (167.5mm.), 6-13/16″ (172.5mm.)
Crank Thread: 9/16″ x 20t
Cup Thread: English 1.37″ x 24t, French 35 x 1.0, Italian 36 x 24t
Material of Chain Ring:
B Type / Extra Super Duralumin (For Serious Racing) • Extra Light Weight Chain Ring
A Type / Duralumin (For Touring & Light Racing)/ Available by request Extra Super Duralumin (For Serious Racing)
Option: Super Polished Ball Race

Spindle Length: [Unit: mm.]





new
Extra Light Weight Chain Ring

Multiple Freewheel

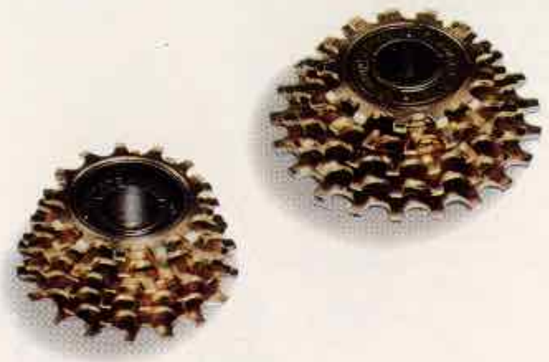
Model FA-100 (5-speed)
FA-110 (6-speed)

DURA-ACE

SPECIFICATIONS

Standard Sprocket: 1/2″ x 3/32″ Chain (2mm.)
Thread: 1.37″ x 24 T.P.I. (English)
Available by request 35 x 1.0 (French)
Sprocket: Golden Finish
Polished Ball Race
Standard Sprocket Combinations:

5-speed	13, 15, 17, 19, 21T
	14, 16, 18, 20, 22T
	15, 17, 19, 21, 24T
6-speed	13, 14, 15, 16, 17, 18T
	13, 15, 17, 19, 21, 23T





Chain

Model QA-110

DURA-ACE UG

UNIGLIDE new

SPECIFICATIONS

Material: Outer & Inner Plate/Steel, Link Pin/Bearing Steel • Special Surface Treatment, Bush/Chromium Molybdenum Steel
Surface Treatment: Roller Link Plate/Nickel Finish, Pin Link Plate/ Nickel Finish
Type: Roller Chain







Standard Chain Ring

Light Alloy Hub

Model HA-100: Small Flange Hub

DURA-ACE

SPECIFICATIONS

Weight: Front 7.8 oz. (220 g.)
: Rear/5-speed/10.8 oz. (305 g.)
: Rear/6-speed/10.9 oz. (310 g.)

Model HA-200: Large Flange Hub

DURA-ACE

SPECIFICATIONS

Weight: Front 9.2 oz. (260 g.)
: Rear/5-speed/11.6 oz. (330 g.)
: Rear/6-speed/11.8 oz. (335 g.)
Material: Duralumin • Anodized Finish
Type: Quick release
Thread: 1.37″ x 24 T.P.I. (English)
Available by request 35 x 1.0 (French)
Over Lock Nut Dimensions: Front 3.94″ (100mm.)
Rear/5-speed/4.72″ (120mm.)
Rear/6-speed/4.96″ (126mm.)
Spoke Holes: 28H, 36H
Available by request 24H, 32H, 40H
Polished Ball Race

Caliper Brake

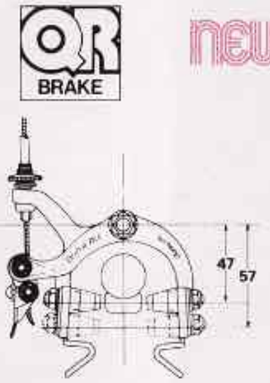
Model BA-100

DURA-ACE

SPECIFICATIONS

Weight: Front 6.9 oz. (195 g.)
: Rear 6.8 oz. (193 g.)
Material: Duralumin • Anodized Finish
Type: Side Pull with Quick Release and Tire Guide





QR BRAKE

Brake Lever

Model MA-200

DURA-ACE

SPECIFICATIONS

Weight: 7.3 oz. (206 g.)/Pair (Including Rubber Cover)
Material: Light Alloy • Anodized Finish
Type: Hooded Lever with Rubber Cover Lever Clamp
Diameter: 23.8mm. Drilled Out Finish

new



Fork Ends

Model NB-200

SHIMANO-UF

SPECIFICATIONS

Weight: 5.7 oz. (161 g.) /Including Front & Rear
Material: Steel
Type: Road Type
With Adjusting Bolt (2mm.)
Specially Ground Hub Connection Face

new





Model NB-100

SHIMANO-SF

SPECIFICATIONS

Weight: 8.8 oz. (250 g.) /Including Front & Rear
Material: Steel
Type: Road Type
With Adjusting Bolt
Specially Ground Hub Connection Face

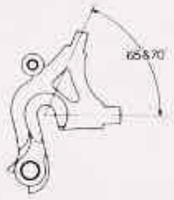


Model NB-120

SHIMANO-SFR

SPECIFICATIONS

Weight: 5.2 oz. (147 g.) /Rear Only
Material: Steel
Type: Touring Type
Vertical Drop Out
Specially Ground Hub Connection Face



Outer Band

Model KA-210

OUTER BAND

SPECIFICATIONS

Material: Steel
Clamp Diameter: 1″



Pump Holder

Model KD-100

PUMP HOLDER

SPECIFICATIONS

Material: Steel
Clamp Diameter: 1-1/8″



DURA-ACE Black Series





Head Parts

Model UA-100

DURA-ACE

SPECIFICATIONS

Material: Chromium Bearing Steel (Main Parts)
Type: Road Type
Polished Ball Race

SHIMANO
DURA-ACE
System Compo Series

The Racing Components Professionals Choose.

When sprinting at top speed a 10th of a second equals about 15 feet...too big a gap to close against a good competitor. To shave off those fractions of a second the pro sprinter must use the lightest but strongest possible equipment.

Dura-Ace track components are already the choice of the best professionals in the world. John Nicholson, twice world champion, has ridden to his titles both times on Dura-Ace. Four thousand track cyclists in Japan's Keirin, the Japanese professional sprinting sport, are also testimony of the fact that when you make your living on the bike you must use equipment that keeps you in business.

Dura-Ace track products are constructed of "super duralumin 75S", an alloy so light and strong that it is rarely used for bicycle components because of its difficulty to form. Shimano's advanced metallurgical techniques, including the cold-forging process, have overcome the obstacles and produced the best track products available.

Dura-Ace Track means performing at your best.



DURA-ACE SERIES TRACK ENSEMBLE

Front Chainwheel

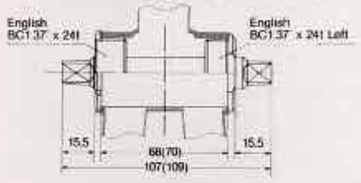
Model GA-100 (without Bottom Bracket Set)
GB-100 (Bottom Bracket Set)

DURA-ACE

SPECIFICATIONS

Material: Extra Super Duralumin • Anodized Finish
Type: Cotterless
Chain Ring: 1/2″ x 1/8″ Chain
Teeth: 45T～52T
Crank Lengths: 6-1/2″ (165mm.), 6-3/4″ (170mm.), 6-7/8″ (175mm.)
Available by request 6-19/32″ (167.5mm.), 6-13/16″ (172.5mm.)
Crank Thread: 9/16″ x 20t
Cup Thread: English 1.37″ x 24t, French 35 x 1.0, Italian 36 x 24t
Option: Super Polished Ball Race

Spindle Length: [Unit: mm.]





Sprocket for Track Hub

Model FA-200

DURA-ACE

SPECIFICATIONS

Material: Chromium Molybdenum Steel/ Extra Super Duralumin • Special Surface Treatment
Standard Sprocket: 1/2″ x 1/8″ Chain
Thread: 1.37″ x 24 T.P.I.
Teeth: 13T, 14T, 15T, 16T



Weight:

	Light Alloy	Steel
13T	0.39 oz. (11.0 g.)	1.06 oz. (30.1 g.)
14T	0.48 oz. (13.5 g.)	1.34 oz. (38.0 g.)
15T	0.55 oz. (15.7 g.)	1.67 oz. (47.3 g.)
16T	0.63 oz. (18.0 g.)	1.89 oz. (53.5 g.)



Front & Rear Hubs with Lock Ring

Model HA-300

DURA-ACE

SPECIFICATIONS

Weight: Front 8.5 oz. (240 g.) Rear 11.0 oz. (313 g.)/Including Lock Ring
Material: Duralumin • Anodized Finish
Type: Solid Axle
Thread: 1.37″ x 24 T.P.I.
Over Lock Nut Dimensions:
Front 3.94″ (100mm.)
Rear 4.33″ (110mm.), 4.72″ (120mm.)
Fork End Slot Width:
Front 0.35″ (9mm.), 0.31″ (8mm.)
Rear 0.39″ (10mm.), 0.31″ (8mm.)
Spoke Holes: 28H, 32H, 36H
Lock Ring Thread: 1.29″ x 24 T.P.I. (Left)
Super Polished Ball Race



Fork Ends

Model NC-100

SHIMANO-SFP

SPECIFICATIONS

Material: Steel
Fork End Slot Width:
Front 0.35″ (9mm.), 0.31″ (8mm.)
Rear 0.39″ (10mm.), 0.31″ (8mm.)
Specially Ground Hub Connection Face—on Both Sides





Head Parts

Model UA-200

DURA-ACE

SPECIFICATIONS

Material: Chromium Bearing Steel (Main Parts)
Polished Ball Race





SHIMANO 600 System Compo Series

Built To Withstand The Demands Of Club Racing And The Rigors Of Touring

Recreational cycling requires reliable components which are light in weight, but rugged enough to perform under all types of road conditions. The Shimano-600 Series was created with these needs in mind. Special attention has been given to the design of the components to deliver the maximum in performance and reliability. Cold forging has been used to form those parts which must withstand maximum stress. Other parts, like the cages of the derailleurs, have been heat treated to a satin finish to reduce wear and increase the components' life.

No detail was overlooked in creating the 600 Series. The side pull caliper brakes are designed to allow for the mudguards of a touring bicycle. The cotterless crankset uses a three-pin design to allow the cyclist the choice of chainrings from 30 to 53 teeth.

The 600 Series gives the club cyclist many of the features of Dura-Ace, but at a reduced cost.

Good looking. Top performers. The Shimano-600 Series. For those cyclists who want the best out of their machines.



SHIMANO-600 SERIES ROAD & TOURING ENSEMBLE

Rear Derailleur

Model DC-200

SHIMANO-600

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 8.3 oz. (235 g.)
Material: Light Alloy • Anodized Finish (Body)
: Steel • Satin Nickel Finish (Cage Plate)
Type: Servo Panta Mechanism
Option: Adaptor



Model DC-210

SHIMANO-600GS

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 8.8 oz. (250 g.)
Material: Light Alloy • Anodized Finish (Body)
: Steel • Satin Nickel Finish (Cage Plate)
Type: Servo Panta Mechanism
Option: Adaptor



Front Derailleur

Model EC-600

SHIMANO-600

SPECIFICATIONS

Capacity: 14 Teeth or Less
Weight: 4.7 oz. (133 g.)
Material: Steel • Satin Nickel Finish (Body and Chain Guide)
: Light Alloy • Anodized Finish (Clamp)
Type: Lower Inlet Type 1-1/8″ Panta Mechanism



Shifting Lever

Model LB-600

SHIMANO-600

SPECIFICATIONS

Weight: 3.6 oz. (103 g.)
Material: Light Alloy
Type: One Way Clutch
Attachment Position: Down Tube
Lever Clamp Diameter: 1-1/8″

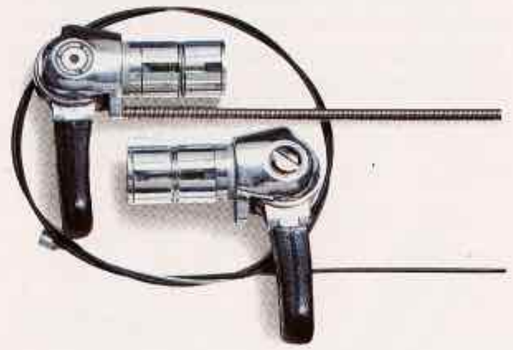


Model LD-500

SHIMANO-600

SPECIFICATIONS

Weight: 5.6 oz. (160 g.)/Pair
Material: Light Alloy • Anodized Finish
Attachment Position: Bar-End
Type: With Spiral Spring (Balance Spring)



Model LB-180

QB-LEVER DX

SPECIFICATIONS

Weight: 3.1 oz. (88 g.)
Material: Light Alloy
Type: Friction Type
Attachment Position: Down Tube
Lever Clamp Diameter: 1-1/8″



Cable Parts

Model KB-160

CABLE GUIDE

SPECIFICATIONS

Material: Steel
Clamp Diameter: 1-1/8″
Use: 10-speed



Model KA-110

OUTER STOPPER

SPECIFICATIONS

Material: Steel
Clamp Diameter: 5/8″



Model KB-110

OUTER STOPPER

SPECIFICATIONS

Material: Steel
Clamp Diameter: 1-1/8″
Use: 10-speed and Bar-End Control



Brazed on Parts

Model KA-300

CABLE GUIDE

SPECIFICATIONS

Material: Steel



Model KA-310

OUTER STOPPER

SPECIFICATIONS

Material: Steel



Model KB-300 (FOR QB-LEVER DX)
Model KB-310 (FOR SHIMANO-600)

LEVER AXLE

SPECIFICATIONS

Material: Steel



KB-300

KB-310

Front Chainwheel

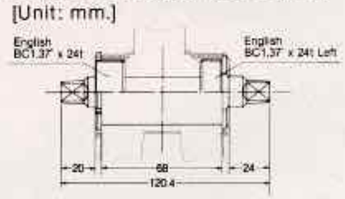
Model GC-100 (Double/without B.B. Set)
GC-300 (Triple/without B.B. Set)
GB-200 (Bottom Bracket Set)
GB-300 (Bottom Bracket Set)

SHIMANO-600

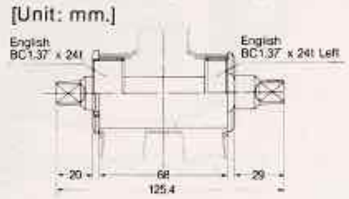
SPECIFICATIONS

Material: Duralumin • Anodized Finish
Type: Cotterless
Chain Ring: 1/2″ x 3/32″ Chain (2 mm.)
Teeth: Double/30T～53T
Triple/Inner 30T～32T
Middle 42T～45T
Outer 48T～52T
Crank Lengths: 6-1/2″ (165mm.), 6-3/4″ (170mm.)
Crank Thread: 9/16″ x 20t
Cup Thread: English 1.37″ x 24t,
French 35 x 1.0, Italian 36 x 24t
Material of Chain Ring: Super Duralumin
Available by Request: Triple Sprocket
Crank Safety Design—For ankle protection

Spindle Length (Double):
[Unit: mm.]



Spindle Length (Triple):
[Unit: mm.]





GB-200



GB-300



Crank Safety Design—For ankle protection

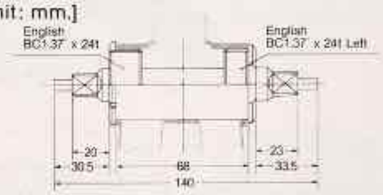
Model GC-110 (5-Arm Double /Without B.B. Set)
GB-200 (Bottom Bracket Set)
GB-300 (Bottom Bracket Set)

SHIMANO-600

SPECIFICATIONS

Material: Duralumin • Anodized Finish
Type: Cotterless
Chain Ring: 1/2″ x 3/32″ Chain (2mm)
Teeth: Inner Chain Ring 39T～48T
Outer Chain Ring 48T～55T
Crank Length: 6-1/2″ (165mm.), 6-3/4″ (170mm.)
Crank Thread: 9/16″ x 20t
Cup Thread: English 1.37″ x 24t,
French 35 x 1.0, Italian 36 x 24t
Material of Chain Ring: Duralumin
Crank Safety Design—For ankle protection

new **Spindle Length (5-Arm/Double) :**
[Unit: mm.]



Multiple Freewheel

Model FD-100 (Black/5-speed)
FD-200 (Black/6-speed)
FD-110 (Silver/5-speed)
FD-210 (Silver/6-speed)

SHIMANO-600 UG

SPECIFICATIONS

Standard Sprocket: 1/2″ x 3/32″ Chain
Sprocket: Black/Black Finish,
Silver/Satin Nickel Finish
Standard Sprocket Combinations:

5-speed	13, 14, 15, 16, 17T
	13, 15, 17, 19, 21T
	14, 16, 18, 21, 24T
6-speed	13, 14, 15, 16, 17, 18T
	13, 14, 15, 17, 19, 21T

new UNIGLIDE





Chain

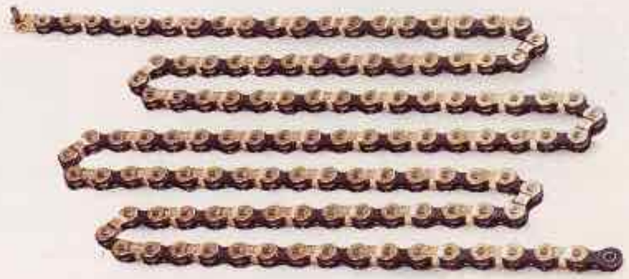
Model QA-400

SHIMANO-600 UG

SPECIFICATIONS

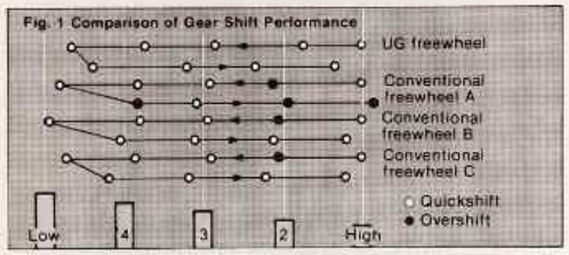
Material: Steel
Surface Treatment:
Roller Link Plate/Black Finish
Pin Link Plate/Golden Finish
Type: Roller Chain

UNIGLIDE



Features of the UG Freewheel:

1. Sure and Smooth Gear Changes—
The teeth of the UG Freewheel are twisted to run parallel with the direction of the chain, when it is moving from high to low gear. This allows the chain to disengage the freewheel teeth without hindrance and to move in perfect alignment to the next gear. Conversely, when shifting from low to high gear, the teeth are at cross angles to the chain's movement, thereby eliminating the problem of the chain slipping back.

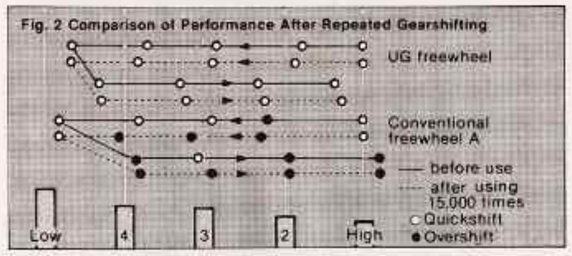


The above illustrates a high to low and back again gear changing sequence between the UG Freewheel and 3 other types of freewheel. The white circles indicate the chain's gear change completion points. These are all prior to the sprocket's central line, the maximum point at which an accurate gear change can be made. The black circles are beyond the central lines and therefore indicate overshifts.

2. Overshifting Eliminated—
Because gearshift completion points are all before the sprockets' central lines, see Fig. 1, overshifts are no longer necessary with the UG Freewheel. Also, because of the regular shifting pattern, the gear lever can achieve accurate gear changes each time by moving the prescribed distance between each completion point.

3. Accurate Shifting Even on Inclines—
Changing gears while climbing hills, especially with a close gear ratio, can be effected with utmost efficiency.

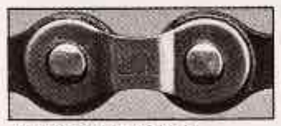
4. Longer, High Gear Performances—
Reduced friction means less wear on the gear teeth and thus prevents a decline in performance. Tests prove that the UG Freewheel maintains a consistently high performance even after repeated use.



The above illustrates the consistency of the UG Freewheel when compared with a conventional freewheel. As seen, by the time 15,000 shifts have been made the conventional freewheel requires to overshift constantly. However, the UG Freewheel continues to make accurate gearshifts.

5. Quiet Gear Changes—
The quickness of the gear change cuts down the amount of friction and thus the level of irritating noise is considerably reduced.

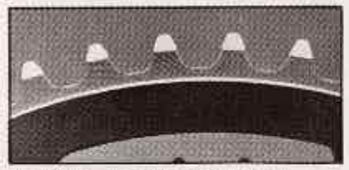
6. Doubles the Service Life of the Drive Train—
The speed and accuracy of the UG Chain in changing gears minimizes overall friction and helps double the life of all related parts.

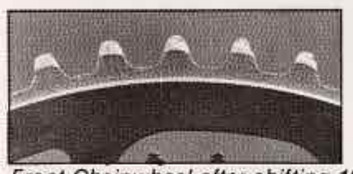

Unused UG Chain

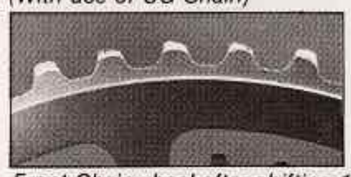

Unused Conventional Chain


UG Chain after shifting 10,000 times.


Conventional Chain after shifting 10,000 times.


Unused Front Chainwheel


Front Chainwheel after shifting 10,000 times. (With use of UG Chain)


Front Chainwheel after shifting 10,000 times. (With use of Conventional Chain).

7. More Stable Deflection—
A stable deflection is necessary for the ease with which the chain effects its lateral movement. The Uniglide Chain is able to achieve this necessary stability for gearchanges over an extended period of time, far in excess of a conventional chain whose performance soon deteriorates.

Model QA-410

SHIMANO-600UG

SPECIFICATIONS

Material: Steel
Surface Treatment:
Roller Link Plate/Black Finish
Pin Link Plate/Satin Nickel Finish
Type: Roller Chain

new

UNIGLIDE



Features of the Uniglide Chain:

1. Outstanding Gearshifting Performance—
The widened outer plates of the chain allow contact with the sprocket teeth at the same time as the chain pins for smooth engagement.

2. Quick and Sure Gearshifting—
Because of the resulting faster engagement, the UG Chain responds perfectly to the complex movement of multi-speed bicycles.

3. Overshifting Eliminated—
The UG Chain completes each shift so precisely, the need to overshift is eliminated.

4. Sure and Smooth Shifting on Inclines—
Even when climbing hills under great tension, the chain still maintains a high performance.

Light Alloy Hub

Model HB-100 (Large Flange Hub)

SHIMANO-600

SPECIFICATIONS

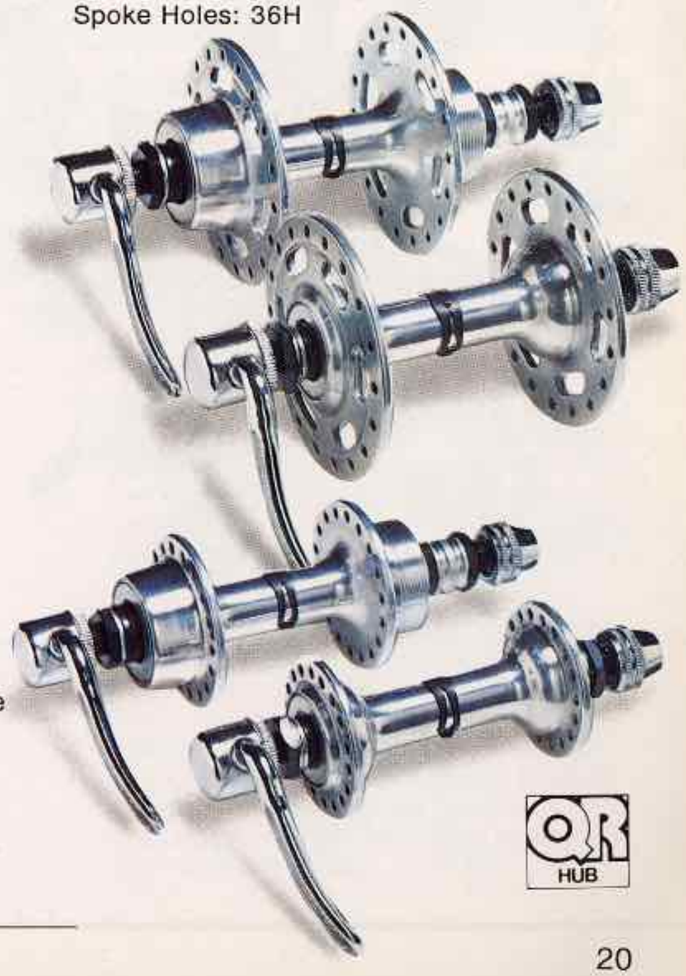
Weight: Front 9.7 oz. (275 g.)
: Rear 12.4 oz. (350 g.)/5-speed
12.5 oz. (355g.)/6-speed

Model HB-200(Small Flange Hub)

SHIMANO-600

SPECIFICATIONS

Weight: Front 8.3 oz. (235 g.)
: Rear 12.0 oz. (340 g.)/5-speed
12.2 oz. (345 g.)/6-speed
Material: Light Alloy
Type: Quick Release
Thread: 1.37″ x 24 T.P.I. (English)
Over Lock Nut Dimensions:
Front 3.94″(100mm.),
Rear 4.72″(120mm.)/5-speed
4.96″(126mm.)/6-speed
Spoke Holes: 36H



Caliper Brake

Model BB-300
SHIMANO-600
SPECIFICATIONS
Weight: Front 5.6 oz. (159 g.)
: Rear 5.5 oz. (157 g.)
Material: Light Alloy • Anodized Finish
Type: Side pull with Quick Release
and Tire Guide
Size: A-A′ (43mm.～57mm.)

QR BRAKE

Model BB-400
SHIMANO-600
SPECIFICATIONS
Material: Light Alloy • Anodized Finish
Type: Center Pull with
Link Mechanism

Type	A-A′	Weight (Pair)
CC-62	47mm.—62mm.	12.6 oz. (360 g.)
CC-75	57mm.—75mm.	12.95 oz. (370 g.)







Model BE-100
SHIMANO-600
SPECIFICATIONS
Weight: 11.9 oz. (338 g.)
Material: Light Alloy and Steel
Type: Cantilever Brake
With Brake Mounting Shaft
Option: Cable Hanger



Outer Band

Model KA-210
OUTER BAND
SPECIFICATIONS
Material: Steel
Clamp Diameter: 1″



Brake Lever

Model MB-200
SHIMANO-600
SPECIFICATIONS
Weight: 7.4 oz. (209 g.)/Pair
(Including Rubber Cover)
Material: Light Alloy • Anodized Finish
Type: Hooded Lever with Rubber Cover
Drilled Out Finish
Lever Clamp Diameter: 23.8mm.



Model MB-210
SHIMANO-600
SPECIFICATIONS
Weight: 7.5 oz. (212 g.)/Pair
(Including Rubber Cover)
Material: Light Alloy • Anodized Finish
Type: Hooded Lever with Quick Release
and Rubber Cover
Lever Clamp Diameter: 23.8mm.



QR BRAKE LEVER

SHIMANO 600 System Compo Series

Fork Ends

Model ND-100

SHIMANO-LF

SPECIFICATIONS



Weight: 8.2 oz. (235 g.)/Including Front & Rear
Material: Steel
Option: Axle Stopper Set

Model NF-100

SHIMANO-PR

SPECIFICATIONS



Weight: 4.4 oz. (127 g.)/Rear Only
Material: Steel
Type: Vertical Drop Out



Model WE-100

COLOR OUTER CASING

SPECIFICATIONS

Color: Red, Yellow, Green, Blue, Dark Blue

new



Shimano Components and the World of Racing.

Shimano's splendid array of bicycle components are used widely throughout the world by a vast cross section of bicycle users. Our success as the world's largest bicycle components manufacturer testifies to the thoroughness of the Shimano approach. Through research and development we devise the parts and then manufacture them utilizing the most up-to-date technology. The ultimate test is when we race our components under the severest of conditions in the



Cees Stam (Holland)

arenas of the world's major cycling events. It is from the way in which they perform that we can continue to innovate and improve for the benefit of all our products.

Riders from all over the world are engaged in racing our components. Teams in the United States and Shimano's Japan Team. In Europe, the formidable Shimano/Ketting Team of Holland and from Germany, the amateur riders led by 4 time West German Sprint Champion Hans



Ueli Sutter (Switzerland)

Michalski: Pro Road Racers Ueli Sutter and Roland Salm of Switzerland and Britain's 13 time Cyclo-Cross Champion John Atkins. In the 1977 World Championships, two racers from Holland made a clean sweep of the Motor-Paced (Demi-Fond) event at professional and amateur levels. Cees Stam, 3 time World Professional Champion, and Gabii Mineboo, Montreal Olympic Champion, both used Shimano components—Dura-Ace10mm pitch. Not a surprising choice by



John Atkins (United Kingdom)



Eric Visschers (Holland)

two men who have dominated their events over the years. Choosing the right components can be just as critical in winning world championships as the drive and determination of the racers themselves.

The durability and endurance required of components for Motor-Paced racing give way to the strength and responsiveness needed for sprint racing. In sprinting we can witness the drama of human performance allied to the wonder of mechanical perfection; incorporating as they do the vital forces of "human-power" and "machine-power". The sprint riders must pit enormous strength combined with strategy against each other, while at the same time working in perfect harmony with the bicycle: a machine fashioned from the platforms of technology and experience. Under the powerful, churning legs of Australian John Nicholson, Shimano's Dura-Ace10 has twice ridden to World Titles in 1975 and 1976.



Roland Salm (Switzerland)

Because of these experiences we make better components in all classes of Shimano products. Our Dura-Ace Systems and the 600 Series are examples of the perfection we are producing. Over half-a-century of technology and experience has gone into their manufacture. Shimano, the originator of the now famous "System Components", continues to lead the industry with its enlightened outlook towards the bicycle's future.

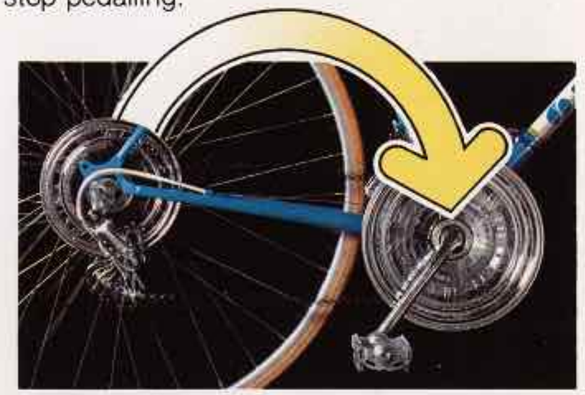


John Nicholson (Australia)

FRONT FREEWHEELING
FF
SYSTEM

Freewheel Moves Up Front For Foolproof Shifting

Shimano's FF (Front Freewheel) System moves the freewheel mechanism up to the chainwheel—where you pedal. This allows the chain to revolve even when your feet stop pedalling.



Now you can shift effortlessly. Smooth FF System shifting can be done while coasting, back-pedalling, even with your feet off the pedals! The FF System is a new standard of 10-speed gear shifting performance.

The FF System is the result of Shimano's research on the problems of 10-speed gear-changes. The 10-speed bicycle has gained prominence as a recreational and transportational vehicle. Both young and old enjoy the convenience of multi-speeds, but many new riders have difficulty shifting correctly.

Now with the FF System anyone can ride and enjoy the benefits of a multi-speed bicycle.

FRONT FREEWHEELING
FF
SYSTEM

FF SYSTEM

Front Chainwheel



new

For One-piece Crank
DOUBLE CHAINWHEEL
Model GF-210
INTEGER
SPECIFICATIONS
Use: FF System Only
Material: Steel
Standard Sprocket Teeth:
Inner Chain Ring 39T
Outer Chain Ring 52T
Chain Ring: 1/2″x 3/32″ Chain (2mm.)
Without Bottom Bracket Set and Crank
available SINGLE CHAINWHEEL

Bottom Bracket Set
(Freewheel Mechanism)
Model GG-100
SPECIFICATIONS
Type: One-Piece Crank
Material: Steel

For Three-Piece Crank
DOUBLE CHAINWHEEL
Model GF-400
SPECIFICATIONS
Use: FF System Only
Material: Steel
Standard Sprocket Teeth:
36T-48T • 40T-52T
Chain Ring: 1/2″ x 3/32″ Chain (2mm.)
Without Bottom Bracket Set and Crank

DOUBLE CHAINWHEEL
Model GF-410
INTEGER
SPECIFICATIONS
Use: FF System Only
Material: Steel
Standard Sprocket Teeth:
Inner Chain Ring 39T
Outer Chain Ring 52T
Chain Ring: 1/2″ x 3/32″ Chain (2mm.)
Without Bottom Bracket Set and Crank

DOUBLE CHAINWHEEL
Model GF-420
SPECIFICATIONS
Use: FF System Only
Material: Steel
Standard Sprocket Teeth:
Inner Chain Ring 40T
Outer Chain Ring 52T
Chain Ring: 1/2″ x 3/32″ Chain (2mm.)
Without Bottom Bracket Set and Crank

DOUBLE CHAINWHEEL
Model GF-440
SPECIFICATIONS
new
Use: FF System Only
Material: Outer Chain Ring/Light Alloy, Inner Chain Ring & Protector/Steel
Standard Sprocket Teeth: Inner Chain Ring 40T
Outer Chain Ring 52T
Chain Ring: 1/2″ x 3/32″ Chain (2mm.)
Without Bottom Bracket Set & Crank
available SINGLE CHAINWHEEL

Bottom Bracket Set & Crank
Model GG-200, GG-210
SPECIFICATIONS
Type: Three-Piece Crank, Cottered
Crank Length: 6-1/2″ (165mm.)
Cup Thread: 1.37″ x 24 T.P.I.
Material of Crank:
Steel (Model GG-200)
Light Alloy(Model GG-210)



Model GG-320
SPECIFICATIONS
Type: Three-Piece Crank, Cotterless
Crank Length: 6-1/2″ (165mm.)
Cup Thread: 1.37″ x 24 T.P.I.
Material of Crank: Light Alloy
Spindle Taper Angle: 3 Degrees

new



Model FF-300
UNIGLIDE
FRICTION FREEWHEEL
SPECIFICATIONS
Use: FF System Only
Standard Sprocket: 1/2″ x 3/32″ Chain (2mm.)
Thread: 1.37″ x 24 T.P.I.
Standard Sprocket Combinations:

5-speed	14, 17, 20, 24, 28T
	14, 17, 21, 26, 32T

new
UNIGLIDE



Rear Derailleur
Model DC-400F
SHIMANO-400FF
SPECIFICATIONS
Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 11.1oz. (315g.)
Material: Light Alloy and Steel
Type: Servo Panta Mechanism with Pre-Select



Model DE-100F
EAGLE-II,
SPECIFICATIONS
Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 12.3 oz. (350 g.)
Material: Steel
Type: Pre-Select Mechanism with Servo Panta Mechanism



Model DD-100F
LARK-II
SPECIFICATIONS
Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 10.5 oz. (298 g.)
Material: Steel
Type: Pre-Select Mechanism with Servo Panta Mechanism



Positron Rear Derailleurs can be used with FF System.

NEW POSITRON
PPS
SYSTEM

Positive and Pre-Select Shifting System

Multiple speeds make a bicycle both fun and easy to ride. Cyclists can ride over varied terrain with minimum effort by using the proper gear. However, shifting a derailleur requires a certain amount of skill.....skill that usually comes with practice. But many people will not even consider using a 10-speed bicycle because shifting gears sounds



too complicated.

However, gear shifts were simplified recently when Shimano introduced the Positron PPS System. The Positron derailleur centers the gear automatically. Thus, the guess-work of shifting is eliminated.

The introduction of a numbered gear lever means the rider can now accurately pre-select a gear at any time, and always know which one is engaged.

The all new PPS (Positive Pre-Select) System is the perfect answer, to trouble-free multi-speed cycling.

POSITRON
PRE-SELECT

NEW POSITRON PPS SYSTEM

Rear Derailleur

Model DG-300

POSITRON-400

SPECIFICATIONS

Use: PPS System & FF System Only
Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 11.3 oz. (320 g.)
Material: Light Alloy • Steel
Type: Positive Mechanism with Pre-Select Mechanism and Servo Panta Mechanism



Model DG-200

POSITRON-II

SPECIFICATIONS

Use: PPS System & FF System Only
Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 10.9 oz. (310 g.)
Material: Steel
Type: Positive Mechanism with Pre-Select Mechanism and Servo Panta Mechanism



*For Single Front Chainwheel, Rear Largest Sprocket/32T Available
*For Double Front Cahinwheel **POSITRON-II32** (Model DG-220) for Use with (Rear Largest Sprocket) 32T Only Available by Request

Shifting Lever

Model LE-410

POSITRON CONSOLE-II

SPECIFICATIONS

Use: PPS System Only
Material: Resin (Body)
Type: Click
: Single Lever
Attachment Position: Top Tube
Lever Clamp Diameter: 1″

new



Model LE-610

POSITRON STEM-CONSOLE

SPECIFICATIONS

Use: PPS System Only
Material: Resin (Body)
Type: Click
: Single Lever
Attachment Position: Top of Handle Stem



Model DG-210

POSITRON-EM

SPECIFICATIONS

Use: PPS System & FF System Only
: POSITRON-EM Lever Only
Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/32 Teeth or Less
Weight: 10.9 oz. (310 g.)
Material: Steel
Type: Positive Mechanism with Pre-Select Mechanism and Servo Panta Mechanism



Model LB-700

POSITRON DOWN TUBE

SPECIFICATIONS

Use: PPS System Only
Material: Light Alloy
Type: Friction Type
Attachment Position: Down Tube
Lever Clamp Diameter: 1-1/8″



Model LC-410

POSITRON STEM

SPECIFICATIONS

Use: PPS System Only
Material: Resin
Type: Friction Type
Attachment Position: Handle Stem
Lever Clamp Diameter: 7/8″



Model LD-600

POSITRON-EM

SPECIFICATIONS

Use: PPS System Only
: POSITRON-EM Rear Derailleur Only
Type: Friction Type
Attachment Position: Handle-Bar
Lever Clamp Diameter: ϕ22.2mm.



Features of the PPS System

1. Gears can be "pre-selected" at anytime. A rider can "click" the derailleur into any desired gear while pedalling, coasting, or even before mounting the bicycle.



2. A "Positive Indexing Mechanism" is built into the Positron rear derailleur to automatically center the chain on the rear sprocket.



3. The Positron will remain in gear even if the cable breaks.
4. A single cable both pushes and pulls the derailleur through the gears.
5. The rider can glance at the numbered gear lever and "know" which gear is engaged (Excluding Positron Down Tube Lever).
6. The Positron works independently from the front derailleur. Therefore, it can be used on either 5 or 10 speed bicycles without difficulty.

Cable

PUSH-PULL CABLE



SHIMANO unique products

UNIQUE PRODUCTS

Model UL-100

HANDLE LOCK

SPECIFICATIONS

Weight: 10.6oz (300g)
Material: Steel • Resin
Option: Bracelet Type Keyholder

new





Option: Bracelet type keyholder

The Shimano Handle Lock is a brand new model designed to lock the bicycle by fixing the fork head tube in any one of 3 positions.

Features of the Handle Lock:

- There are 3 handle locking positions from which the rider can choose the most suitable, as seen in diagram 1. And the bicycle cannot be ridden when locked because the handlebar is fixed in one position.
2. When the bicycle is locked, the handlebar remains steady allowing easy loading of the basket.
3. The bicycle can be easily wheeled out of a crowded parking area because the lock does not interfere with the movement of the wheels.



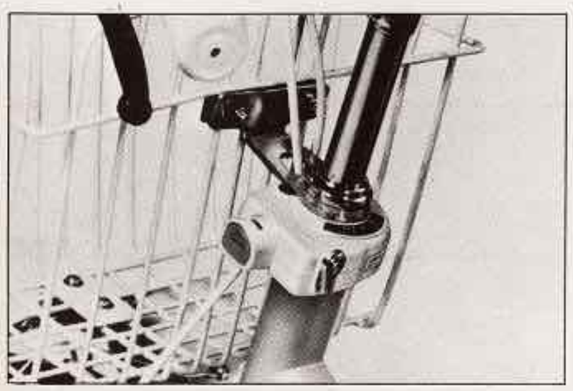
Fig. 1

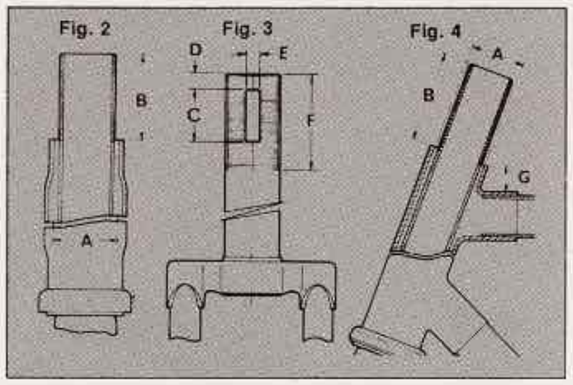
Assembly Conditions:

To assemble the Handle Lock to a bicycle, the following alterations and exact dimensions are necessary. (Fig. 2, 3, 4)

		Assembly Conditions
Head tube inside diameter	A	ø30 $^{+0}_{-0.13}$ mm (DIA. 1.181 $^{+0}_{-0.0059}$ ins.)
Fork head tube		B.C. 1 x 24 T.P.I. Inside diameter 22.2 $^{+0.15}_{+0.02}$ mm (DIA. 0.874 $^{+0.0059}_{+0.0007}$ in.)
*Protrusion of fork head tube from head tube's upper end	B	36 $^{+1}_{-0}$° mm (1.417 $^{+0.0393}_{-0}$ ins.)
		39 $^{+1}_{-0}$° mm (1.535 $^{+0.0393}_{-0}$ ins.) with Bracket for basket
Rectangle slit of fork head tube	C	22 $^{+2}_{-0}$° mm (0.866 $^{+0.0787}_{-0}$ in.)
	D	5 $^{+0}_{-0.5}$ mm (0.196 $^{+0}_{-0.0196}$ in.)
	E	6 $^{+0.1}_{-0}$ mm (0.236 $^{+0.0039}_{-0}$ in.)
Thread length of fork head tube	F	over 40 mm (1.574 ins.)
Extension of head tube upper end from top tube	G	over 15 mm (0.590 in.)

*Fork head tube should be assembled with lower cone, ball retainer and lower cup.





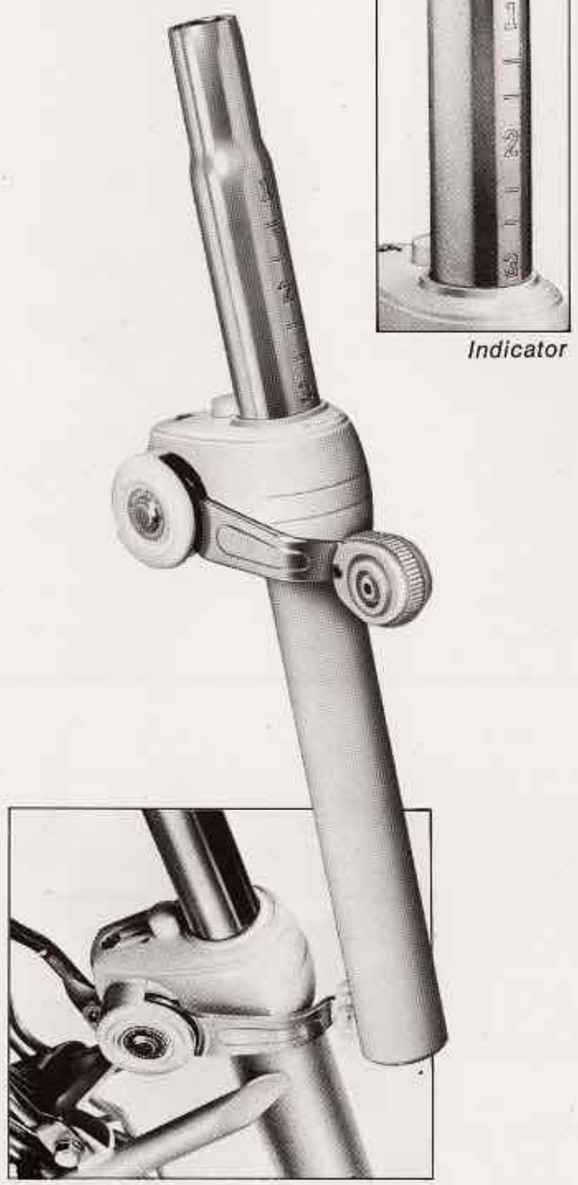
Model NJ-100

JUST SEAT

SPECIFICATIONS

Weight: 18.3oz (520g)
Material: Steel • Resin
Others: Equipped with Indicator/
Adjust Stroke 4.3″ (110mm)

new



Indicator

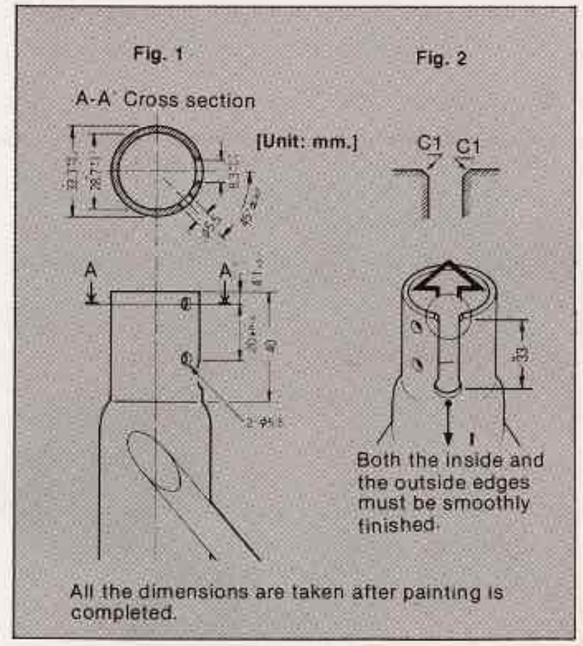
Shimano's Just Seat is an original seatpost that can be adjusted at a touch to whatever height the rider chooses.

Features of the Just Seat:

1. The saddle can be raised or lowered at a touch with an easy seat-adjust lever control. The rider can quickly take a correct riding posture.
2. Since the saddle can be easily raised or lowered, the whole family can utilize the same bike.
3. The Just Seat is equipped with an indicator which shows the height of the saddle. The rider can easily readjust the height after someone else has ridden the bicycle.
4. Simply raise the lever, and the seatpost lifts up on its own accord. This is possible because the built-in spring automatically pushes up the saddle. So even a child can control the height of the saddle.
5. A stopper attached to the seatpost prevents the saddle from wobbling while the rider is controlling its height.

Assembly Conditions:

To fit the Just Seat, the following alterations and exact dimensions are necessary.

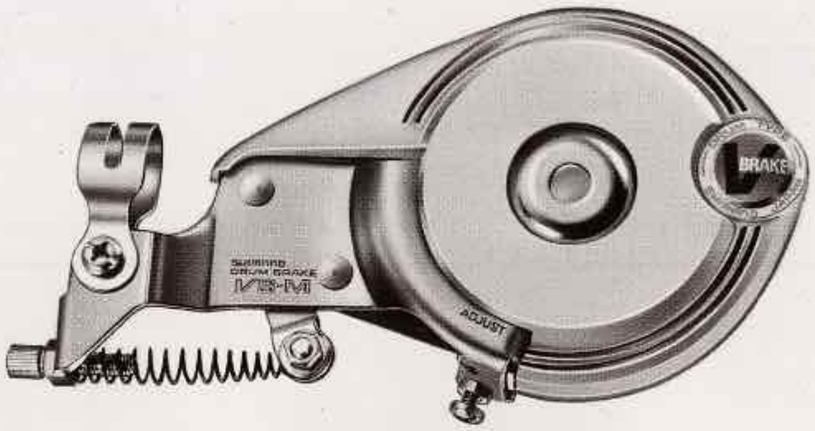


Model BV-200

V-BRAKE M

SPECIFICATIONS

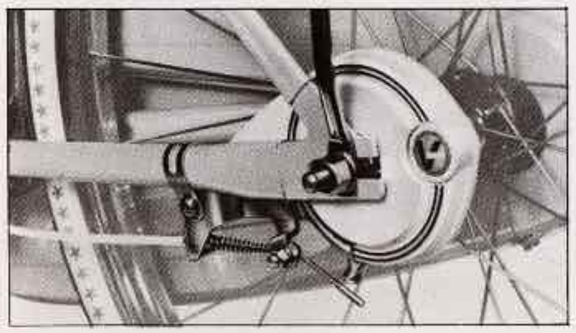
Weight: 12.5oz (355g)
Material: Steel
Type: V-Brake Mechanism

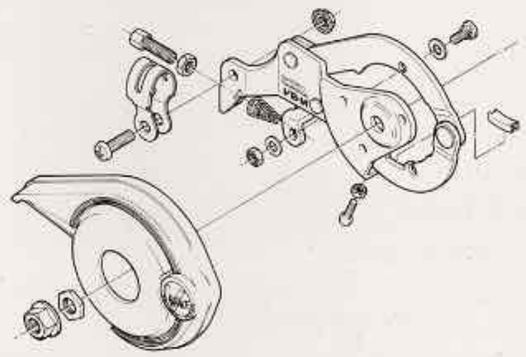


The V-Brake M, a compact brake designed for mini-cycles, is another offspring of our outstanding V-Brake mechanism.

Features of the V-Brake M:

1. Stands Up to All Kinds of Weather— It has been pointed out that a caplier brake noticeably lowers braking performance in rain. The V-Brake M displays high performance even in wet weather, guaranteeing the rider safe bicycling at all times.
2. Sure Braking When Rolling Backwards— The V-Brake secures high performance, since it is equipped with an arm functioning to tighten the drum, thus causing the bike to stop immediately.
3. Compensates for Weak Grip— The V-Brake M's new mechanism produces strong braking power compensating for the weak grip of women and children.
4. Compact and Light Weight— The V-Brake M is small and light, despite its high efficiency.





Model HE-310

HUB (For V-Brake M)

SPECIFICATIONS

Weight: 18.3oz (520g)
Material: Steel
Type: Small Flange Freehub
Over Lock Nut Dimension: 4.69″ (119mm)
Spoke Holes: 28H, 36H



Model MS-100

SOFT LM LEVER

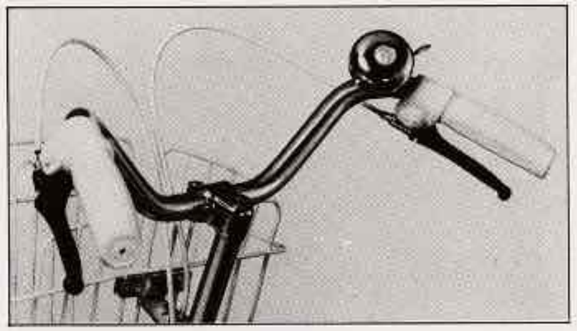
SPECIFICATIONS

Weight: Brake Lever 5.0oz (128g)/Pair
Grip 4.9oz. (124g)/Pair
Material: Brake Lever/Steel • Resin Grip/Resin

The Soft LM levers (MS-100) are soft-touch braking levers for flat handlebars. They embody major improvements of conventional braking levers which the rider will find very comfortable and safe to use.

Features of the Soft LM Lever:

1. The lever comes as a set with the grip. The grip's cover encloses protruding mounting bolts, nuts, mounting bands and rivets. The LM levers minimize bare metal exposure to improve lever handling safety.



2. The lever is fixed inside the bracket, and, as a result, minimizes bare metal exposure. (Fig. 1)
3. The grips are made of a soft and elastic material that absorbs vibrations from the road so that none reaches the rider's hands.
4. Since the levers are made of resin, they are able to slide smoothly over the wire ends, protecting them from damage. This lengthens the service life of the wires. (Fig. 2)
5. The lever ends are spherical for safety, and the levers have been widened to give a better hold, resulting in surer braking every time. (Fig. 3)

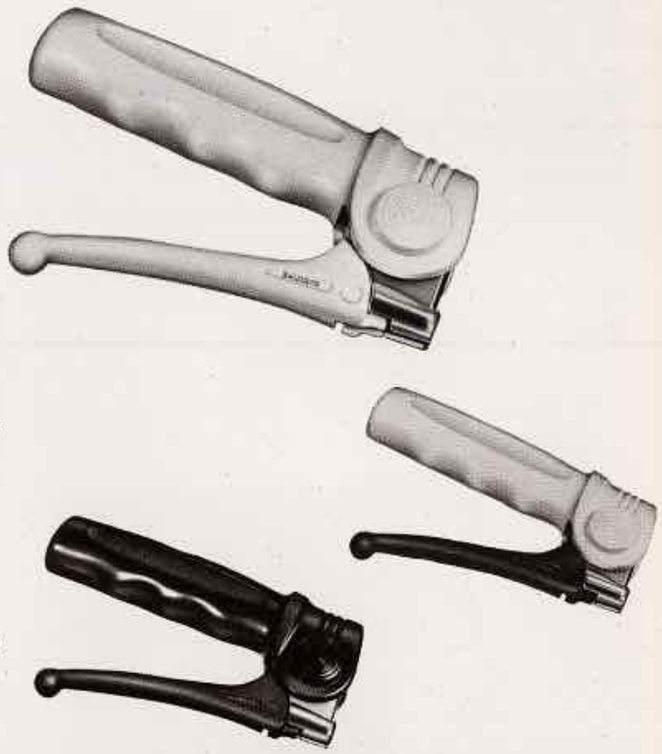


Fig. 1

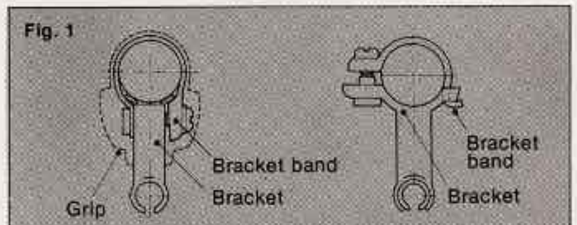


Fig. 2

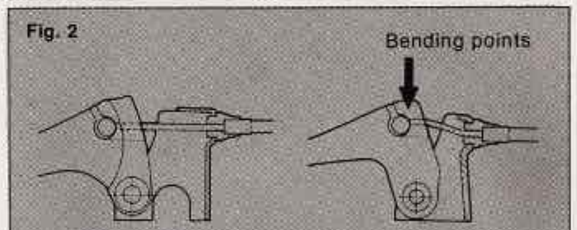
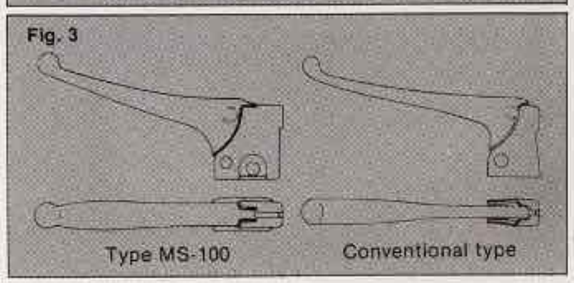


Fig. 3



SHIMANO rear derailleur

REAR DERAILLEUR

Model DC-100
SHIMANO-500
SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 10.6 oz. (300 g.)
Material: Light Alloy • Steel
Type: Servo Panta Mechanism



Model DC-110
SHIMANO-500GS
SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 11.5 oz. (325 g.)
Material: Light Alloy • Steel
Type: Servo Panta Mechanism



Model DC-400
SHIMANO-400
SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 10.5 oz. (298 g.)
Material: Light Alloy • Steel
Type: Servo Panta Mechanism



Model DC-410
SHIMANO-400GS
SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 10.3 oz. (292 g.)
Material: Light Alloy • Steel
Type: Servo Panta Mechanism



Model DB-600
TITLIST
SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 8.3 oz. (235 g.)
Material: Light Alloy (Body), Steel (Cage Plate)
Type: Servo Panta Mechanism



Model DB-610
TITLIST-GS
SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 8.8 oz. (250 g.)
Material: Light Alloy (Body), Steel (Cage Plate)
Type: Servo Panta Mechanism



Model DB-400

TOURNEY

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/28 Teeth or Less
Weight: 10.5 oz. (298 g.)
Material: Light Alloy • Steel
Type: Servo Panta Mechanism



Model DB-410

TOURNEY-GS

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 10.3 oz. (292 g.)
Material: Light Alloy • Steel
Type: Servo Panta Mechanism



Model DE-100F

EAGLE-II

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 12.3 oz. (350 g.)
Material: Steel
Type: Pre-Select Mechanism with Servo Panta Mechanism



Model DD-100F

LARK-II

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 10.5 oz. (298 g.)
Material: Steel
Type: Pre-Select Mechanism with Servo Panta Mechanism



Model DC-300

SHIMANO-100

SPECIFICATIONS

Capacity: Rear Largest Sprocket/28 Teeth or Less
Weight: 6.6 oz. (188 g.)
Material: Steel
Type: Servo Panta Mechanism
Use: 5-speed Only



Model DD-510

SKY LARK

SPECIFICATIONS

Capacity: Front Difference/14 Teeth or Less
: Rear Largest Sprocket/34 Teeth or Less
Weight: 10.3 oz. (292 g.)
Material: Steel
Type: Servo Panta Mechanism



Model DD-400

LARK-MINI

SPECIFICATIONS

Capacity: Rear Largest Sprocket/28 Teeth or Less
Weight: 6.6 oz. (187 g.)
Material: Steel
Type: Servo Panta Mechanism
Use: 5-speed Only



Capacity

A. Front Derailleur Capacity

This represents the range of a front derailleur in terms of the difference in the number of teeth between the largest and the smallest chain rings of the front chainwheel.

EXAMPLE: Capacity: 14 teeth or less. In this case, the difference should be 14 teeth or less. If it is greater than 15, the front derailleur will not function properly.

B. Rear Derailleur Capacity

This expresses the range of a rear derailleur in terms of the difference in number of teeth between the largest and the smallest chain rings of the front chainwheel and the number of teeth of the largest multiple freewheel sprocket (low side).

EXAMPLE: Capacity: Front chainwheel difference: 14 teeth or less. Rear Largest Sprocket: (low side) 28 teeth or less.
Should this be the case, the difference in tooth number mentioned above must be 14 teeth or less, and the tooth number of the largest multiple freewheel sprocket (low side) 28 or less.

SHIMANO front derailleur

FRONT DERAILLEUR

Model EC-500

SHIMANO-500

SPECIFICATIONS

Capacity: 14 Teeth or Less
Weight: 5.6 oz. (160 g.)
Material: Steel • Satin Nickel Finish
Type: Lower Inlet Type 1″, 1-1/8″
Panta Mechanism

Model EC-400

SHIMANO-400

SPECIFICATIONS

Capacity: 14 Teeth or Less
Weight: 5.6 oz. (160 g.)
Material: Steel
Type: Lower Inlet Type 1″, 1-1/8″
Panta Mechanism

Model EB-200

TITLIST

SPECIFICATIONS

Capacity: 14 Teeth or Less
Weight: 4.7 oz. (133 g.)
Material: Steel • Satin Nickel Finish (Body and Chain Guide)
Light Alloy • Anodized Finish (Clamp)
Type: Lower Inlet Type 1-1/8″
Panta Mechanism

Model ED-300

THUNDER BIRD-II

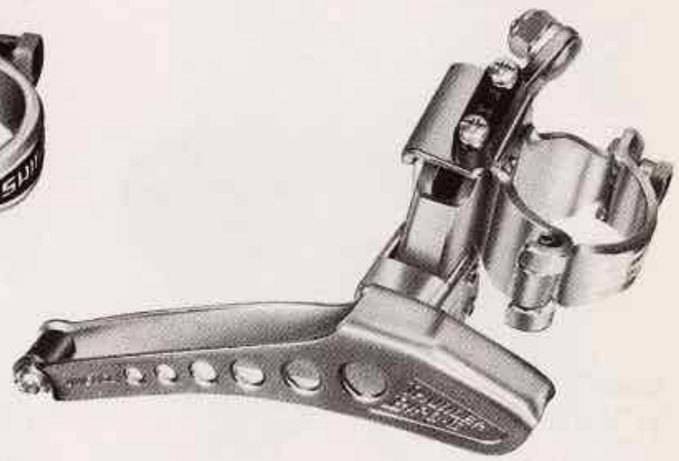
SPECIFICATIONS

Capacity: 16 Teeth or Less
Weight: 6.3 oz. (179 g.)
Material: Steel
Type: Lower Inlet Type 1″, 1-1/8″
Panta Mechanism











SHIMANO freewheel Multiple & Single

FREEWHEEL

Model FG-100

UNIGLIDE FREEWHEEL

SPECIFICATIONS

Material • Surface Treatment:
Steel • Black Finish/Satin Nickel Finish
Standard Sprocket: 1/2″ x 3/32″ Chain
Thread: 1.37″ x 2.4 T.P.I.

Type	Standard Sprocket Combinations
5DS	15T · 17T · 19T · 21T · 24T
5DW	14T · 17T · 20T · 24T · 28T
5DUW	14T · 17T · 21T · 26T · 32T

UNIGLIDE

new



Features of the UG Freewheel:

1. The newly innovated "Twist" sprocket teeth engage the chain's movement accurately by guiding the chain correctly into position. This results in a surer, faster gear change.
2. Because the gear teeth engage the chain quickly and surely, the need for overshifting is eliminated.
3. The chain does not slip over the gear teeth, and irritating noise is eliminated. Quiet and smooth gearshifting can be enjoyed.
4. Even when climbing uphill, accurate speed changes are now possible.



Model FC-300 (Standard)

MULTIPLE FREEWHEEL

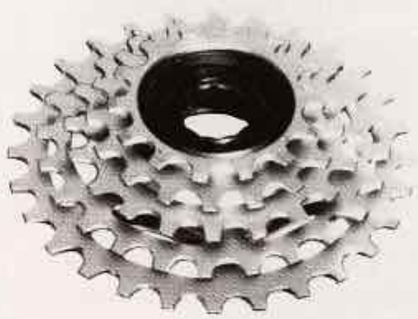
SPECIFICATIONS

Standard Sprocket: 1/2″ x 3/32″ Chain
1/2″ x 1/8″ Chain
(3B1•4B1)
Thread: 1.37″ x 24T.P.I.

STANDARD TYPE

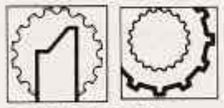
Type	Standard Sprocket Combinations
3B1	16T · 19T · 24T
4B1	15T · 17T · 20T · 24T
4B2	15T · 17T · 20T · 24T
5BS	15T · 17T · 19T · 21T · 24T
5BS-NT	14T · 17T · 19T · 21T · 24T
5BW	14T · 17T · 20T · 24T · 28T
5BC	14T · 16T · 18T · 20T · 22T











GOLD TYPE

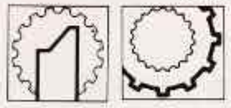
Type	Standard Sprocket Combinations
5BW GOLD	14T · 17T · 20T · 24T · 28T
5AUS GOLD	14T · 17T · 22T · 28AT · 34AT

(A: Alternate Tooth Sprocket)

ALTERNATE TOOTH SPROCKET TYPE

Type	Standard Sprocket Combinations
5AW	14T · 17T · 20T · 24T · 28AT
5AUW	14T · 17T · 21T · 26AT · 32AT
5AUS	14T · 17T · 22T · 28AT · 34AT

(A: Alternate Tooth Sprocket)







Model FB-100

SINGLE FREEWHEEL

SPECIFICATIONS

Thread: 1.37″ x 24 T. P. I.

Sprocket:

1/2″ x 1/8″ x 16 teeth	1/2″ x 1/8″ x 20 teeth
1/2″ x 1/8″ x 18 teeth	1/2″ x 1/8″ x 21 teeth
1/2″ x 1/8″ x 19 teeth	







SHIMANO uniglide chain

UNIGLIDE CHAIN

The Revolutionary Chain that Shifts Better in Every Way——— Uniglide Chain



Model QA-200

UNIGLIDE-II (UG-II)

SPECIFICATIONS

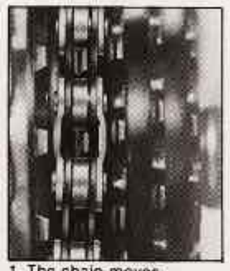
Material: Steel
Surface Treatment: Roller Link Plate/Black Finish, Pin Link Plate/Brown Finish
Type: Roller Chain

● Quick: Sure Gearshifting: No Need to Overshift

The outerplates of the Uniglide chain have been widened, making gear engagement easier and faster. It also keeps the Uniglide chain from slipping over the teeth of the desired gear, so that overshifting is completely unnecessary.

Uniglide Chain

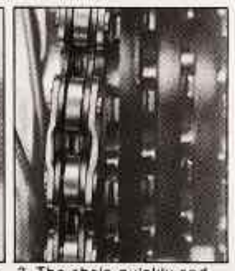




1. The chain moves smoothly off the sprocket and quickly onto the next larger gear.



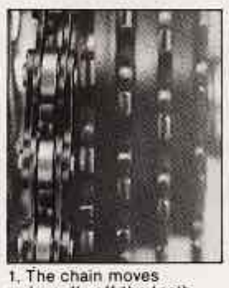
2. The widened outerplate enables the chainpins to hit the gear teeth at the same time the teeth of the larger gear hit the outerplate.



3. The chain quickly and surely engages the sprocket teeth, so no overshifting is needed.

Conventional Chain

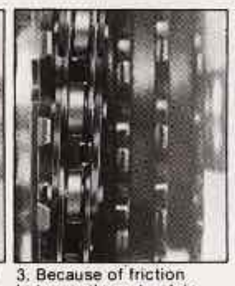




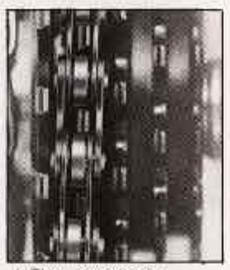
1. The chain moves awkwardly off the teeth, delaying contact with the next gear.



2. The outerplate rests on the adjacent larger gear teeth.



3. Because of friction between the outerplate and gear, the chain slips, necessitating an overshift.



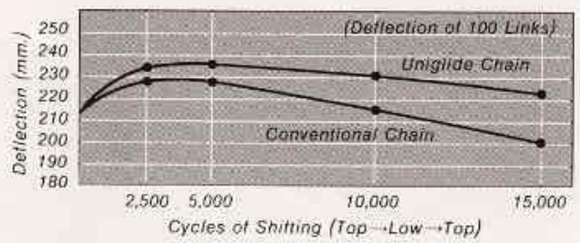
4. The uneven gear change puts unwarranted wear and tear on the chain and sprockets.

The Uniglide chain is designed expressly for increasing the efficiency and response of a multi-speed bicycle chain. It was developed on Shimano's "System Component" principle. The UG chain's many innovative features created excitement throughout the bicycle industry as a brand new chain to meet the needs of the multi-speed bicycle age.

● Stable Deflection

Stable deflection is indispensable if the chain is to respond to the complex gear movements of multi-speed bicycles. Graph 1 below shows the deflection results of a UG chain and a conventional chain after repeated shifts. Generally, deflection is stable after shifting 2,500 times, while after 5,000 shifts deflection-decreases, impeding the lateral motion necessary for shifting. As can be seen in the graph, the deflection of a Uniglide chain is much smaller than that of a conventional chain producing a gearshift performance which is extremely stable.

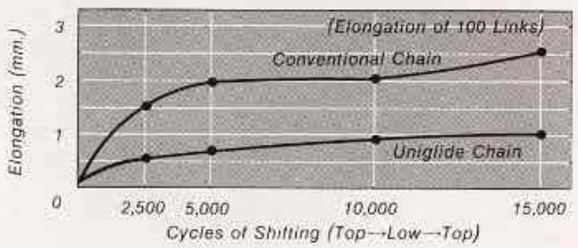
Graph. 1: Deflection of Chain After Repeated Gear Shifts



● Minimal Elongation

The extent of chain elongation from gearshifting has a pronounced effect on the service life of a chain. As shown in Graph 2, the Uniglide chain stretches only half as much as a conventional chain, more than doubling its durability.

Graph. 2: Elongation of Chain After Repeated Gear Shifts



SHIMANO shifting lever

MULTI-

Model LB-160

QB-LEVER

SPECIFICATIONS

Material: Light Alloy
Type: Friction Type

Type	Attachment Position	Clamp Diameter
Double Lever	Down Tube	1-1/8″
	Handle Stem	0.833″
Single Lever	Down Tube	1-1/8″
	Handle Stem	0.833″



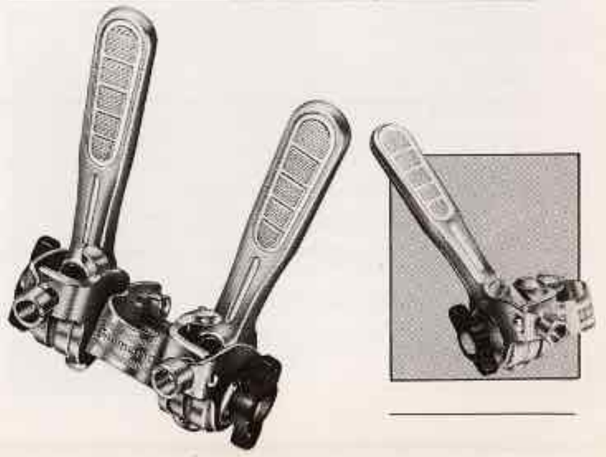
Model LB-150

QS-LEVER

SPECIFICATIONS

Material: Light Alloy
Type: Friction Type

Type	Attachment Position	Clamp Diameter
Double Lever	Down Tube	1-1/8″
	Handle Stem	0.833″
Single Lever	Down Tube	1-1/8″
	Handle Stem	0.833″



SPEED SHIFTING LEVER

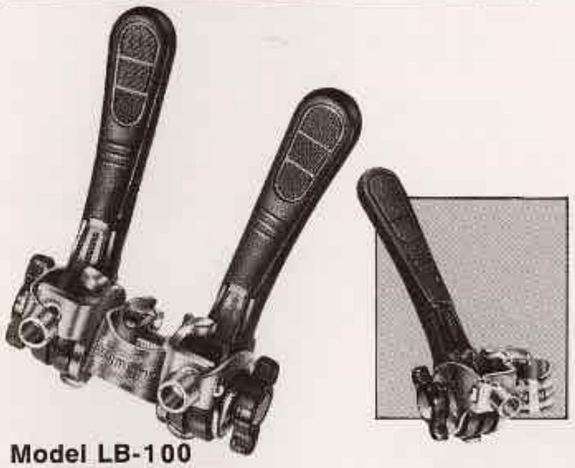
Model LB-170

QP-LEVER

SPECIFICATIONS

Material: Resin
Type: Friction Type

Type	Attachment Position	Clamp Diameter
Double Lever	Down Tube	1-1/8″
	Handle Stem	0.833″
Single Lever	Down Tube	1-1/8″
	Handle Stem	0.833″



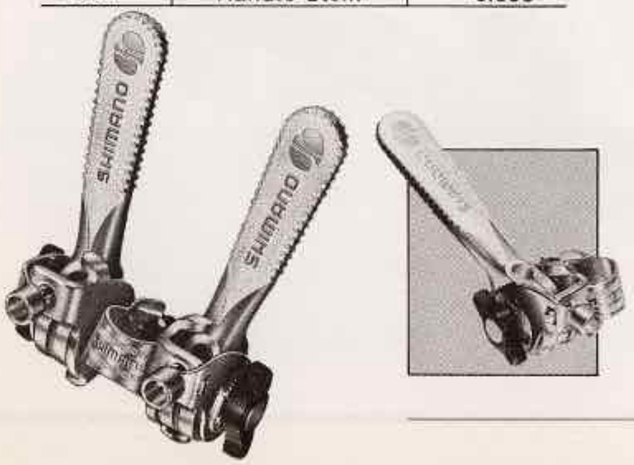
Model LB-100

ALMI-LEVER

SPECIFICATIONS

Material: Light Alloy
Type: Friction Type

Type	Attachment Position	Clamp Diameter
Double Lever	Down Tube	1-1/8″
	Handle Stem	0.833″
Single Lever	Down Tube	1-1/8″
	Handle Stem	0.833″



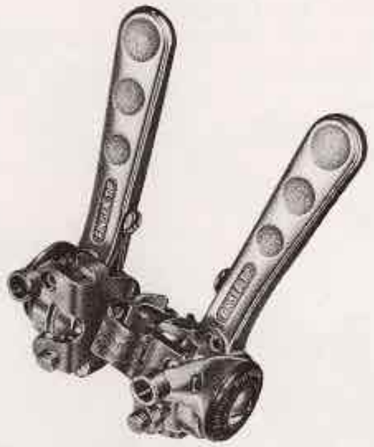
Model LB-400

FINGER-TIP

SPECIFICATIONS

Material: Light Alloy
Type: With Spiral Spring (Balance Spring)

Type	Attachment Position	Clamp Diameter
Double Lever	Down Tube	1-1/8″
	Handle Stem	0.833″



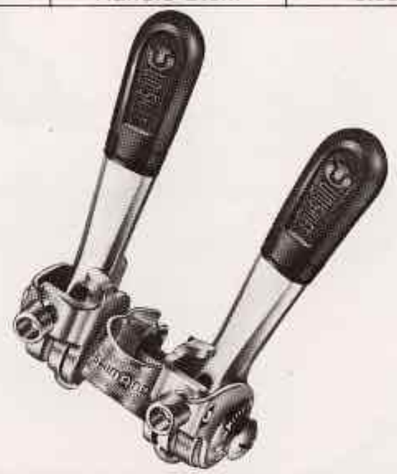
Model LB-200

UNI-SHIFT

SPECIFICATIONS

Material: Light Alloy
Type: One Way Clutch (With Spiral Spring)

Type	Attachment Position	Clamp Diameter
Double Lever	Down Tube	1-1/8″
	Handle Stem	0.833″



Model LB-300

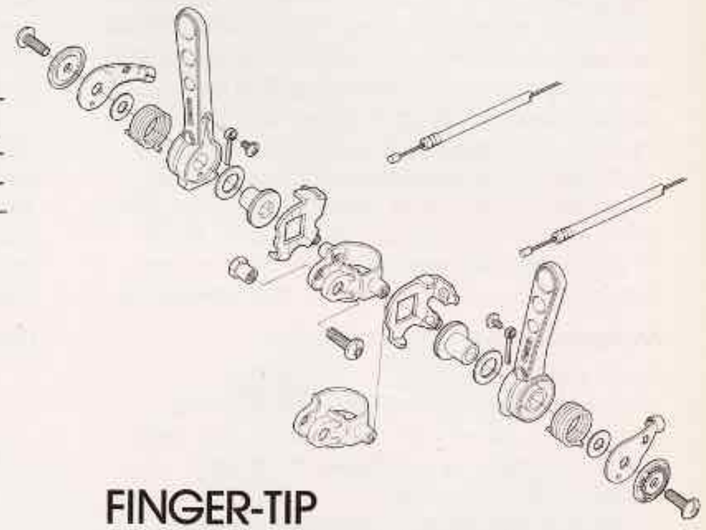
SUPER SHIFTER

SPECIFICATIONS

Material: Light Alloy
Type: One Way Clutch

Type	Attachment Position	Clamp Diameter
Double Lever	Down Tube	1-1/8″
	Handle Stem	0.833″





FINGER-TIP

The lever with the spiral spring is epoch-making with its function of offsetting the derailleur spring resistance. The lever is operated easily, effectively and swiftly.



SHIMANO freehub FREEHUB

The Freehub is so named because it combines the freewheel and hub into one component. It is stronger, smaller, lighter, and more economical than any conventional hub with freewheel. In addition, it eliminates assembly work. By combining the rear freewheel and hub into one body, the freehub unit has more strength than when the components are independently assembled. Also, it is much lighter and more compact. The Freehub weighs only 63% of the combined weight of a conventional hub and freewheel. Because the freehub is a single unit, the conventional number of rear gear small sprocket teeth has been further reduced, resulting in a corresponding reduction of the number of front gear teeth, contributing to the overall weight reduction of the bicycle.

Shimano's new Freehub, by integrating the freewheel and the hub, has improved strength and durability manifold. It has also succeeded in eliminating disturbing lateral movement, when loosening takes effect, resulting in even smoother rotation of the freewheel.

Features of the Type-C Freehub

1. Weighs only 470g.
2. An ideal size for children's bicycles.
3. Can be fitted with gears with less teeth (14T), making a smaller front gear assembly possible.
4. High strength at a reasonable price.
5. Elimination of assembly work.
6. "For children's use" is clearly marked on the product.

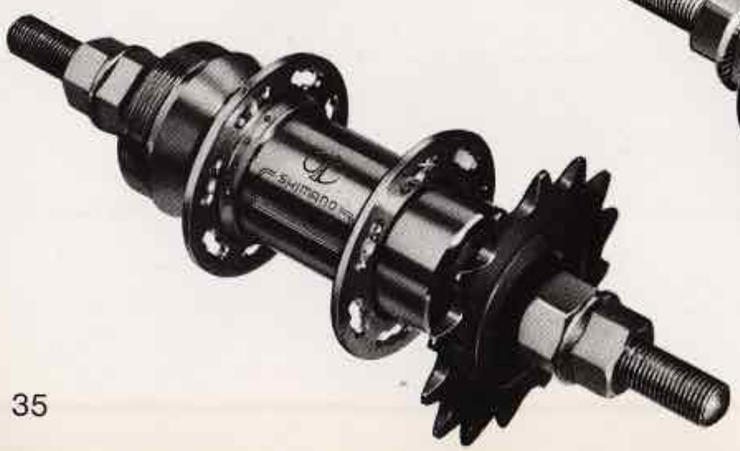
Model HE-400

FREEHUB-C (FH-C)

SPECIFICATIONS

Material: Steel
Type: Small Flange Hub
Weight: 16.9 oz. (480 g.)
Over Lock Nut Dimensions: 4.5″ (114mm.)
Spoke Holes: 20H, 28H,
Sprocket Combinations: 14T
Standard Sprocket: 1/2″ x 1/8″ Chain





Features of the Type-A Freehub

1. Weight reduction of about 27%.
2. Enhanced compactness, following the trend towards more compact bicycles.
3. Can be fitted with gears with fewer teeth, making a smaller front gear assembly possible.
4. Assures light and smooth rotation, as there are no screws to come loose.
5. Increased strength and safety.
6. More economical. 30% less material is used, and no assembly work is necessary.

Model HE-300

FREEHUB-A (FH-A)

SPECIFICATIONS

Material: Steel
Type: Small Flange Hub
Weight: 16.9 oz. (480 g.)
Over Lock Nut Dimension: 4.5″ (114mm.)
Spoke Holes: 20H, 28H, 36H
Sprocket Combinations: 14T, 18T
Standard Sprocket: 1/2″ x 1/8″ Chain



SHIMANO hub Small & Large HUB

Model HC-210

SMALL FLANGE HUB WITH QUICK RELEASE

SPECIFICATIONS

Weight: Front 8.3 oz. (235 g.),
: Rear 12.3 oz. (350 g.)
Material: Light Alloy
Type: Quick Release
Thread: 1.37″ x 24 T.P.I.
Over Lock Nut Dimensions:
Front 3.78″ (96mm), Rear 4.88″ (124mm.)
Spoke Holes: 36H

QR HUB

Model HC-200

SMALL FLANGE HUB

SPECIFICATIONS

Weight: Front 6.3 oz. (180 g.),
: Rear 10.9 oz .(310 g.)
Material: Light Alloy
Type: Solid Axle Type with Hub Nut
Thread: 1.37″ x 24 T.P.I.
Over Lock Nut Dimensions:
Front 3.66″ (93mm.), Rear 4.88″ (124mm.)
Spoke Holes: 36H



Model HC-110

LARGE FLANGE HUB WITH QUICK RELEASE

SPECIFICATIONS

Weight: Front 9.5 oz. (270 g.),
: Rear 12.7 oz. (360 g.)
Material: Light Alloy
Type: Quick Release
Thread: 1.37″ x 24 T.P.I.
Over Lock Nut Dimensions:
Front 3.78″ (96mm.), Rear 4.88″ (124mm.)
Spoke Holes: 36H

Model HC-100

LARGE FLANGE HUB

SPECIFICATIONS

Weight: Front 7.4 oz. (210 g.)
: Rear 11.6 oz. (330 g.)
Material: Light Alloy
Type: Solid Axle Type with Hub Nut
Thread: 1.37″ x 24 T.P.I.
Over Lock Nut Dimensions:
Front 3.66″ (93mm.), Rear 4.88″ (124mm.)
Spoke Holes: 36H

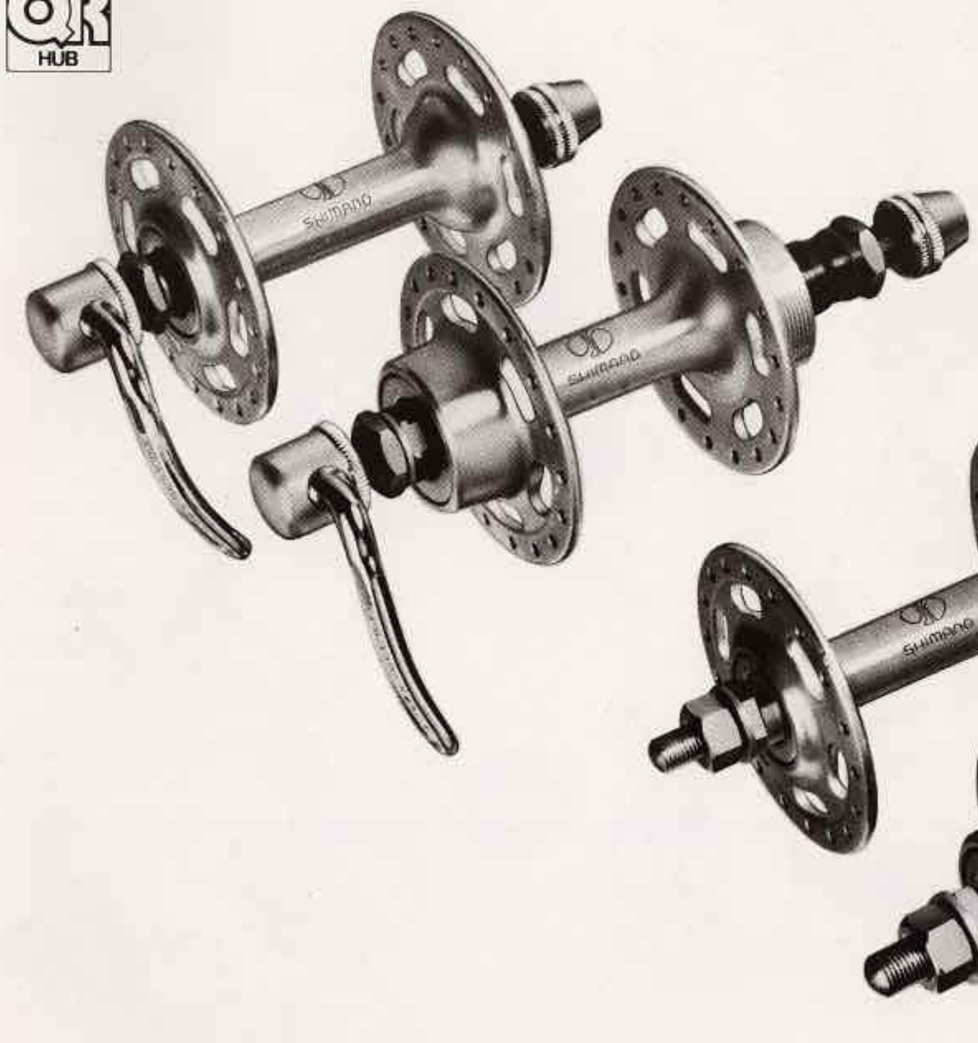
Model HD-100

STEEL HUB

SPECIFICATIONS

Weight: 25.0 oz. (710 g.)/Pair
Material: Steel
Type: Solid Axle Type with Hub Nut
Over Lock Nut Dimensions:
Front 3.66″ (93mm.), Rear 4.88″ (124mm.)
Spoke Holes: 28H, 36H

QR HUB







SHIMANO caliper brake

CALIPER BRAKE & BRAKE LEVER

Sidepull Caliper

Model BB-240

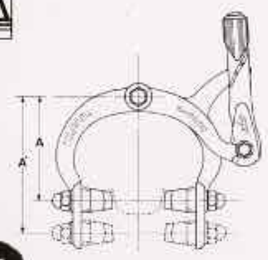
TOURNEY

SPECIFICATIONS

Material: Light Alloy
Type: Side Pull Auto Adjust with Synpul Mechanism

Type	A-A′	Weight (Pair)
CS-S72A	54mm.—72mm.	12.0 oz. (341 g.)
CS-S79A	61mm.—79mm.	12.4 oz. (351 g.)
CS-S88A	70mm.—88mm.	12.7 oz. (361 g.)





Model BB-230

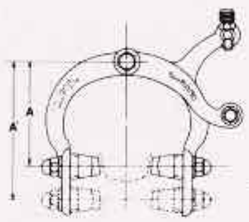
TOURNEY

SPECIFICATIONS

Material: Light Alloy
Type: Side Pull with Synpul Mechanism

Type	A-A′	Weight (Pair)
CS-S72	54mm.—72mm.	10.6 oz. (301 g.)
CS-S79	61mm.—79mm.	11.0 oz. (311 g.)
CS-S88	70mm.—88mm.	11.5 oz. (325 g.)





Centerpull Caliper

Model BB-500

SHIMANO-500

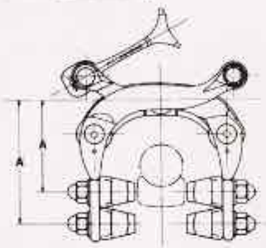
SPECIFICATIONS

Material: Light Alloy
Type: Center Pull with Quick Release and Link Mechanism

Type	A-A′	Weight (Pair)
CC-L62	47mm.—62mm.	13.3 oz. (376 g.)
CC-L75	57mm.—75mm.	13.8 oz. (390 g.)

new





Model BB-120

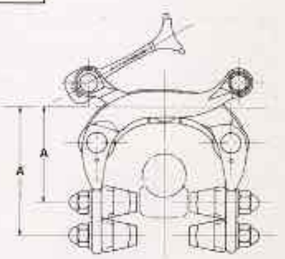
TOURNEY

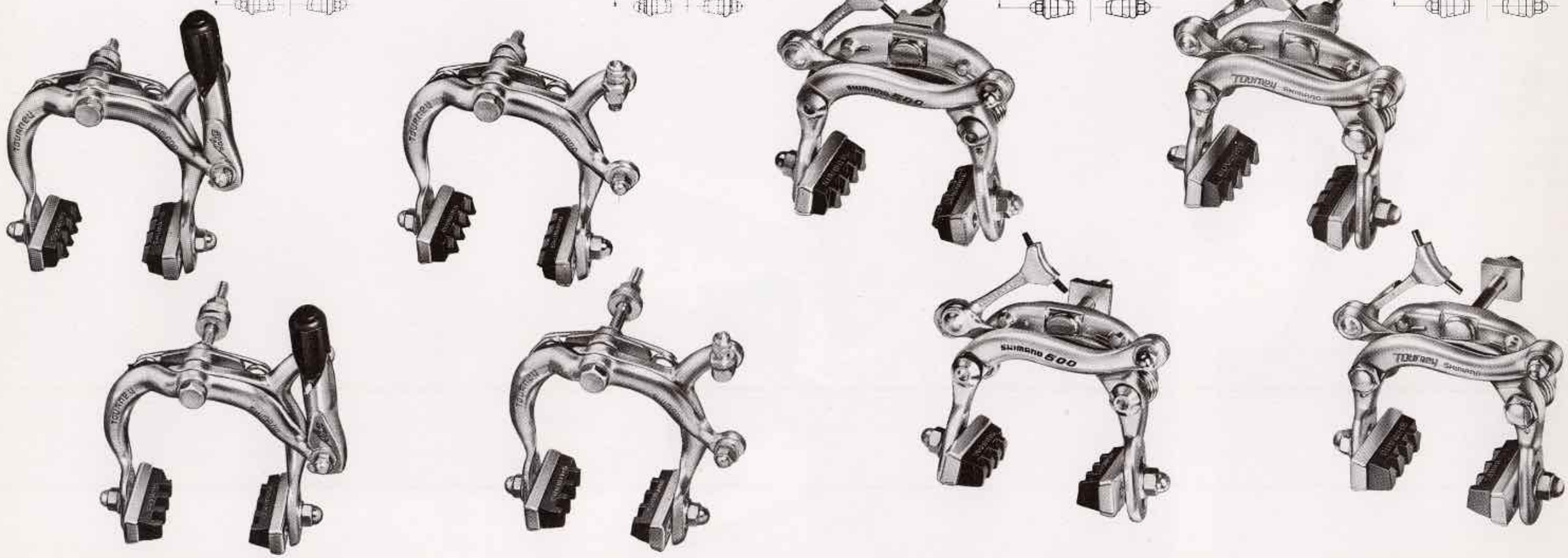
SPECIFICATIONS

Material: Light Alloy
Type: Center Pull with Quick Release and Link Mechanism

Type	A-A′	Weight (Pair)
CC-L62	47mm.—62mm.	13.3 oz. (378 g.)
CC-L75	57mm.—75mm.	13.8 oz. (392 g.)





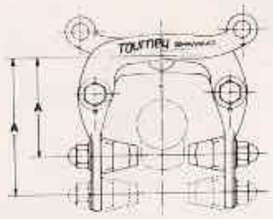


Brake Lever

Model BB-100
TOURNEY
SPECIFICATIONS
Material: Light Alloy
Type: Center Pull

Type	A-A′	Weight (Pair)
CC-62	47mm.—62mm.	12.7 oz. (360 g.)
CC-75	57mm.—75mm.	13.1 oz. (370 g.)

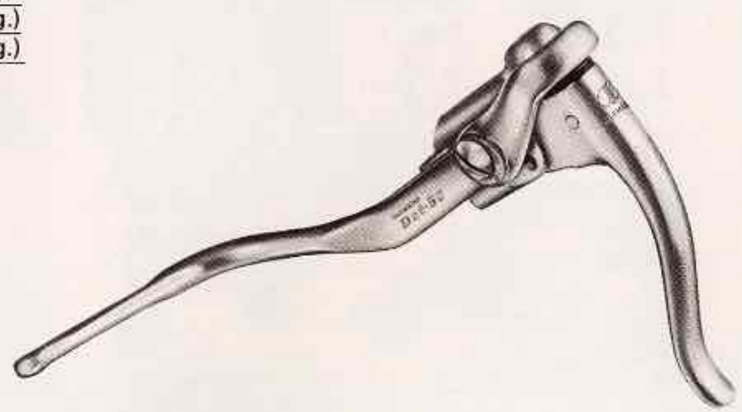








Model MB-110
DUAL EXTENSION LEVER
SPECIFICATIONS
Material: Light Alloy
Lever Clamp Diameter: 22.2mm., 23.8mm.



Model MB-100
HOODED LEVER
SPECIFICATIONS
Material: Light Alloy
Lever Clamp Diameter: 22.2mm., 23.8mm.



Model MD-100
POPULAR LEVER
SPECIFICATIONS
Material: Light Alloy
Lever Clamp Diameter: 22.2mm.



Model MC-100
V-BRAKE LEVER
SPECIFICATIONS
Material: Resin
Lever Clamp Diameter: 22.2mm.

new



Model MS-100
SOFT LM LEVER
SPECIFICATIONS
Weight: Brake Lever 4.5 oz. (128 g.)/Pair
Grip 4.4 oz. (124 g.)/Pair
Material: Brake Lever/Steel • Resin Grip/Resin

new



Model MB-120
DUAL EXTENSION LEVER 77 (DEL-77)
SPECIFICATIONS
Materiral: Light Alloy & Steel
Weight: 17.1 oz. (484 g.)/Pair
Lever Clamp Diameter: 22.2mm, 23.8mm

new



RADIAX BRAKE

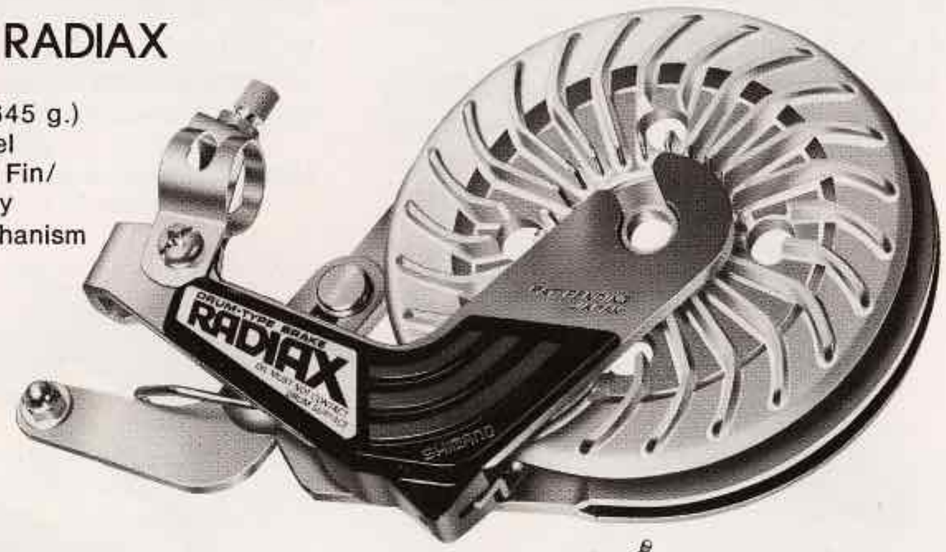
Model BF-100

Drum Brake RADIAX

SPECIFICATIONS

Weight: 22.8 oz. (645 g.)
Material: Body/Steel
: Radiating Fin/
Light Alloy
Type: V-Brake Mechanism

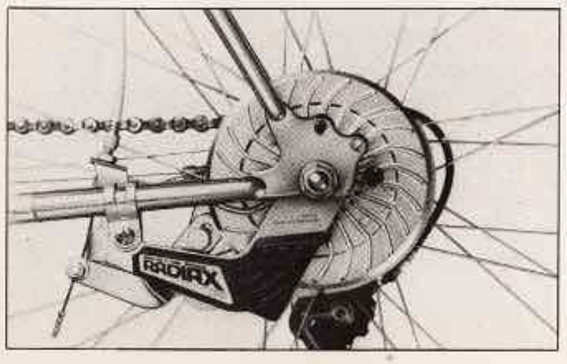
NEW

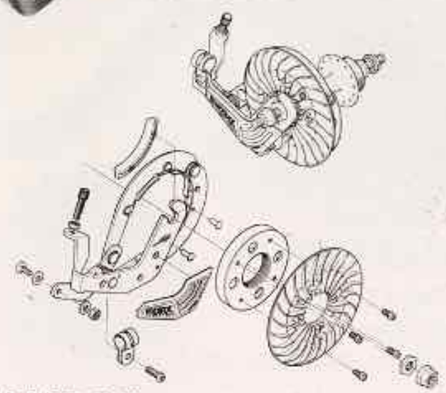


The RADIAX is a drum brake that adapts the braking system from the V-Brake Mechanism.

Features of the RADIAX Brake:

1. Suitable For All Kinds of Weather—
It has been said that a caliper brake loses braking performance in wet weather, making riding hazardous. The RADIAX gives good performance even in rain.
2. Sure Braking When Rolling Backwards—
RADIAX has succeeded in securing the same amount of braking efficiency when rolling backwards (backward rotation) as when moving forwards.
3. Radiating Fins Added for Cooling Effect—
The radiating fins were developed to prevent the heat-fade phenomenon and, at the same time, to provide safety and easy cycling when coasting downhill or long distance riding. Furthermore, they extend the lifetime of the brakes.





Model HD-600

HUB (For RADIAX Brake)

SPECIFICATIONS

Use: Drum Brake RADIAX Only
Weight: 16.9 oz. (480 g.)
Material: Steel
Type: Small Flange Hub
Over Lock Nut Dimensions:
4.88″ (124mm.), 5.00″ (127mm)
Spoke Holes: 28H, 36H



NEW

V-BRAKE C

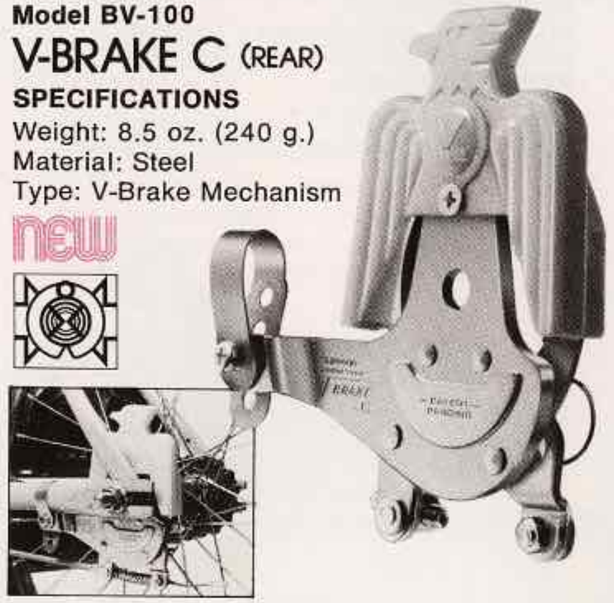
Model BV-100

V-BRAKE C (REAR)

SPECIFICATIONS

Weight: 8.5 oz. (240 g.)
Material: Steel
Type: V-Brake Mechanism

NEW

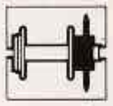


Model HE-410

FREEHUB (For V-Brake C Rear)

SPECIFICATIONS

Weight: 17.3 oz. (490 g.)
Material: Steel
Type: Small Flange Free Hub
Over Lock Nut Dimension: 4.69″ (119mm.)
Spoke Holes: 20H, 28H



NEW



Features of the V-Brake C:

1. Especially designed for children's bicycles, the V-Brake C generates strong braking power with little force applied on the lever.
2. The V-Brake C displays the same braking efficiency whether the bicycle is moving forwards or backwards.
3. Bad weather has almost no effect on the braking efficiency of the V-Brake C. The V-Brake C works just as well in wet conditions as in good.
4. The V-Brake C is compact and light.

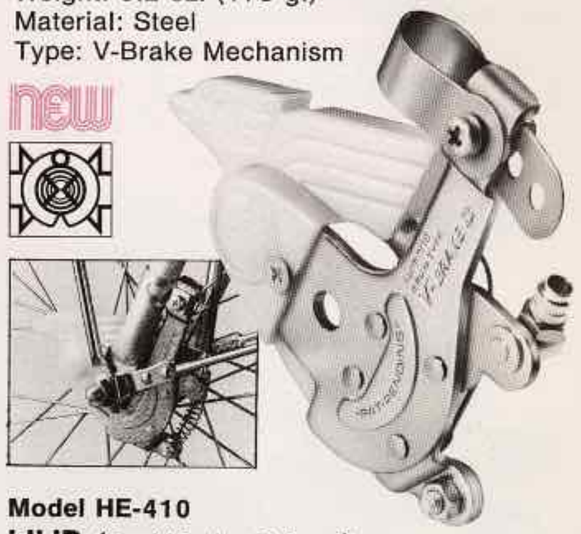
Model BV-100

V-BRAKE C (FRONT)

SPECIFICATIONS

Weight: 6.2 oz. (175 g.)
Material: Steel
Type: V-Brake Mechanism

NEW



Model HE-410

HUB (For V-Brake C Front)

SPECIFICATIONS

Weight: 8.5 oz. (240 g.)
Material: Steel
Type: Small Flange Hub
Over Lock Nut Dimension: 3.43″ (87mm.),
3.66″ (93mm.)
Spoke Holes: 20H, 28H

NEW



Model MC-100

V-BRAKE LEVER

SPECIFICATIONS

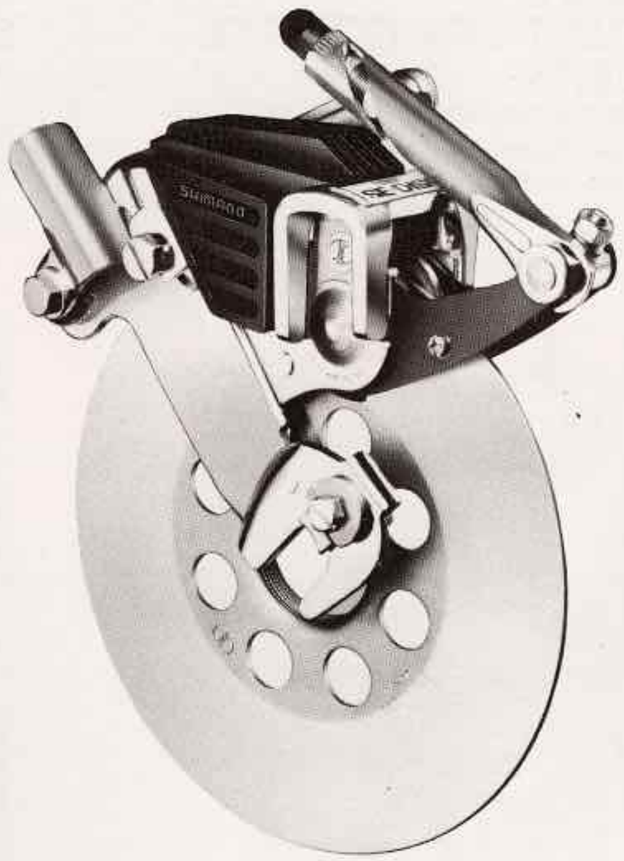
* See Page 38.

NEW



SHIMANO disc brake DISC BRAKE

Shimano has developed a self-energizing disc brake that successfully combines maximum safety control with minimum stopping distance. Equipped with Auto Adjust, which keeps the unit constantly adjusted, this high-performance brake always functions at maximum efficiency.



Model BC-300

DISC BRAKE E-TYPE

SPECIFICATIONS

Weight: 17.8 oz. (505 g.)/Body
8.1 oz. (230 g.)/Disc
Material:
Disc Plate/Stainless Steel
Pad/Wear Resistant Asbestos
Disc Brake Body/Chrome Plated Steel
Arm Assembly/Carbon Tool Steel
Disc Plate Diameter: 5-3/4″ (147mm.)
Disc Plate Thickness: 3/40″ (2.0mm.)
Type: Disc Brake with Auto Adjust

Features:

The features of this revolutionary braking system are:

1. Powerful, shockless braking with a minimum of effort.
2. Reduced slippage, even in wet weather. The all weather performance means greater safety for cyclists.
3. The Auto Adjust mechanism compensates for cable stretch and pad wear so that the best braking force is always maintained.
4. Compact and lightweight, the self-energizing Disc Brake is easy to operate and install.

Model HD-200

SMALL FLANGE HUB

SPECIFICATIONS

Use: Disc Brake Only
Material: Steel
Type: Small Flange Hub
Over Lock Nut Dimensions:
4.88″ (124mm.), 5.00″ (127mm.)
Spoke Holes: 28H, 36H



SHIMANO coaster brake COASTER BRAKE

Model CC-100

MIGHTY MITE

Economical Coaster Brake with lightweight and compact design.
Safe and easy to operate for children weighing less than 70 pounds.

SPECIFICATIONS

Weight: 21.0 oz. (595 g.)
Teeth: 14T, 15T, 16T,17T, 18T, 19T, 20T
Over Lock Nut Dimension: 4.29″ (109mm.)
Sprocket: 1/2″ x 1/8″ Chain
Spoke Holes: 20H, 24H, 28H
Riders Weight: 70 lb. or less
Wheel: 20″ or less

Model CB-100

COASTER BRAKE B-TYPE

SPECIFICATIONS

Weight: 30.0 oz. (850 g.)
Teeth: 14T, 15T, 16T, 18T, 19T, 20T
Over Lock Nut Dimension: 4.29″ (109mm.)
Sprocket: 1/2″ x 1/8″ Chain
Spoke Holes: 20H, 24H, 28H, 36H
Black Finish Available

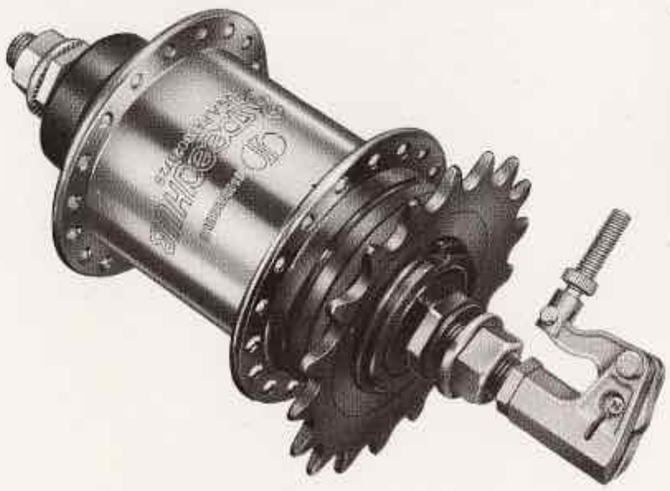


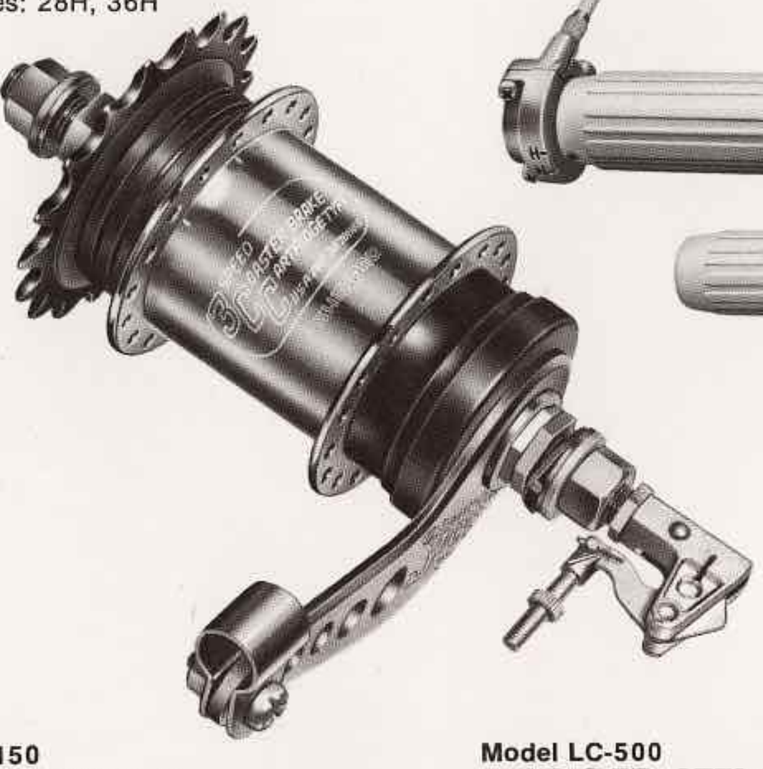


SHIMANO hub gear HUB GEAR & LEVER

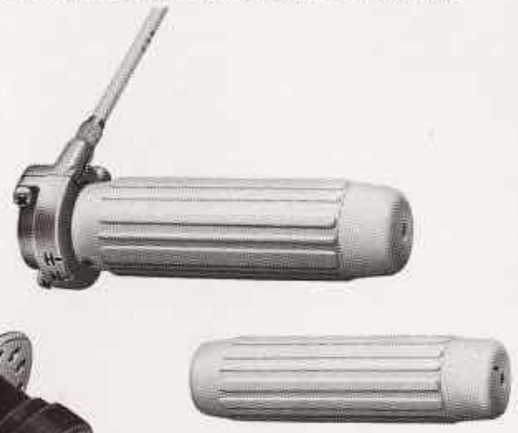
Model TB-100
THREE SPEED HUB
SPECIFICATIONS
Weight: 38.8 oz. (1,100 g.)
Teeth: 14, 15, 16, 18, 19, 20T
Gear Ratio: (H)1:1.33/(N) 1:1/(L) 1:0.75
Over Lock Nut Dimension: 4.5″ (114mm.)
Sprocket: 1/2″ x 1/8″ Chain
Spoke Holes: 28H, 36H

Model TC-100
THREE SPEED HUB WITH COASTER BRAKE
SPECIFICATIONS
Weight: 46.6 oz. (1,320 g.)
Teeth: 14, 15, 16, 18, 19, 20T
Gear Ratio: (H) 1:1.33/(N) 1:1/(L) 1:0.75
Over Lock Nut Dimension: 4.7″ (120mm.)
Sprocket: 1/2″ x 1/8″ Chain
Spoke Holes: 28H, 36H





Model LD-300
TWIST GRIP CONTROL LEVER
SPECIFICATIONS
Use: Three Speed Hub Only
Attachment Position: Handle Bar-End



Model LD-200
TRIGGER LEVER
SPECIFICATIONS
Use: Three Speed Hub & Three Speed Hub with Coaster Brake Only
Attachment Position: Handle Bar



Model LE-150
STEM CONSOLE
SPECIFICATIONS
Use: Three Speed Hub & Three Speed Hub with Coaster Brake Only
Material: Resin (Body)
Type: Click
: Single Lever
: Pre-Select Mechanism
Attachment Position: Top of Handle Stem

new



Model LC-500
TRIGGER STEM
SPECIFICATIONS
Use: Three Speed Hub & Three Speed Hub with Coaster Brake Only
Attachment Position: Handle Stem



SHIMANO spoke protector SPOKE

Model PB-100
SPOKE PROTECTOR
SPECIFICATIONS
Diameter: 4-1/2″ (110mm.)
Material: Steel
Use Range: Low Sprocket 24 Teeth or Less



Model PB-150
SPOKE PROTECTOR
SPECIFICATIONS
Diameter: 5.4″ (137mm.)
Material: Steel
Use Range: Low Sprocket 26 or 28 Teeth



Model PB-130
SPOKE PROTECTOR
SPECIFICATIONS
Diameter: 7-1/2″ (190mm.)
Material: Steel
Use Range: Low Sprocket 26 or 28 Teeth

Model PB-140
SPOKE PROTECTOR
SPECIFICATIONS
Diameter: 8-1/2″ (215mm.)
Material: Steel
Use Range: Low Sprocket 32 or 34 Teeth



PROTECTOR

SHIMANO cable

CABLE

Model PC-110

UG SPOKE PROTECTOR

SPECIFICATIONS

Diameter: 5.5″ (140mm.)
Material: Light Alloy
Use Range: Low Sprocket 24 Teeth

new



Model PC-150

SPOKE PROTECTOR

SPECIFICATIONS

Diameter: 6.3″ (190mm.)
Material: Light Alloy
Use Range: Low Sprocket 26 or 28 Teeth

new

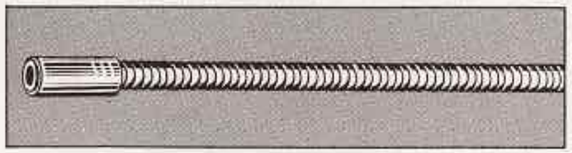


Outer Casings and Inner Cables

Model WC-100

STAINLESS OUTER CASING WITH BOTH CAPS

Length: 6.7″(170mm.), 11.0″(280mm.)



Model WC-110

STAINLESS OUTER CASING WITH ONE CAP

Length: 23.6″(600mm.), 24.8″(630mm.), 26.4″(670mm.)

Model WL-100

COATED INNER CABLE (ϕ1.2mm)

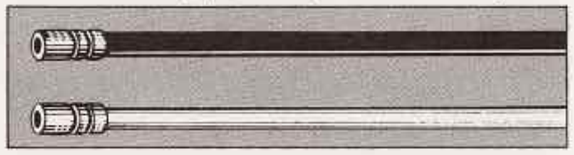
Length: 52.0″(1,320mm.), 53.5″(1,360mm.), 55.1″(1,400mm.), 70.9″(1,800mm.), 72.8″(1,850mm.), 74.8″(1,900mm.)



Model WB-100 (with Both Caps)
Model WB-110 (with One Cap)

OUTER CASING

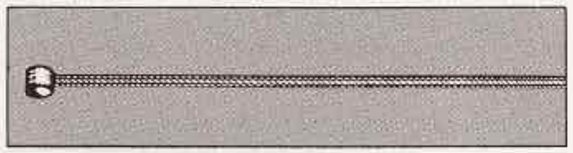
Length: 7.1″(180mm.), 9.8″(250mm.), 11.0″(280mm.)/With Both Caps
14.2″(360mm.), 20.9″(530mm.), 40.6″(1,030mm.), 53.5″(1,360mm.), 61.0″(1,550mm.)/With One Cap



Model WK-110

INNER CABLE (ϕ1.2mm)

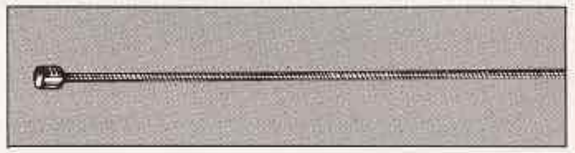
Length: 26.4″(670mm.), 29.5″(750mm.), 40.6″(1,030mm.), 46.5″(1,180mm.), 53.5″(1,360mm.), 61.0″(1,550mm.), 65.0″(1,650mm.)



Model WJ-100

INNER CABLE (ϕ1.2mm)

Length: 26.4″(670mm.), 29.5″(750mm.), 40.6″(1,030mm.), 46.5″(1,180mm.), 61.0″(1,550mm.), 65.0″(1,650mm.)

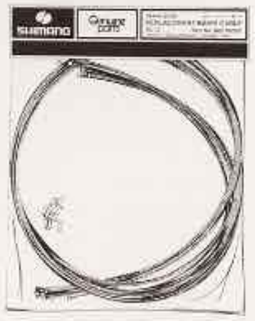


Universal Cables

① 

② 

③ 

④ 

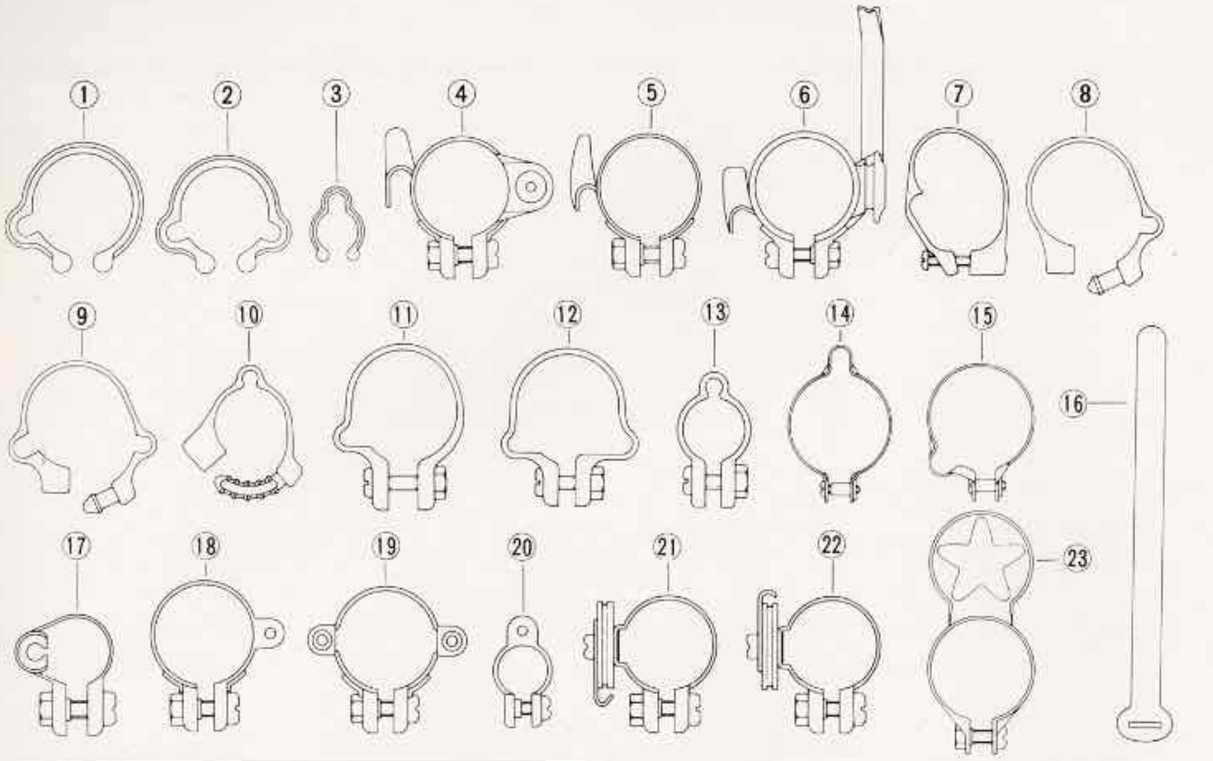
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⑥ 

Item	Model No.	Description	Usage
1	WT-130	Universal Spare Cable Set Shape of Cable End —⊖ ϕ1.2mm.	Console Lever
2	WT-110	Universal Spare Cable Set Shape of Cable End —⊏ ϕ1.2mm.	5 & 10 Speed Shifting Lever
3	WT-140	Universal Spare Cable Shape of Double Cable End ⊏—⊖ ϕ1.2mm.	All SHIMANO Shifting Levers
4	WU-110	Universal Spare Cable Shape of Double Cable End ⊖—⊏ ϕ1.6mm.	All SHIMANO Brake Levers Except DURA-ACE and SHIMANO-600
5	WV-100 WV-110	Universal Outer Casing (White) Universal Outer Casing (Black)	All Cables Except DURA-ACE and SHIMANO-600

SHIMANO outer band

OUTER BAND



Item No.	Part No.	Description	
1	6201070	Outer Clip	28.6 mm (1-1/8")
	6201071	Outer Clip (Black)	28.6 mm (1-1/8")
	6201050	Outer Clip	25.4 mm (1")
	6201051	Outer Clip (Black)	25.4 mm (1")
2	6201080	Outer Clip	28.6 mm (1-1/8")
	6201081	Outer Clip (Black)	28.6 mm (1-1/8")
	6201060	Outer Clip	25.4 mm (1")
	6201061	Outer Clip (Black)	25.4 mm (1")
3	6201040	Outer Clip	22.2 mm (7/8")
	6201041	Outer Clip (Black)	22.2 mm (7/8")
	6201030	Outer Clip	19.0 mm (3/4")
	6201031	Outer Clip (Black)	19.0 mm (3/4")
	6201020	Outer Clip	15.9 mm (5/8")
	6201021	Outer Clip (Black)	15.9 mm (5/8")
	6201010	Outer Clip	12.7 mm (1/2")
	6201011	Outer Clip (Black)	12.7 mm (1/2")
4	6229110-1	Cable Guide	28.6 mm (1-1/8")
5	6229010-1	Cable Guide	28.6 mm (1-1/8")
6	6229111-1	Cable Guide for DURA-ACE	28.6 mm (1-1/8")
7	8319032	Outer Band for Brake	25.4 mm (1")
	8319034	Outer Band for Brake (Black)	25.4 mm (1")
8	6921400	Outer Band for PPS System	28.6 mm (1-1/8")
	6921402	Outer Band for PPS System (Black)	28.6 mm (1-1/8")
	6921500	Outer Band for PPS System	25.4 mm (1")
	6921502	Outer Band for PPS System (Black)	25.4 mm (1")
9	6921401	Outer Band for PPS System	28.6 mm (1-1/8")
	6921403	Outer Band for PPS System (Black)	28.6 mm (1-1/8")
	6921501	Outer Band for PPS System	25.4 mm (1")
	6921503	Outer Band for PPS System (Black)	25.4 mm (1")
10	6921700	Outer Band for PPS System	19.0 mm (3/4")
	6921701	Outer Band for PPS System (Black)	19.0 mm (3/4")
	6921600	Outer Band for PPS System	15.9 mm (5/8")

Item No.	Part No.	Description	
10	6921601	Outer Band for PPS System (Black)	15.9 mm (5/8")
	6921800	Outer Band for PPS System	12.7 mm (1/2")
	6921801	Outer Band for PPS System (Black)	12.7 mm (1/2")
	6923900	Outer Band for PPS System	17.5 mm (11/16")
	6923901	Outer Band for PPS System (Black)	17.5 mm (11/16")
11	6929022	Hose Band for PPS System (Black)	25.4 mm (1")
	6929034	Hose Band for PPS System	28.6 mm (1-1/8")
	6929033	Hose Band for PPS System (Black)	28.6 mm (1-1/8")
12	6929020	Hose Band for PPS System	28.6 mm (1-1/8")
	6929021	Hose Band for PPS System (Black)	28.6 mm (1-1/8")
	6929029	Hose Band for PPS System (Black)	25.4 mm (1")
13	6929027	Hose Band for PPS System (Black)	19.0 mm (3/4")
	6929026	Hose Band for PPS System (Black)	15.9 mm (5/8")
	6929025	Hose Band for PPS System (Black)	12.7 mm (1/2")
14	8559003-2	Outer Band for DURA-ACE & 600 Brake	25.4 mm (1")
15	8559003-1	Outer Band for DURA-ACE & 600 Brake	25.4 mm (1")
16	6110501	Alumi Band	150 mm (5.9")
	6110500	Alumi Band	115 mm (4.52")
	6110600	Alumi Band	80.0mm (3.14")
17	6119005-2	Stopper Band	28.6 mm (1-1/8")
	6119006-2	Stopper Band	25.4 mm (1")
	6119010-1	Stopper Band	19.0 mm (3/4")
	6119011-1	Stopper Band	17.5 mm (11/16")
	6439044-1	Stopper Band	15.9 mm (5/8")
	6439045-1	Stopper Band	12.7 mm (1/2")
18	6229106-1	Outer Stopper	28.6 mm (1-1/8")
19	6229107-1	Outer Stopper	28.6 mm (1-1/8")
20	6229116	Outer Stopper	15.9 mm (5/8")
	6229117	Outer Stopper for DURA-ACE	15.9 mm (5/8")
21	6119001	Guide Roller	28.6 mm (1-1/8")
22	6119002	Guide Roller	25.4 mm (1")
23	6819005	Pump Holder	28.6 mm (1-1/8")

SHIMANO special tool

SPECIAL TOOL

Model XB-310
Plier for Three Speed Hub Snap Ring Removal



Model XB-300
Spanner for Cone, Lock Nut Adjustment of Three Speed Hub; Three Speed Hub with Coaster Brake; and Coaster Brake
Width: 15mm., 17mm.



Model XA-110
Spanner for DURA-ACE Hubs
Width: 13mm., 14mm.



Model XA-150
Model XB-100
Hexagon Wrench Keys



Model XA-160
(5mm. Key x 8mm. Hole)
T-Type Wrench with Hexagon Wrench key



Model XA-170
(6mm. Key x 10mm. Hole)



Model XA-100
DURA-ACE Multiple Freewheel Removal Tool



Model XB-200
Boss Type Multiple Freewheel Removal Tool



Model XB-320
Tool for Removing Ball Cup for Three Speed Hub



Model XA-130
Cotterless Crank Extractor



Model XA-120
DURA-ACE Grease
1.76 oz. (50 g.)
17.6 oz. (500 g.)



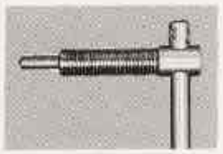
Model XA-190
DURA-ACE LUBU OIL



Model XC-100
Chain Cutter (For Both UG Chain and Ordinary Chain)



Option: Spare Chain Cutting Arrow (Spindle)



Model XA-140
Chainwheel Screw Peg Spanner (For DURA-ACE Only)



Model XB-400
Three Spanners Set for Spindle and Head Parts



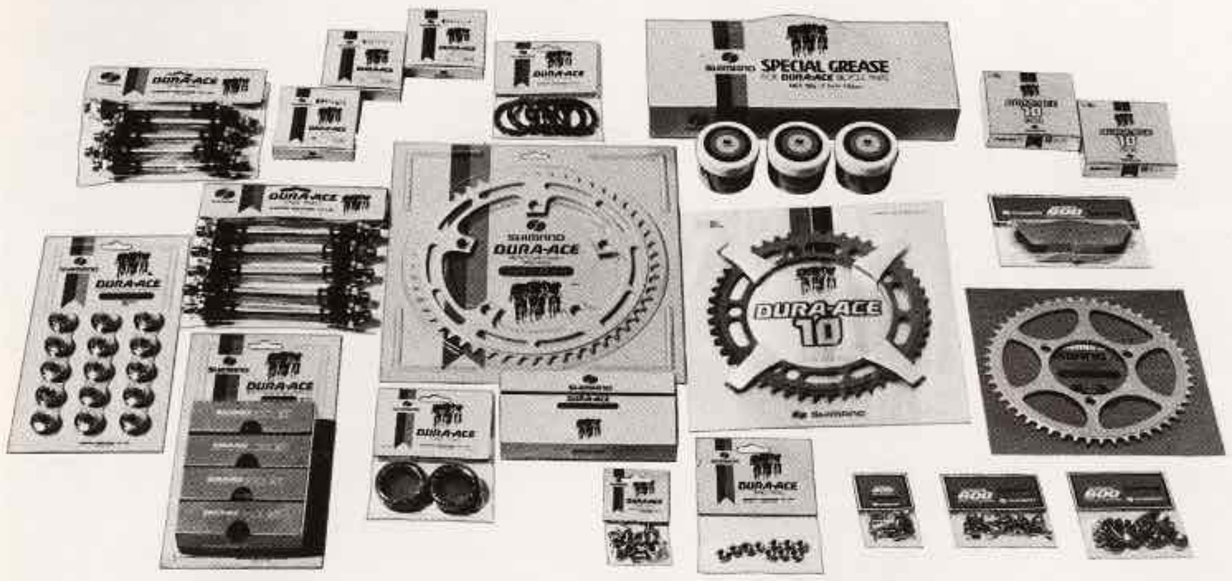
Model XA-180 (For 10mm. Chain)
Model XB-500 (For 1/2″ Chain)
Rear Sprocket Removal Tool

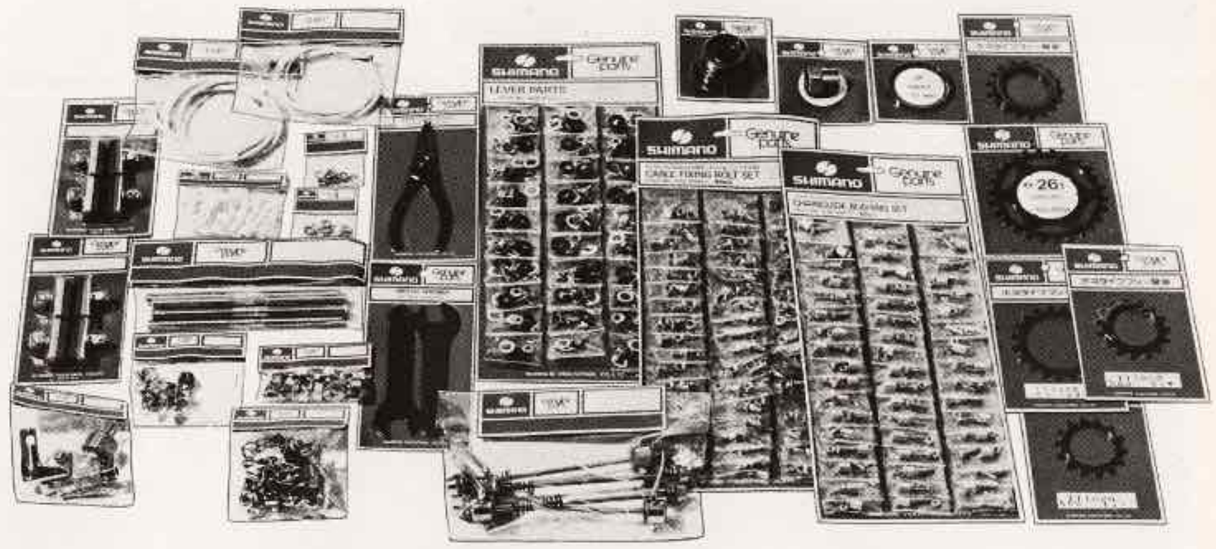


Option: Hanger Cup Hook Bolt

SHIMANO small parts

SMALL PARTS



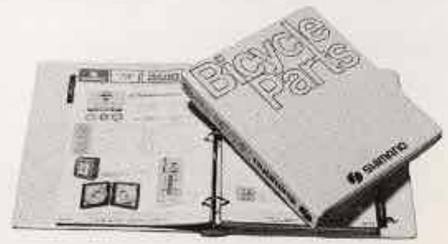


Item	Package Style	Contents	Q'ty
Sprocket for Front Chainwheel	Blister Packed	Sprocket	1
Brake Shoe Set	Blister Packed	Brake Shoe Complete (left)	2
		Brake Shoe Complete (right)	2
Outer Band Set for Caliper Brake	Polyester Bag with Header	Outer Band	3
		Bolt	3
		Nut	3
Complete Quick Release Unit for Front Hub (Over Lock Nut Dimension: 100mm)	Polyester Bag with Header	Hub Axle Set	5
		Quick Release Set	5
Complete Quick Release Unit for Rear Hub (Over Lock Nut Dimension: 120mm/ 5-speed, 126mm/6-speed)	Polyester Bag with Header	Hub Axle Set	5
		Quick Release Set	5
Rubber Cover Set for Brake Lever	Polyester Bag with Header	Rubber Cover Set	2
Crank Arm Dust Cap for Front Chainwheel	Blister Packed	Crank Arm Dust Cap	15
Adjusting Bolt, Nut and Spring for Fork End	Polyester Bag with Header	Adjusting Bolt	2
		Nut	2
		Spring	2
Ball Retainer for Head Parts	Special Polyester Case	Ball Retainer	2
Ball Retainer for Bottom Bracket	Blister Packed	Ball Retainer	20
Bottom Bracket Spindle Set for Front Chainwheel	Package	Spindle	1
		Ball Retainer	2
		L.H. Adjustable Cap	1
		Lock Ring	1
		R.H.Fixed Cap	1
		Spindle Bolt	2
		Spindle Washer	2
Crank Set for Front Chainwheel	Package	Left Crank Arm	1
		Right Crank Arm	1
		Crank Arm Dust Cap	2
		Chainwheel Fixing Bolt	5
		Chainwheel Fixing Nut	5

Item	Package Style	Contents	Q'ty
Lever Parts	Card	Wing screw	30
		Spring Washer	30
		Non-Turn Washer	30
		Pressure Plate	30
		Washer	60
Pulley Set for Rear Derailleur	Card	Pulley Bushing	30
		Pulley	30
		Pulley Cap	60
Cable Fixing Bolt Set for Rear Derailleur	Card	Cable Fixing Bolt	50
		Cable Fixing Washer	50
		Cable Fixing Nut	50
Adapter Screw Set for Rear Derailleur	Card	Adapter Nut	50
		Adapter Screw	50
Derailleur Cap Set	Card	Derailleur Cap	100
Cable Fixing Bolt Set	Card	Cable Fixing Bolt	50
		Cable Fixing Nut	50
		Cable Fixing Washer	50
Chain Guide Bushing Set	Card	Chain Guide Spacer Bolt	50
		Chain Guide Spacer	50
		Toothed Lock Washer	50
		Nut	50
Brake Shoe Set for Caliper Brake	Card	Brake Shoe Complete (left)	10
		Brake Shoe Complete (right)	10
Cable Anchor Set for Side Pull Caliper Brake (Tourney)	Card	Cable Anchor Bolt	50
		Washer	50
		Cap Nut	50

Item	Package Style	Contents	Q'ty
Cable Carrier Set for Center Pull Caliper Brake (Tourney)	Card	Cable Anchor Bolt	50
		Cable Carrier	50
		Cable Anchor Washer	50
		Cable Anchor Nut	50
Outer Band Set for Caliper Brake(Tourney)	Card	Outer Band	60
		Screw	60
Outer Clip Set for Caliper Brake	Card	Outer Clip	60
Bell Crank Set for Three-Speed Hub	Card	Bell Crank	20
		Bell Crank Lock Nut	20
Three-Speed Hub Axle	Polyester Bag with Header	Three-Speed Hub Axle	1
Tension Spring for Rear Derailleur	Polyester Bag with Header	P-Tension Spring	1
		B-Tension Spring	1
Wing Nut for Hub	Polyester Bag with Header	Wing Nut for Front Hub BC 5/16″	2
		Wing Nut for Rear Hub BC 3/8″	2
Complete Quick Release Unit for Hub Over Lock Nut Dimension: 96mm (Front) 124mm (Rear)	Polyester Bag	Complete Quick Release Unit (Front or Rear)	10
Hub Axle Set	Polyester Bag	Hub Axle Set (Front or Rear)	10
Sprocket for Multiple Freewheel	Vacuum Packed	Sprocket	1

- We have a complete line of small parts for DURA-ACE, 600 Series and all other Shimano products.
- Only a limited sample of our entire range is shown here.
- Please refer to the "Shimano Bicycle Parts" catalog which contains the complete line of Shimano parts.



SYSTEM COMPONENTS CHART

TRACK RACING COMPONENTS

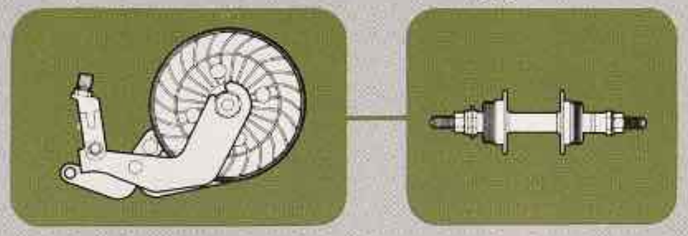
	Front Chainwheel	Sprocket	Hub	Chain	Fork Ends	Head Parts
DURA-ACE 10 Series	Teeth: 46T~53T	Teeth: 14, 15, 16T (For DA 10) Teeth: 15, 16T (For DA)				
DURA-ACE Series	Teeth: 45~52T	Teeth: 13, 14, 15, 16T				

ROAD RACING COMPONENTS

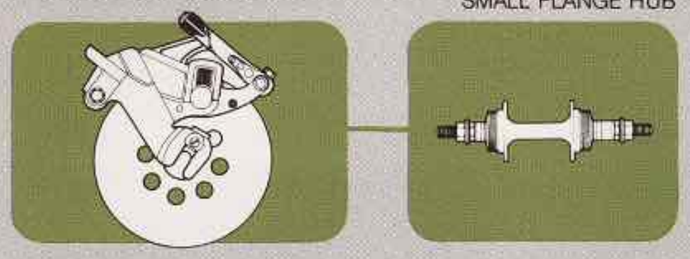
	Front Chainwheel	Multiple Freewheel	Hub	Front Derailleur	Rear Derailleur
DURA-ACE Series	Teeth: (A Type) Inner 39~48T Outer 48~55T (B Type) Inner 42~45T Outer 50~53T	Standard Sprocket Combinations 5-Speed: 13, 15, 17, 19, 21T / 14, 16, 18, 20, 22T / 15, 17, 19, 21, 24T 6-Speed: 13, 14, 15, 16, 17, 18T / 13, 15, 17, 19, 21, 23T	Small (5 or 6 Speed) Large (5 or 6 Speed)		
SHIMANO-600 Series	Teeth: (Double) 30~53T (Triple) Inner 30~32T Middle 42~45T Outer 48~52T (5-Arm Double) Inner 39~48T Outer 48~55T	UG Freewheel Black or Silver Standard Sprocket Combinations 5-Speed: 13, 14, 15, 16, 17T / 13, 15, 17, 19, 21T / 14, 16, 18, 21, 24T 6-Speed: 13, 14, 15, 16, 17, 18T / 13, 14, 15, 17, 19, 21T	Small (5 or 6 Speed) Large (5 or 6 Speed)		

BRAKES

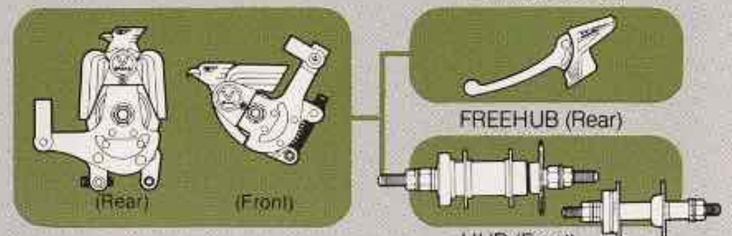
RADIAX Brake



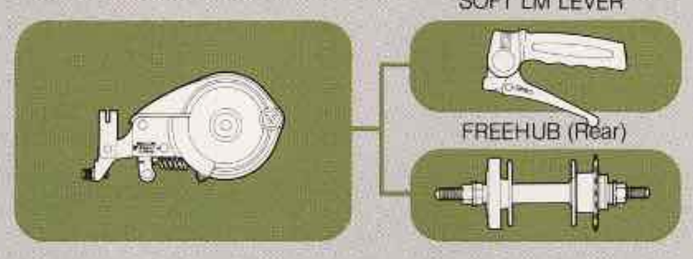
Disc Brake



V-Brake C

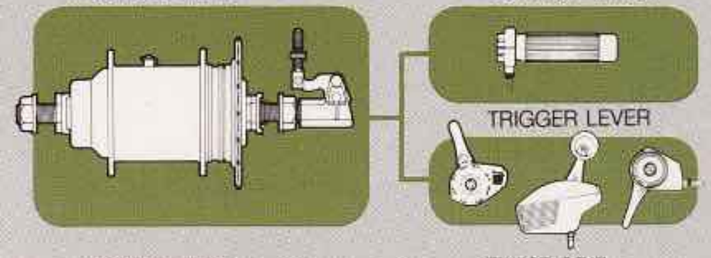


V-Brake M

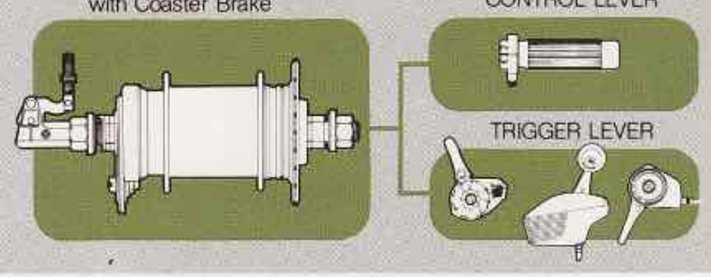


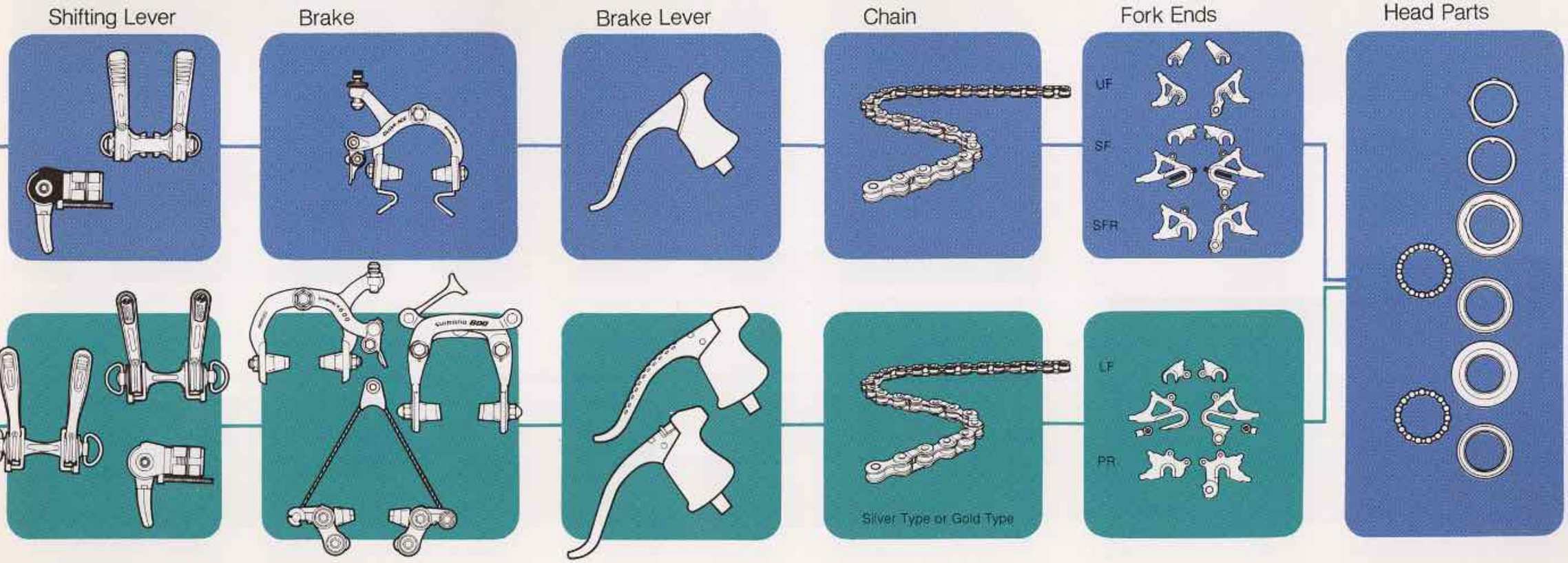
3 SPEED COMPONENTS

Gear Hub



3-SPEED HUB with Coaster Brake





SYSTEM COMPONENTS CHART

5 & 10 SPEED COMPONENTS

Shifting Lever	Front Derailleur	Rear Derailleur
QB-LEVER QS-LEVER QP-LEVER ALMI-LEVER FINGER-TIP UNI-SHIFT SUPER-SHIFTER	SHIMANO-500 SHIMANO-400 TITLIST THUNDER BIRD-II	SHIMANO-500 SHIMANO-500GS SHIMAMO-400 SHIMANO-400GS TITLIST TITLIST GS TOURNEY TOURNEY-GS EAGLE-II LARK-II SKY-LARK SHIMANO-100 LARK MINI

FF SYSTEM COMPONENTS

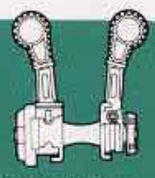
Front Chainwheel	Shifting Lever	Front Derailleur	Rear Derailleur
ALUMI DOUBLE CHAINWHEEL (3-Piece) DOUBLE CHAINWHEEL (3-Piece) DOUBLE CHAINWHEEL INTEGER (3-Piece) SINGLE CHAINWHEEL (3-Piece) DOUBLE CHAINWHEEL (1-Piece) SINGLE CHAINWHEEL (1-Piece)	SAME AS 5 & 10 SPEED COMPONENTS	SAME AS 5 & 10 SPEED COMPONENTS	SHIMANO-400F EAGLE-II LARK-II

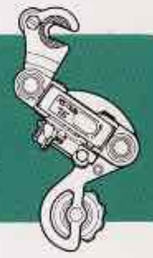




NEW POSITRON PPS SYSTEM

Shifting Lever	Front Derailleur	Rear Derailleur
POSITRON STEM POSITRON DOWN TUBE POSITRON CONSOLE-II POSITRON STEM-CONSOLE POSITRON-EM POSITRON-10 S (Use / Positron Front Derailleur)	POSITRON SAME AS 5 & 10 SPEED COMPONENTS	POSITRON-400 POSITRON-II POSITRON-II 32 POSITRON-EM



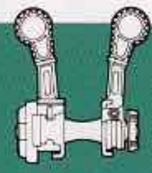


FF SYSTEM PLUS PPS SYSTEM

Shifting Lever	Front Derailleur	Rear Derailleur
POSITRON STEM POSITRON DOWN TUBE POSITRON CONSOLE-II POSITRON STEM-CONSOLE POSITRON-EM POSITRON-10 S (Use / Positron Front Derailleur)	POSITRON SAME AS 5 & 10 SPEED COMPONENTS	POSITRON-400 POSITRON-II POSITRON-II 32 POSITRON-EM

ALUMI DOUBLE CHAINWHEEL (3-Piece)
DOUBLE CHAINWHEEL (3-Piece)
DOUBLE CHAINWHEEL INTEGER (3-Piece)
SINGLE CHAINWHEEL (3-Piece)
DOUBLE CHAINWHEEL (1-Piece)
SINGLE CHAINWHEEL (1-Piece)







Multiple Freewheel	Hub	Caliper Brake	Brake Lever	Chain
UG FREEWHEEL MULTIPLE FREEWHEEL	SMALL FLANGE HUB WITH QUICK RELEASE SMALL FLANGE HUB LARGE FLANGE HUB WITH QUICK RELEASE LARGE FLANGE HUB STEEL HUB	**SIDE PULL CALIPER** TOURNEY (Auto-Adjust & Synpul) TOURNEY (Synpul) **CENTER PULL CALIPER** SHIMANO-500 (Link) TOURNEY (Link) TOURNEY	HOODED LEVER DUAL EXTENSION LEVER POPULAR LEVER SOFT LM-LEVER V-BRAKE LEVER	UNIGLIDE-II (UG-II)
Freehub	FREEHUB-A (FH-A) FREEHUB-C (FH-C)			

Multiple Freewheel	Hub	Caliper Brake	Brake Lever	Chain
UNIGLIDE FRICTION FREEWHEEL 	SAME AS 5 & 10 SPEED COMPONENTS	SAME AS 5 & 10 SPEED COMPONENTS	SAME AS 5 & 10 SPEED COMPONENTS	UNIGLIDE-II (UG-II)

Multiple Freewheel	Hub	Caliper Brake	Brake Lever	Chain	Shifting Cable
UG FREEWHEEL MULTIPLE FREEWHEEL	SAME AS 5 & 10 SPEED COMPONENTS	SAME AS 5 & 10 SPEED COMPONENTS	SAME AS 5 & 10 SPEED COMPONENTS	UNIGLIDE-II (UG-II)	PUSH-PULL CABLE

Multiple Freewheel	Hub	Caliper Brake	Brake Lever	Chain	Shifting Cable
UNIGLIDE FRICTION FREEWHEEL	SAME AS 5 & 10 SPEED COMPONENTS	SAME AS 5 & 10 SPEED COMPONENTS	SAME AS 5 & 10 SPEED COMPONENTS	UNIGLIDE-II (UG-II)	PUSH-PULL CABLE

PROFILE OF SHIMANO

Shimano Industrial Co., Ltd., was established in 1921. In the succeeding 56 years Shimano has expanded into an International Company with a world-wide sales network and it has now diversified into three major divisions: the bicycle component division, the fishing tackle division and the cold forging division.

The bicycle component division has concentrated on developing such vital components as gearshift systems, brake systems, freewheels and hubs. At the present time its products are sold in 60 different countries including the United States and Europe, as well as to the Japanese domestic market.

Shimano's ever-advancing technology and ability to develop new products have brought it a high reputation for innovation and reliability in the bicycle industry. Shimano has established itself as the leading bicycle component manufacturer in the world and commands the overwhelming share of the world market.

Shimano opened its fishing tackle division in 1970 and produces equipment such as fibre-glass rods, reels and fishing coolers. Here again Shimano has won a great deal of support in the fishing industry and among anglers for the high quality and originality of their products. With the growth of fishing as a recreational sport the division has seen its business grow quickly, and is now a leading manufacturer in that field.

Shimano's cold forging division utilizes the Company's well equipped facilities and advanced technology to produce cold forged products to meet the demands not only of the bicycle industry, but also of the automobile, electrical and agricultural machinery industries.

Research and Development

Marketing and research are required to satisfy existing and future demand and to continue the creation of high quality products. Shimano's marketing research network covers every area of the world, including the United States and Europe, so that Shimano can immediately assess changing market trends. Such research is not limited to just detecting market trends, it also deals with basic research problems requiring expert knowledge of many diverse fields, including human engineering and medicine. Our engineers put themselves in the consumers place when applying their know-how to the development of new products.

Shimano's strict quality control is another essential that guarantees the high quality of its products. Shimano's Quality Control Division has independent authority to oversee each step of the manufacturing process from the first stage of development all the way through to production, using its own strictly set standards. An additional specialised checking mechanism critically scrutinizes all the products again at the assembly line before they ever emerge on the commercial market, guaranteeing customers the high quality they have come to expect of Shimano.

Production Facilities

Shimano has four factories, three in Japan and one in Singapore. The main factory is located in Sakai, Japan. It plays an important role as the research center for product development, as well as being the main production plant. It also serves as the headquarters for the different factories and the co-ordination center for all the overseas Shimano offices.

In 1970 the Shimonoseki factory in western Japan started operations producing coaster brakes and three speed hubs for export.

In 1974 Shimano established its first overseas plant in Singapore to produce bicycle components for the overseas market. Situated in a free port and in a favorable location from which to conduct trade with South East Asian countries, the Singapore factory is expected to experience rapid growth in the near future.

In 1971, Shimano-Adachi Co., Ltd., was established in Tokyo.

Shimano is growing vigorously, supported by close co-operation between its plants, producing a total of 3½ million units a month. Shimano's dramatic technological innovations and heavy investments in equipment have modernised its large scale production facilities, reducing costs, upgrading the quality of its products and speeding up production. All factors leading to its competitive position in the world market.

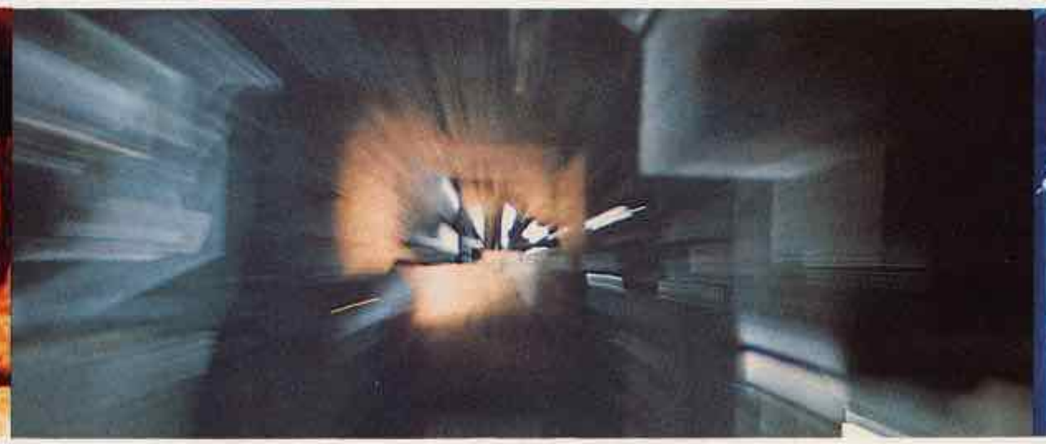
Shimano's cold forging facilities are the most important of all their divisions. With its highly sophisticated equipment and technology, Shimano enjoys a reputation as a pioneer of the cold forging process in Japan and one of the top ranking companies in this line in the world.

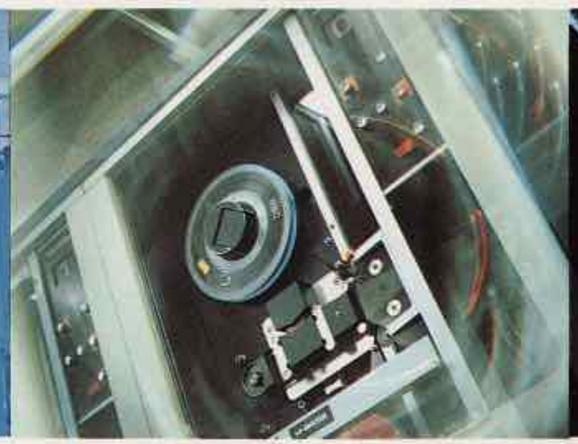
Management System Control

Thanks to Shimano's dynamic management control it has been able to implement a philosphy that actively promotes business while maintaining strict control over finances.

Sound management policies have given the company a healthy financial position in spite of the world-wide recession. By maintaining self-capitalisation at around 50% and keeping careful control of the break-even point over periods of market recession, Shimano has been able to keep developing new products and opening up new markets.

Shimano concentrates upon making quality products available at reasonable prices by raising its management efficiency over everything from production to sales, resulting in increased customer satisfaction and confidence in its products.




World-Wide Organization

Products with the Shimano trade mark have spread to most parts of the world and are now being enjoyed by people in over sixty countries. 'Shimano International' continues to develop markets throughout the world, with a marketing strategy that assesses and then responds to differing local needs.

In 1965 the Shimano American Corporation was established in New York to take care of all sales activites in the United States. In 1974 the Shimano Sales Corporation was founded in Los Angeles to complement Shimano American.

To meet growing European demand, Shimano Europe was established in 1973 in Dusseldorf, West Germany. It not only provides goods satisfying particular European needs but also is the center for the sales and marketing of Shimano products in Africa and the Middle East.

The strategy for Shimano's marketing activities abroad is not to sell to the world products meant for Japanese domestic use, but to sell internationally-ranked products that closely correspond to the diverse, particular needs of each country.

Already an international enterprise, Shimano will continue to search for new marketing possibilities and actively carry on its overseas activities.

Business Achievements

As a member of the Stock Exchange, Shimano has always been aware of its social responsibilities and has made its utmost effort to conduct sound business practices and obtain good returns.

Even when Japan's economy was still suffering from the aftermath of the oil crisis, Shimano succeeded in continuing to pay the same 20% dividend to its stockholders as it had since the dividends were set in November 1964. Shimano is 48.6% self-capitalised and has a floating capital ratio of 151.1%. The financial stability these figures indicate are further reflected in the rising value of Shimano shares in the stock market.

Such results have been achieved by Shimano's continuous efforts to increase management efficiency and strengthen the organisation of the firm. Prestigious domestic and foreign economic journalists have always ranked Shimano among the top business enterprises.

Shimano continues to draw increasing attention around the World.

SHIMANO INDUSTRIAL CO., LTD.

Established: February, 1921
Capital: ¥1,932,612,000 (about $6,442,000)
Number of Employees: 1,200
Head Office and Main Plant:
Shimano Industrial Co., Ltd.
3-77 Oimatsucho, Sakai, Osaka, Japan
TELEX: 5374-757 SIMANO J
Total Area: 37,308 sq. meters
Plant: 36,247 sq. meters
American Office:
Shimano American Corporation
1133 Avenue of the Americas, New York, New York 10036
TEL: (212) 586-2350
TELEX: 127902 SHIMANO NYK
Shimano Sales Corporation
9259 San Fernando Road, Sun Valley, California 91352
TEL: (213) 767-7777
TELEX: 662433 SHIMANO LSA
European Office:
Shimano (Europa) GmbH.
4 Düsseldorf 1, Hüttenstrasse 5, West Germany
TEL: 372007/08
TELEX: 8587249 SEGH D
Singapore Plant:
Shimano (Singapore) Pte. Ltd.
No. 20, Benoi Sector, Jurong Town, Singapore 22
TEL: 654777
TELEX: 23328 RS 23328
Tokyo Office:
Shimano Industrial Co., Ltd.
1-17-17 Omori-Minami, Ohtaku, Tokyo, Japan
Nagoya Office
Shimano Industrial Co., Ltd.
2-37-1 Otobashidori, Nakagawaku, Nagoya, Japan
Shimonoseki Plant:
Simano Yamaguchi Co., Ltd.
1414 Higashishinden, Ozukicho, Shimonoseki, Yamaguchi, Japan
Total Area: 127,303 sq. meters
Plant: 12,163 sq meters
Tokyo Plant:
Shimano Adachi Co., Ltd.
1-50-26 Ogimachi, Adachiku, Tokyo, Japan
Total Area: 386 sq. meters
Service Centers (Fishing Tackle):
Sapporo, Sendai, tokyo, Nagoya, Tokushima, Fukuoka, Hiroshima, Osaka
NFT:
Nippon Fishing Tackle Co., Ltd.
2-37-5 Kamiuma, Setagayaku, Tokyo, Japan








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Specifications are subject to change without notice.

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