

Archive

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'98 SHIMANO BICYCLE SYSTEM COMPONENTS

Shimano Systems Engineering

Dealer Sales
& Support Manual

SHIMANO®

A word from Yoshizo Shimano...

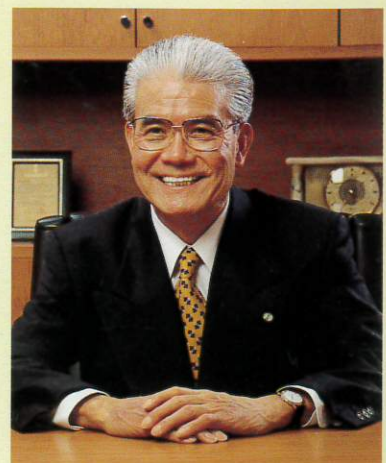
I'd like to express our thanks to each bicycle dealer for the help you've given us in the past. We wouldn't be where we are today without the assistance and cooperation of the people who sell and service Shimano-equipped bicycles and components.

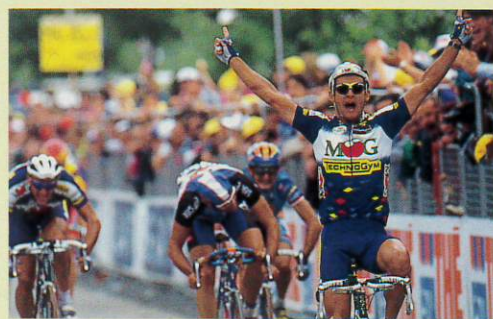
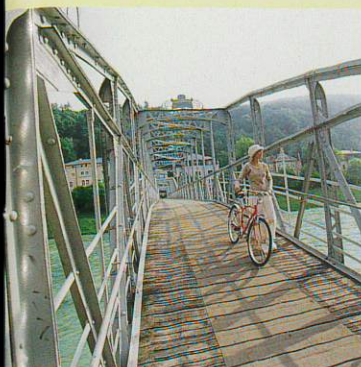
At Shimano, we see our jobs differently than most companies. By this, I mean that we look at our work as a way of turning dreams into reality, a way of turning creative new concepts into innovative components that enhance the cycling experience. We try to maintain a working environment that nurtures creativity and enhances the ability of Shimano employees to express their dreams to the fullest. This is the foundation of our work.

The desired result? Components that make cycling more exciting. Components that will help create more interest in the bicycle, and bicycles that are more appealing to a wider range of people. More importantly, components that will generate more business on your shop floor.

Shimano and the bicycle dealer have everything in common. We not only love cycling and want to get more people on bicycles, but we depend on the bicycle for our livelihood as well. With this in mind, let's keep working together to realize the unlimited possibilities that lie ahead. It's an exciting time to be in the industry.

Yoshizo Shimano
President, Shimano Inc.





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The latest in product development and manufacturing technology.

Shimano has come a long way since 1923 when Shozaburo Shimano rode his bicycle around Sakai (Osaka, Japan) looking for customers for his first single-speed freewheel. The Shimano commitment to quality started when Shozaburo conducted hundreds of heat-treating experiments in an effort to produce a longer-wearing freewheel.

Shimano People

Shimano now boasts of what has become one of the world's most advanced product development and automated manufacturing systems. But the real reason for the company's success is the people themselves. Over one quarter of the workforce at the Sakai headquarters facility is engaged in new product development. A great many Shimano employees are also avid cyclists who ride their bicycles to work and have a first-hand knowledge of the sport and the equipment. A peek into Shimano's large bicycle parking structure on any weekday will show hundreds of employee bicycles. Everybody at Shimano is excited about making better bicycles.

Shimano Systems Engineering

The Shimano Systems Engineering approach to bicycle component design aims at reducing the amount of energy and concentration the rider must expend to ride the bicycle. We make comprehensive use of CAD and CAM systems to speed up product development through on-screen simulations, quick prototyping, and automated tool fabrication. These computerized design and manufacturing aids are indispensable in implementing our "human-engineering" design philosophy which is an important part of the Systems Engineering approach. Human-engineering means that we apply the results of ergonomic research to make sure that Shimano components are designed, from the start, to deliver the highest possible level of response and precision operation.



Mechanical systems are carefully developed to interact closely with the rider by providing precise visual, aural, and tactile signals. In order to fine tune component designs in real world conditions, extensive testing is conducted by the Shimano Skunk MTB development team and professional road racers. The overall results are more efficient use of energy, enhanced rider confidence, and most important of all, a bicycle that's a lot more responsive and fun to ride.

Automated Manufacturing System

Manufacturing costs are held down, and product quality maintained, through our robotic assembly systems which were specifically developed for the unique demands of bicycle component assembly. These robots were developed completely in house to provide the manufacturing flexibility that's essential for a large and diversified product line. Quick-changeover mechanical and programming systems allow Shimano assembly robots to be set up for completely different products in a matter of minutes. The system is so advanced that it has become known in the industry as a model of efficient small-lot production. Shimano is often host to study groups, both from Japan and abroad, who come to learn about the latest in diverse-product manufacturing automation.

Cold Forging Technology

Advanced cold forging technology plays an important role in the Shimano product development and manufacturing system. Cold forged light alloys provide the best balance of strength and light weight, qualities that are especially important for bike components. Many people don't realize, however, that Shimano produces a range of cold forged products which even includes gears for automotive transmissions.

The company's continuing research into cold forging technology has resulted in improved processes that lower manufacturing costs while actually improving product quality.

This is one of the reasons behind the excellent balance of quality and price that Shimano components deliver.

At Shimano, we make sure that every cyclist benefits from the latest advances in product development and manufacturing technology.



Re-Defining the Sport Touring Bike

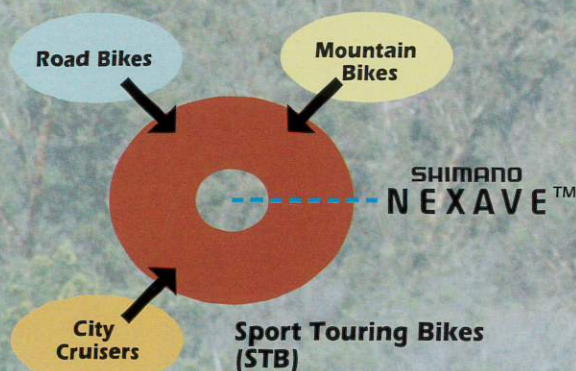
SHIMANO NEXAVE

While many people ride their bikes for fitness, there's a larger group of cyclists who ride their bikes for fun as a healthy leisure activity, or just as a means of reducing the stress of a busy lifestyle. These riders include a large group of sport-touring and recreational cyclists who greatly outnumber the hard-core mountain bikers and road enthusiasts. Sport touring bicycles have traditionally used components that reflect a mix of the functions from both road and MTB components.

Shimano has targeted these sport-touring bikes or sport-utility bikes for a new type of component group specifically designed for this cycling style. The group is called Nexave™, a name which is a combination of "next generation" and "avenue".

Nexave was designed to provide recreational and sport-touring cyclists with a dependable, easy-to-control bike that provides a higher level of casual cycling, while retaining the precise operation and advanced functions that Shimano is known for.

In short, Nexave components make a more rider-friendly, sport-touring/sport-utility bike.



The Nexave Concept

1. More Enjoyable Casual Cycling

Touring cyclists, day trippers, and recreational cyclists often face hilly terrain. Nexave incorporates functions that help conserve energy when tackling the hills.



2. Intuitive Control Design

Worrying about shifting can detract from cycling enjoyment.

Nexave uses a more intuitive shifting system in which the right and left levers use the same motions to up- or down-shift.

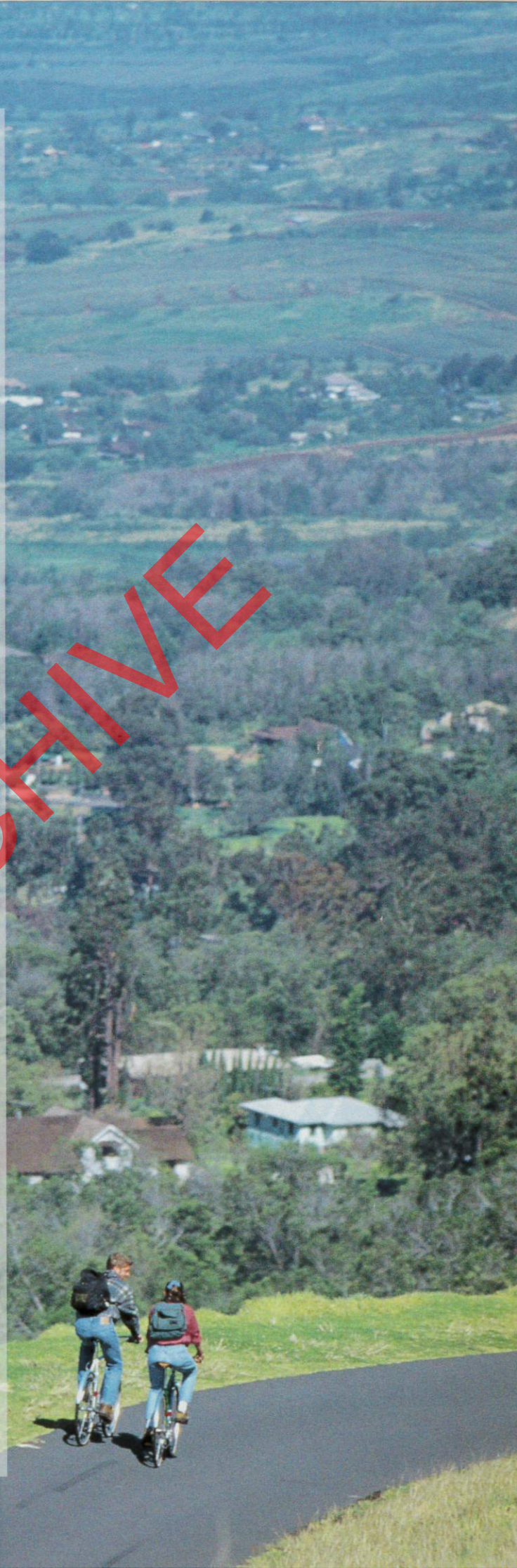
3. "Sport-Touring/Sport-Utility" Specific Components

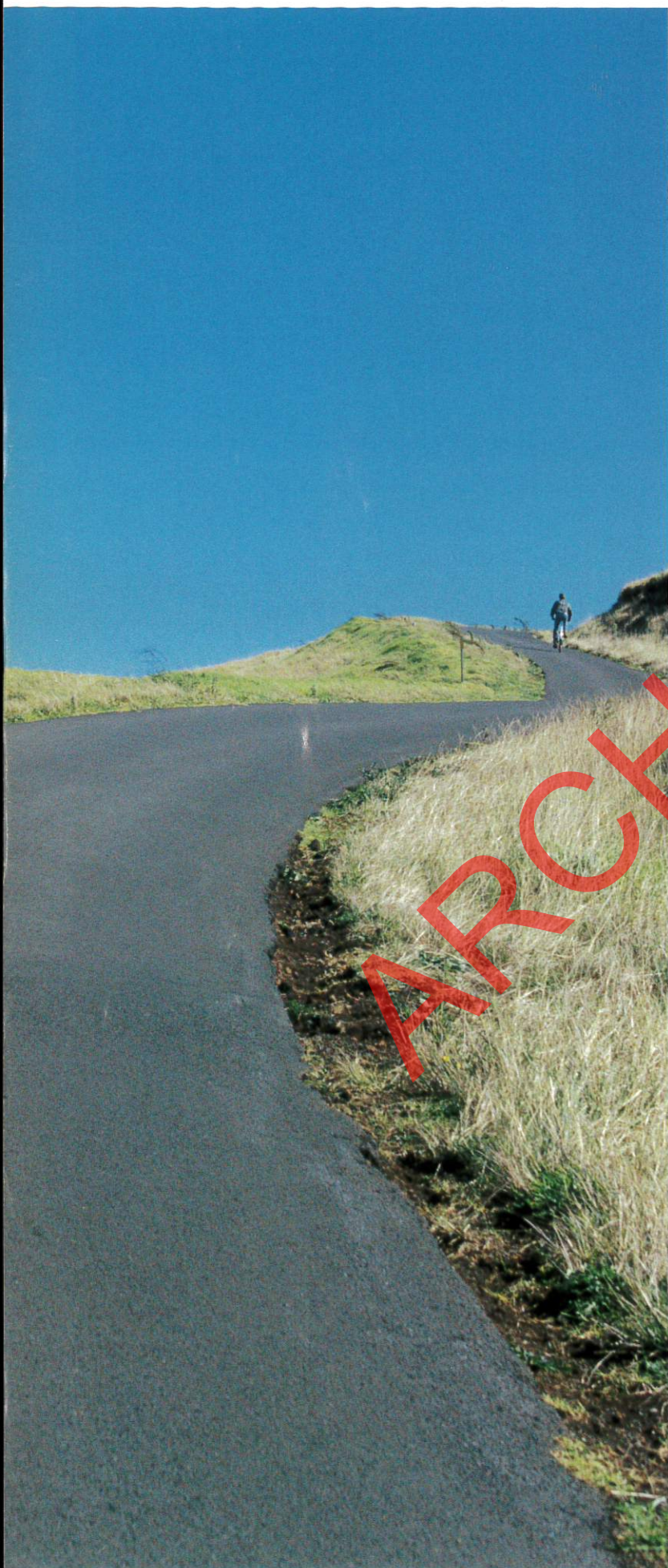
Nexave features functions like the MegaRange gear and pre-select shifting which were designed specifically for the needs of the sport-touring and recreational cyclist.



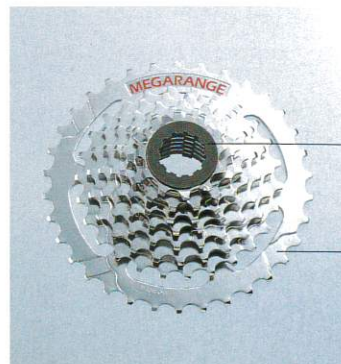
4. Durable Low-Maintenance Design

In keeping with the Nexave "casual cycling" concept, the components were designed not only to provide advanced functions, but also to be highly durable and require little maintenance.





Super-Wide Gear Ratio **MEGARANGE™**



First seven sprockets are standard 11 to 26T sizes.

Last sprocket is a 34T super-low gear.

Nexave incorporates the new MegaRange™ drive train which uses a 34-tooth low gear. This eight tooth jump from the 26-tooth gear at the second position provides a super-low gear ratio that lets cyclists ride up steeper hills that they typically might have to walk up.

The MegaRange drive train like four wheel drive low on a 4 x 4 SUV is perfect for climbing super steep hills.

Wide gear-ratio selection

48T		MegaRange	28:34 → 0.82	(1.76m)
38T		Conventional	28:28 → 1	(2.15m)
28T				
42T		MegaRange	22:34 → 0.65	(1.40m)
32T		Conventional	22:28 → 0.79	(1.70m)
22T				

MegaRange lets you take on any hill.



MegaRange



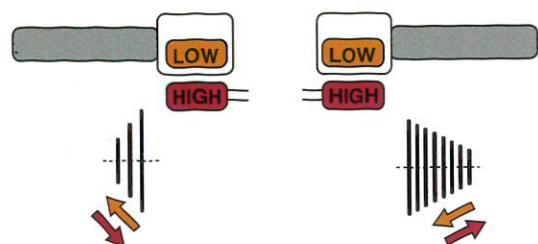
Conventional

MegaRange lets you stay on your bike.

More Intuitive Shifting

Nexave uses the new "Tap-Fire™" shift lever and "Rapid-Rise™" rear derailleur which combined to provide easier shifting. Both Tap-Fire levers use the same shifting action to get lower or higher ratios. This eliminates the confusion that many cyclists feel when operating conventional levers that shift the front derailleur in the opposite direction from the rear.

Same operation for both left and right levers

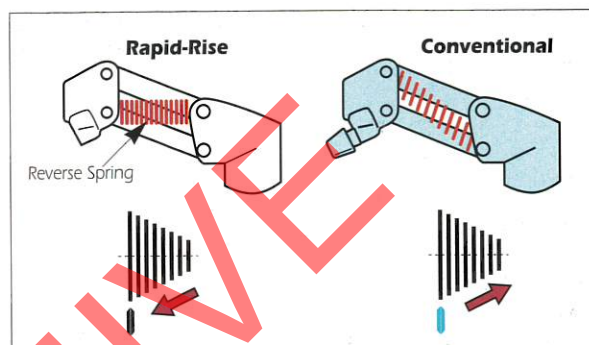


Rapid-Rise™ Rear Derailleur

Light-Touch Uphill Shifting

The parallelogram link tension spring on Nexave's Rapid-Rise rear derailleur works in the opposite direction from conventional types.

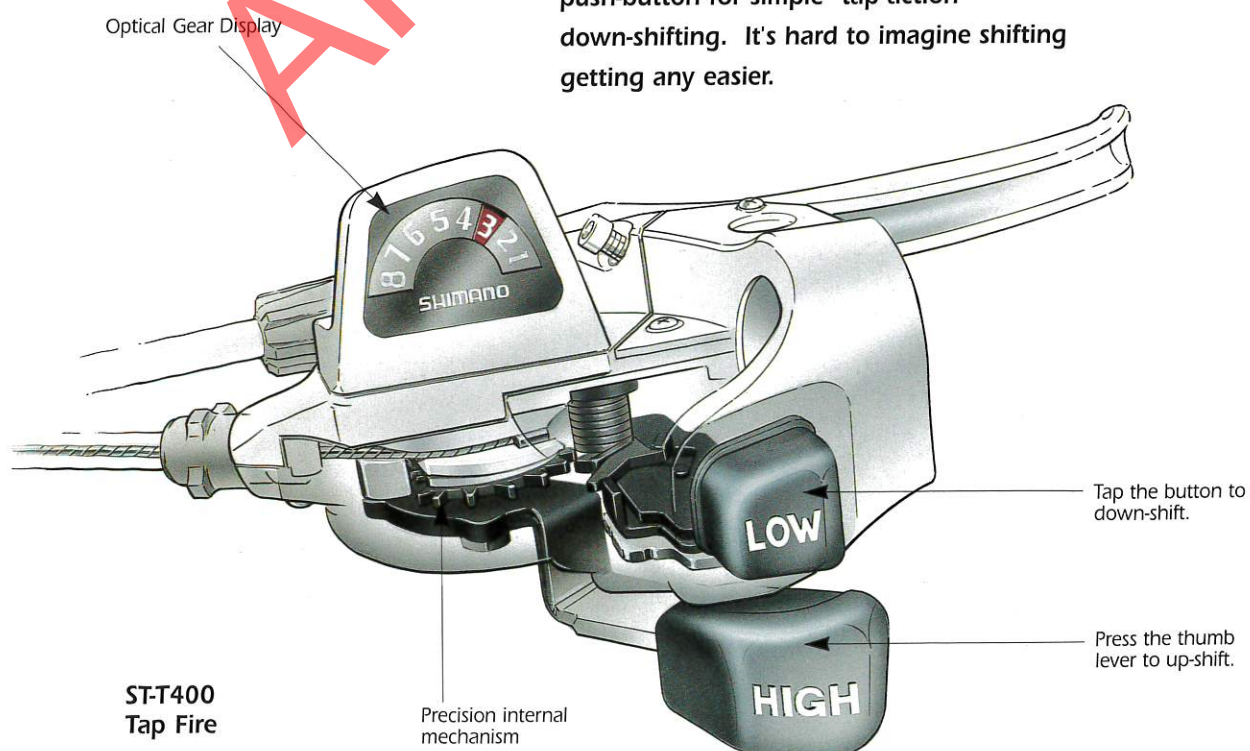
The spring is extended in the top gear position and gradually shortens (loosens) as the derailleur moves toward the lower gears. The result makes shifting on uphill amazingly easy.



Tap-Fire™

Simple Shifting

Tap-Fire brings a new level of simplicity and ease to shifting. In addition to its Light-Action design, Tap-Fire uses a thumb lever for up-shifting and a push-button for simple "tap action" down-shifting. It's hard to imagine shifting getting any easier.



ST-T400
Tap Fire



Power Modulator V-Brake®

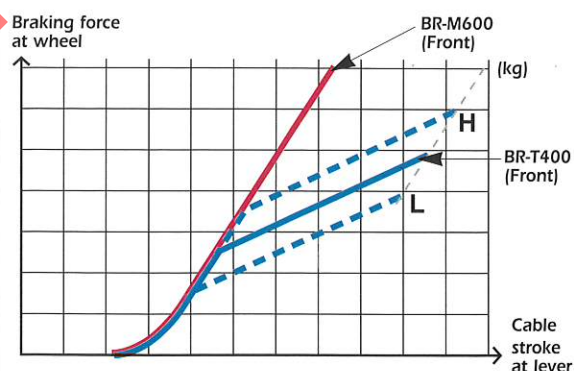
Modulated V-Brake® Action for the Street

Shimano's V-Brakes® used on mountain bikes, are known for their extraordinary stopping power. The V-Brake concept has now been adapted casual recreational use, introducing the new Power Modulator V-Brake for Nexave.

The Power Modulator V-Brake helps to control stopping power to prevent inadvertent application of higher-than-needed braking forces. The modulator mechanism helps prevent accidental wheel lock-up and makes the V-Brake safer and easier to use by sport, recreational, and touring cyclists.

The Modulator V-Brake...it's another upgrade that makes for more enjoyable casual touring and recreational cycling.

How the brake modulator works:



The Modulator V-Brake (BR-T400) works the same as the BR-M600 V-Brake offering a more modulated braking force that can be adjusted to one of three positions.

BR-T400

Cantilever link can be adjusted to one of three positions to adjust braking force.



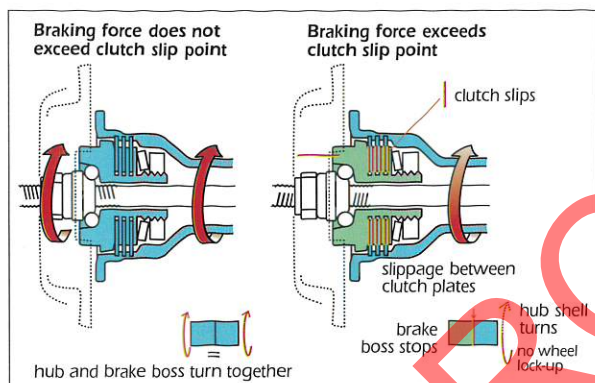


Hub Roller Brake

Completely Silent All-Weather Braking

The Nexave group offers a hub roller brake that eliminates the need for exposed cantilevers. The hub roller brake also features a braking power modulator (built into the hub shell) which prevents inadvertent front wheel lock-up. When applied braking force exceeds the slip coefficient of the modulator clutch, the hub is allowed to turn against the brake until braking force is reduced.

The hub roller brake works silently, provides dependable braking power in any environment, and completely does away with maintenance demands. It's all part of Nexave's casual cycling design concept.

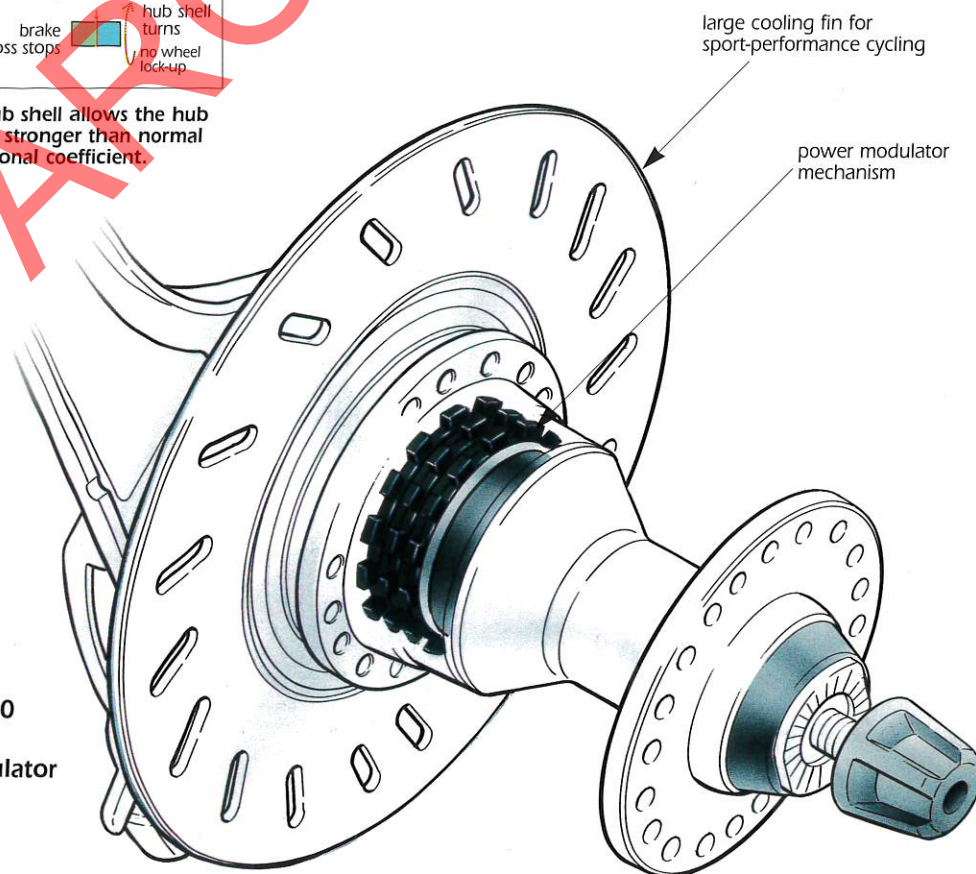
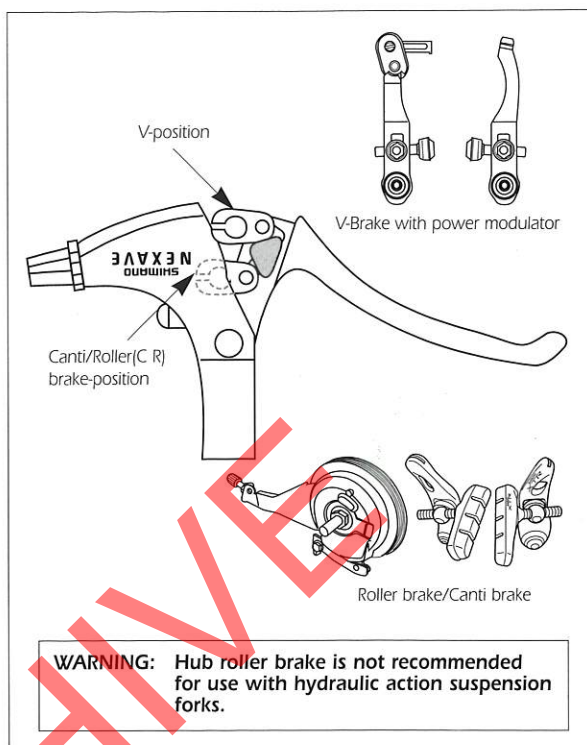


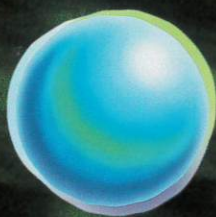
The clutch mechanism built into the hub shell allows the hub to slip (turn) against the brake when a stronger than normal braking force exceeds the clutch's frictional coefficient.

BR-IM50F/HB-IM50
Hub Roller Brake
with Power Modulator

Dual-Stroke Lever

Multi-compatible, dual-stroke lever can be used with V-Brakes with power modulator, cantilever brakes, or hub roller brake.





SHIMANO
ULTEGRA®

ARCHIVE



The Spirit of the Sport

The Ultegra® road group is all new. The "600" has been dropped, so the group is now known simply as Shimano Ultegra to signify the improvements in quality and control precision that it brings to racing and sport-racing road bikes.

Just like Dura-Ace, the new Ultegra group reduces weight and upgrades control response to make more efficient use of energy. The biggest changes are the use of a new 9-speed sprocket cluster with aluminum alloy carriers, and an available triple crankset. Ultegra also features a beautiful, smooth-contoured appearance that exemplifies its high performance.

Ultegra it's the great new spirit of the sport.



1. Wider Range of Performance

Ultegra's new 9-speed sprocket cluster and available triple crankset offer a wider range of performance, for racing sport cycling, and even touring applications.

2. Lighter Weight

New Ultegra is over 350 grams lighter than the previous group. That's a significant weight reduction in light of the new 9-speed sprocket cluster.

3. 27-Speed Drive Train

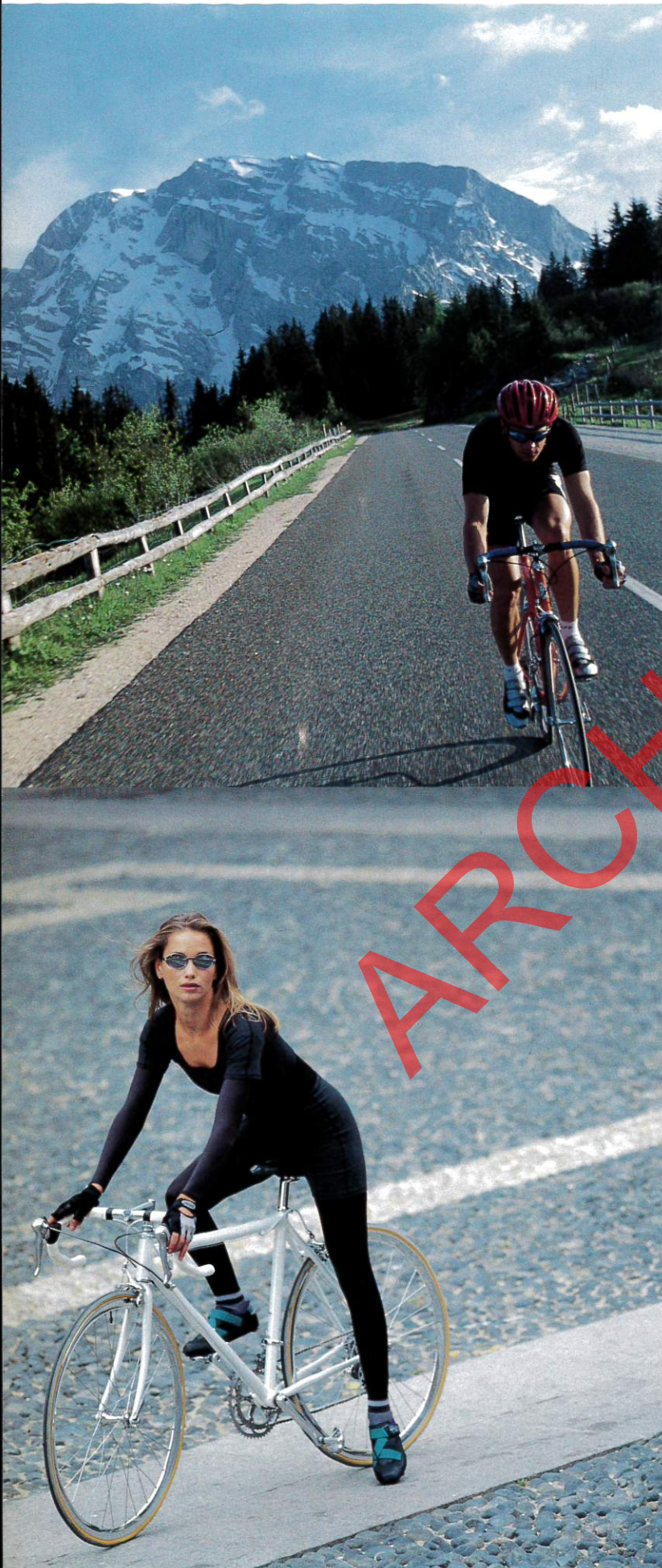
Ultegra's 9-speed sprocket cluster and available triple crankset can be used for a 27-speed road bike with wide range gearing. Triple chainring shifting is as fast and smooth as the double.

4. Compatibility

Ultegra's 9-speed sprocket spacing and derailleur geometry are the same as Dura-Ace. The result is complete interchangeability between the two groups, and more freedom for manufacturers and custom bike builders in specifying road components.

5. Smooth Convex Design

New Ultegra offer more than upgraded performance and reduced weight. The group's smooth convex design theme reflects the higher level of quality and precision designed into the components. Ultegra sets a new standard of appearance, quality, and performance for sport-racing components.



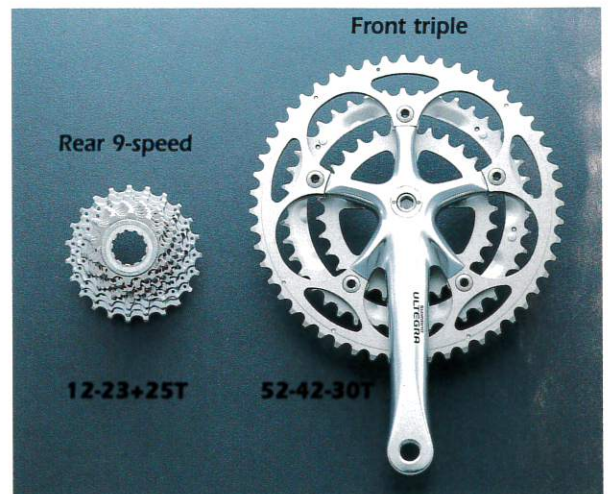
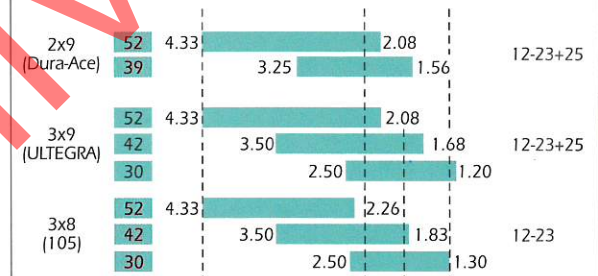
27-Speed Drive Train

A Wider Application Sport-Racing Group

Ultegra's 9-speed sprocket cluster and available triple crankset can be applied to both 27-speed road and touring bikes for more gearing. This type of wide range gearing on a lightweight road bike opens up new possibilities for bicycle design that encompass a wide range of sport-touring, fitness, commuting. Ultegra isn't only ready to race, it's ready to take you anywhere you want to go.

27-Speed Drive Train Variations

Ultegra's 9-speed sprocket and triple crankset bring a wider range of gearing and more flexible performance to a wider range of quality road bicycles.



Component-Integrated Cycle Computer Flight Deck™



The Flight Deck™ integrates the cycling computer push-buttons into the Dual Control lever for quicker and safer operation that doesn't distract you from the road.

Display contents

1. Current speed (VEL)
2. Clock (CLK)
3. Trip time (TIM)
4. Trip distance (d)
5. ODO meter (ODO)
6. Stopwatch
7. Stopwatch-trip distance (DST STW)
8. Stopwatch-average speed (AVE STW)
9. Stopwatch-maximum speed (MAX STW)
10. Cadence
11. Maximum speed
12. Average speed
13. Lap counter
14. Gear number (digital)
15. Gear indicator (bar)
16. Gear ratio
17. VEL : AVE comparison
18. Low battery display

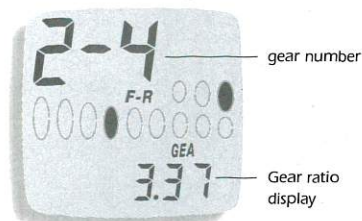
Features

- Automatic start/stop function
- Manual start/stop function
- Simplified tire size display
- Power saver function
- Compatible with double, triple front chainwheel and 7, 8, 9 rear sprockets. Compatible with Rapid Rise rear derailleur.
- Gear indicator option function
- Time reset function
- Data viewing function when computer is removed from mount
- All clear switch (AC)

The STI® lever incorporates an integral shift sensor that allows the computer to display not only the current gear selection but the gear ratio as well. The cycle computer also provides a display of pedal cadence in addition to the conventional speed, top speed, and elapsed time functions.

The mode select button on the STI lever lets you call up the desired function without taking your hands off the bars. You can also start the computer as you start your ride without changing hand position on the bars. The Flight Deck not only tells you how you're riding, it helps you ride better as well. It's a new milestone in user-friendly component design.

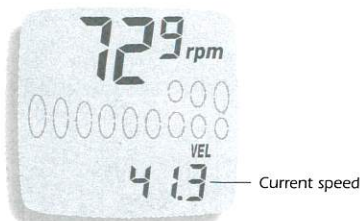
Gear number (digital)



Digital gear position display

Gear position and ratio display appear for 20 seconds after shift is executed.

Cadence

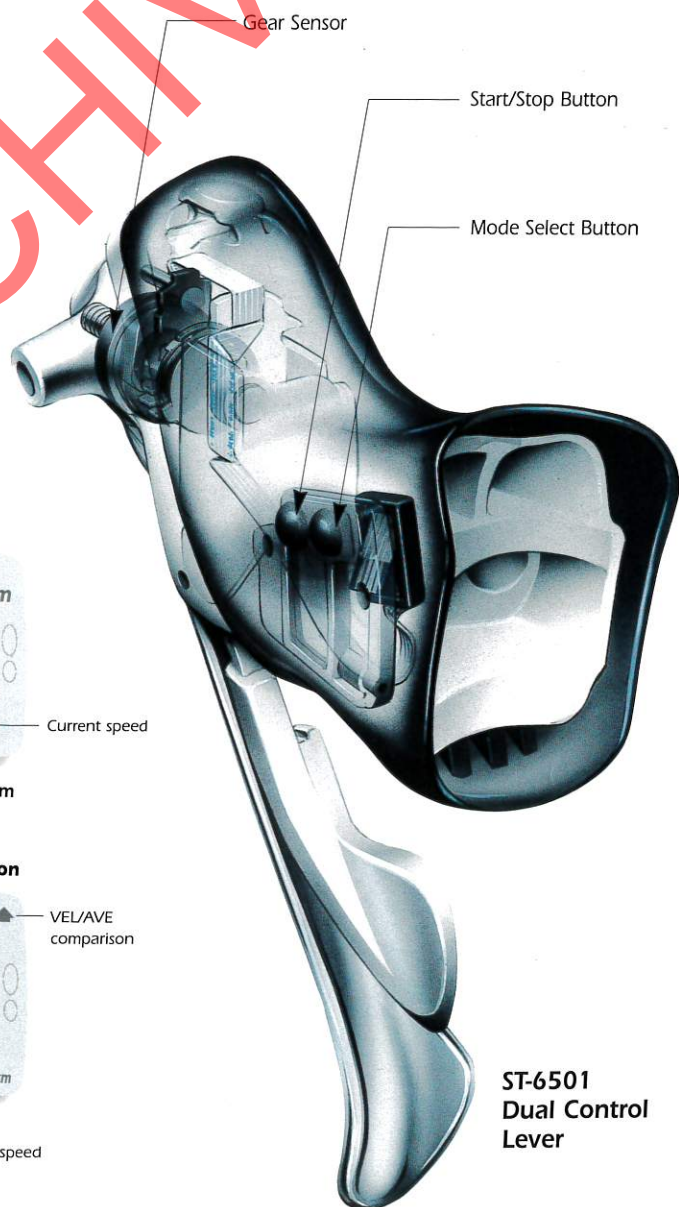


Pedal cadence in rpm

Average speed VEL : AVE comparison



Pace display for distance vs. speed



ST-6501
Dual Control
Lever

**Shift from the bar-ends
while climbing
or on rolling terrain.**

**SHIMANO
XTR®**

Rapidfire® Remote

Now you don't have to be on the grips in order to shift. As the name implies, Rapidfire® Remote is an extra shift lever that can be mounted on bar-ends to allow easier and faster shifting from a different hand position. If you're racing on washboard or other difficult terrain and need to shift quick without comprising your grip, Rapidfire Remote lets you hit that shift instantly from the bar-ends. Available as part of the XTR™ group, Rapidfire Remote can give you a real racing advantage.



prototype



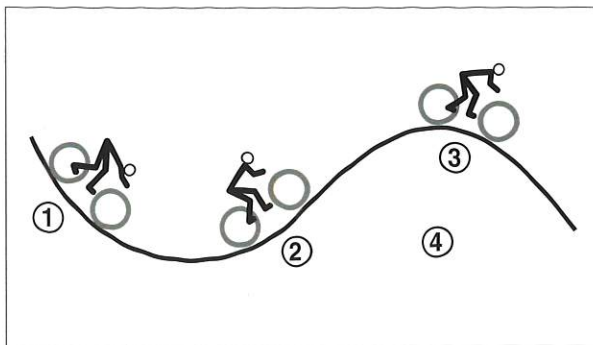
prototype



XTR Rapidfire® Remote

Shift Anytime at any Hand Position

The Rapidfire® Remote shifting system consists of the Rapidfire Remote lever and Rapid-Rise™ rear derailleur which can be used together with the XTR group's standard ST-M951 or SL-M951 shift lever sets. The Rapidfire Remote lever can be mounted in any desired position on the bar-ends for faster, easier shifting. The new Rapid-Rise rear derailleur uses reverse shifting tension which allows the thumb lever to be used for up-shifting.



- 1) Trigger lever can be used to pre-select lower gears for approaching uphill or turns.
- 2) Perfect HG shifting results from spring pressure always shifting the derailleur through the gates regardless of cadence or torque.
- 3) Thumb lever can be used for single of multiple up-shifts.
- 4) Lets you shift from either the grips or extensions.



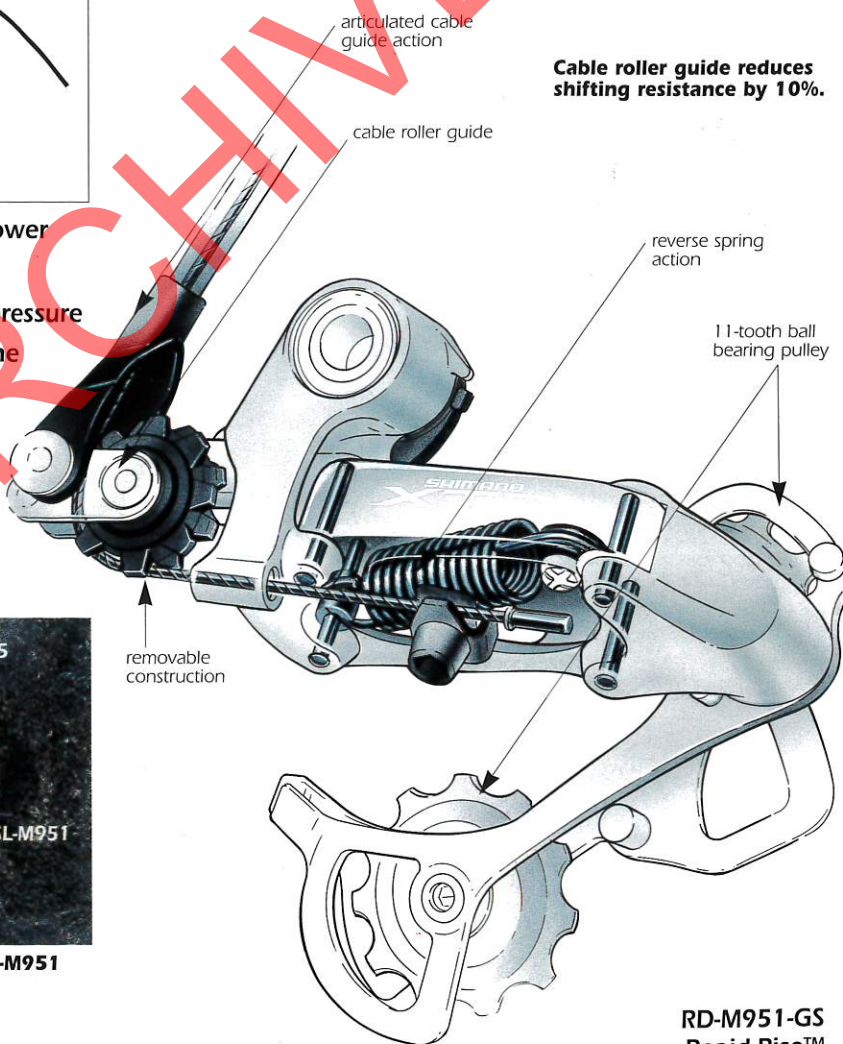
Compatible with RD-M950 and RD-M951 rear derailleurs.



Rapid-Rise™ Rear Derailleur

"Light touch" shifting on uphill

XTR's new RD-M951 Rapid-Rise rear derailleur uses a Light Action extension spring, positioned in a way which releases pressure as the derailleur moves towards the lower gears. This design allows the release lever to be used to down-shift, and uses derailleur spring pressure to aid in completing the downshift. The result is faster, smoother, and more precise down-shifts, especially when pedaling uphill. The derailleur also uses a roller-type cable guide that reduces shifting friction by 10 percent. It's a new standard of shifting performance for off-road racing.



RD-M951-GS
Rapid-Rise™
rear derailleur

New Products for 1998

<New MTB Components>

FC-M951-DH XTR™ Crankset
4-arm XTR crankset specifically designed for downhill racing.

- Machined alloy single chainring type
- High rigidity with light weight
- Available in 46, 48, 50, 52, and 54-T sizes



SM-V950 XTR Fork Stiffener
Brake Booster

Brake booster eliminates frame flex under high braking loads.

- Lightweight carbon fiber construction



New Shift Levers with Optical Gear Display

SL-M951 XTR Shifter
(Rapidfire Remote compatible)

SHIMANO XTR™



SL-M740 Deore XT®
8-speed Shifter

SHIMANO DEORE XT™



SL-MC41 STX-RC™
8-speed Shifter

SHIMANO STX-RC™



SL-MC40 STX™ 7-speed
Shifter

SHIMANO STX™



FC-MC40 STX-RC™ 4-Arm
Crankset
Rigid 4-arm crank design for the STX group



V-Brake® System for STX and STX-RC

BL-MC40 Lever

- 2-position Servo-Wave action adjustment

BR-MC40 V-Brake®

- Low-flex design uses standard cantilever style pad.
- Spring tension adjuster allows easy pad centering.
- Cartridge-type spring is protected from elements.

SHIMANO STX-RC™
SHIMANO STX™



ST-EF30 EZ-Fire® Plus
Shift/Brake Lever Unit

- 7-speed EZ-Fire shifting.
- Up to three downshifts with one lever stroke.
- Adjustable brake lever reach.

SHIMANO ACERA™



SHIMANO ACERA™



V-Brake® system for ACERA-X®

ST-EF28 ● EZ-Fire Plus for use with V-Brakes with or without Power Modulator.

BR-M280 ● V-Brake with Power modulator.



SL-EF18/SL-EF19-L/SL-EF17 Tourney® EZ-Fire Plus Shifters

Front Shifters:

SL-EF19-L Dual SIS®-type
SL-EF18-L/EF17-L friction type with ratchet "pump up" mechanism.

Rear Shifters

SL-EF18-R SIS-type shifter
SL-EF17-R SIS-type shifter

FC-TY30/BB-TY30 Tourney
TY30 Crankset

- Dual SIS® compatible
- Chainguard available
- Cartridge bottom bracket
- 48-38-28T

SHIMANO TOURNEY®



<New BMX Components>

FH-MX66/CS-MX66/ HB-MX66

Shimano DX™ Freehub® and Front Hub for BMX

- Single-speed freehub for BMX bikes (FH-MX66)
- Easy sprocket change feature
- Sealed mechanism
- 14, 15, 16, and 18T sprockets available

SHIMANO DX™

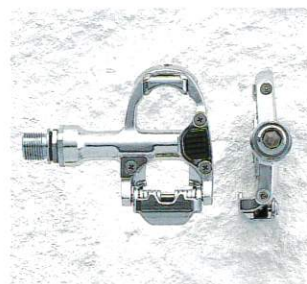


<New Road Components>

PD-7700 Dura-Ace® SPD-R™ Pedal

Improved SPD® road pedal for greater pedaling efficiency.

DURA-ACE®



<New Nexus® Components>

SB-7S45/BL-IM45 Nexus Revo-Shifter & Brake Lever

- Compatible with V-Brake® with Power Modulator, hub roller brake, or cantilever brake.
- Easy-Ratchet shifting mechanism
- 3-finger type brake lever

NEXUS®



FC-A415 RSX™ Double Crankset

- All aluminum alloy construction
- Low-profile crank arm
- 52-42T

SHIMANO
RSX™



8 mm Hexagon Wrench

Bearing

Bearing

Needle Bearing

Rubberpad helps
stabilize cleat on pedal

PD-7700
SPD-R® road
racing pedal

ARCHIVE

The Continuing Evolution of Shimano Component Functions

Shimano is continually working to develop new functions that make cycling easier, more efficient, and fun for all cyclists. The icons shown here denote a specific function and are used on the component explanation pages to give you a quick reference to the functions offered by each group.

'98 New Functions



MegaRange™

Larger low gear sprocket for easier hill climbing.
▪Nexave™



Tap-Fire™ Shifter

Easy push-button shifting that takes just a "tap".
▪Nexave™



Rapid-Rise™ Rear Derailleur

Reverse spring makes down-shifting amazingly easy.
▪XTR™
▪Nexave™



V-Brake® Modulator

Power application control prevents inadvertent lock-up.
▪Nexave™
▪Acera-X®



Roller Brake Modulator

In-hub clutch prevents wheel lock-up.
▪Nexus®
▪Nexave™



Rapidfire® Remote

Remote shifting from handle bar extension.
▪XTR™



Preselect Mechanism

Lever can be shifted without pedaling.
▪Nexave™



New EZ-Fire® Plus

Easier shifting for beginning and recreational cyclists.
▪Acera-X®



SPD-R™

Enhanced performance Shimano Pedaling Dynamics.
▪Dura-Ace®



Shimano Digital Shifting

Precision ratchet-action shifting with intuitive push-pull operation.



Rapidfire SL™

Precise low-friction short stroke shift levers.



EZ-Fire® Plus™

Low-effort shifting for recreational cyclists.



Optical Gear Display

At-a-glance gear position indication.



Advanced Light Action

Low-friction front and rear derailleurs.



Dual Control Lever

Integrated shift and brake lever for road groups.



Rear SIS®

Precise indexed shifting of rear derailleur.



9-Speed HG™

HG sprockets on 9-speed cluster.



HG™ Sprockets

Improved chain control during shifting.



Shimano IG® System

Integrated drive train design for improved shifting.



Aluminum Alloy Sprocket Carrier Unit

Reduced weight sprocket mounting system.



Freehub®

Freewheel mechanism integrated into hub shell.



Roller Clutch Freehub®

Stronger, quieter, ramp-and-roller freewheel clutch.



Parallax® Hub

Oversize hub shell and heavy-duty spoke flanges.



Dual SIS®

Indexed front and rear derailleur shifting.



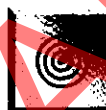
Top-Swing™ Front Derailleur

Compact, low-friction design reduces shifting effort.



HyperDrive™

Integrated chainring and front derailleur design.



HyperDrive-C™

Compact chainrings and sprockets for MTB groups.



4-Arm Chainring Crankset

Reduced weight and increased rigidity.



Cartridge Bottom Bracket

One-piece cassette bearing bottom bracket.



V-Brake®

High-performance MTB cantilever brake design.



Servo Wave® Action

Modulated brake cable pull action.



Low Flex Cantilever

Reduced cantilever and frame flex during braking.



M-System™

Dependable all-weather braking.



Anti-Vibration M-System™

All-weather braking with squeal suppression design.



Super SLR®

Low-friction dual pivot brake caliper for road groups.



SPD®

Shimano Pedaling Dynamics shoe and pedal system.



Cartridge Headset

Cartridge bearings for simplified installation.



SHIMANO
XTR[®]



Pro Racer

SHIMANO
DEORE **XT**[®]



Hard Core Cyclist

SHIMANO
DEORE **LX**[®]



Enthusiast Cyclist

SHIMANO
STX RC[™]



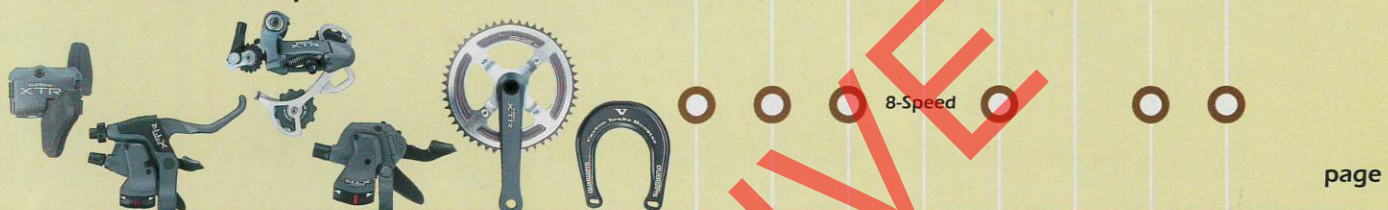
Advanced
Recreational Cyclist

High-End MTB groups Off-Road Performance Cycling

High-performance component groups for those who take their off-road riding seriously.

The table below shows the new components and feature comparisons of the high-end MTB groups for 1998.

'98 New Products Line-Up.



SHIMANO DX™





HB-M950



FH-M950



ST-M951

FC-M951



FD-M950

SL-SS95



BL-M950



SL-M951



BB-M950

CS-M950



BR-M950



RD-M951-GS



RD-M950-GS

SHIMANO XTR®

The Ultimate Off-Road Component Group

XTR

ST-M951 ^(MC)

Rapidfire SL™ Shift/Brake Lever Set

SL-M951 ^(MC)

Rapidfire SL™ Shift Lever Set

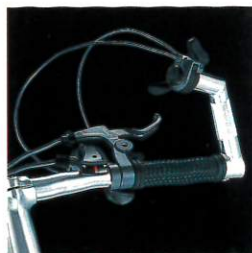
BL-M950 V-Brake® Lever Set

- High-precision short-stroke SIS shifting.
- SL-M951 includes Optical Gear Display.
- Compatible with SL-SS95 remote shift lever.
- Up to 4 downshifts with a single lever stroke.
- Main lever rides in 3 ball bearing units.
- Stepless adjustment Servo-Wave Action braking modulator.

SL-SS95

Rapidfire® Remote Shift Lever Set

- Allows derailleur from bar extension.
- Use together with ST-M951 or SL-M951 lever sets.
- New low-effort down-shifting function with RD-M951 rear derailleur.



Rapidfire Remote up-grade kit

RD-M951-GS Rear Derailleur

RD-M951-SGS Rear Derailleur

- Compatible with Rapidfire Remote system (SL-SS95, SL-M951/ST-M951)
- Reverse-spring action for low-effort down-shifting.
- Roller cable guide reduces friction 10% over RD-M950.
- 11-tooth pulleys turn smoother, quieter, last longer.

RD-M950 Rear Derailleur

- Compatible with Rapidfire Remote system (SL-SS95, SL-M951/ST-M951)
- Teflon™-coated link bushings reduce friction.
- Titanium hanger bolt, hollow steel and aluminum alloy bolts reduce weight.

Teflon is a registered trademark of The Dupont Corporation.

BR-M950 V-Brake® Cantilevers

- Extra-long cantilever arms deliver

incredible stopping power. ●Parallel-Push linkage keeps pads flat against rim. ●Low-flex design reduces stress on frame. ●Sealed self-lubricating pivot. ●Fits standard cantilever bosses. ●M-System pads assure all-weather performance. ●Easy-replacement cartridge brake pad.

Important :

V-Brake cantilevers and V-Brake levers must be used together. The use of other types of levers will adversely affect braking performance.

CS-M950 Cassette Sprockets

- Fast-shifting 8-speed HG sprockets.
- Forged aluminum alloy sprocket carrier reduces weight, boosts rigidity.
- Titanium low gears (3). ●12-32T P-group and 11-30T ak-group available.

FD-M950/FD-M950-E Front Derailleur

- Separate inner and outer chain cage plate action improves shifting response.
- Nickel-plated aluminum alloy chain cage reduces weight, maintains durability.
- FD-M950-E type needs a seat tube adapter for installation.

FC-M951 ^(MC) Crankset

- Rigid lightweight 4-arm design with IG chainrings.
- Hollow forged Duraluminum crank arms.
- FC-M951-HG type available with standard 5-arm chainrings.

BB-M950 Bottom Bracket

- Oversize 22mm chrome-moly pipe billet spindle.
- Serrated mounting spline increases crank arm joint rigidity.
- Use of ball and needle bearings allows wider bearing placement.
- Fits standard cantilever bosses.

FC-M951-DH ^(New) Crankset

- New design for downhill racing applications.
- Lightweight machined alloy chainring stabilizes chain action.
- Chainrings available in 46, 48, 50, 52, and 54-tooth sizes.

SM-V950 ^(New) Brake Booster

- Rigid lightweight carbon fiber brake increases braking power and response.
- Light weight : 55g.

PD-M747 SPD® Pedal

(See page 92 for more information.)



RAPID-RISE REAR DERAILLEUR



RAPIDFIRE REMOTE



V-BRAKES



SERVO-WAVE ACTION



SHIMANO DIGITAL SHIFTING



RAPIDFIRE SL



OPTICAL GEAR DISPLAY



ADVANCED LIGHT ACTION



HG SPROCKETS



ALLOY SPROCKET CARRIER



DUAL SIS



DIFFERENTIAL PLATE FD



HYPERDRIVE



SPD



4-ARM CHAINRING CRANKSET



See pages 32-37 for XTR specifications.

^(MC) : Minor changes

BB-UN72



HP-M741



FH-M737



HB-M737



FD-M739



CN-IG90



FC-M739



FC-M739-5arm



CS-M737-I



BR-M739



SL-M740



Brake Cable (W-Type)



ST-M739



BL-M739



RD-M739-SGS



SHIMANO DEORE XT[®]

The MTB group that started it all.

ST-M739

Rapidfire SL[™] Shift/Brake Lever Set

SL-M740 ^{New}

Rapidfire SL[™] Shift Lever Set

BL-M739 V-Brake[®] Lever Set

- High-precision short-stroke SIS shifting.
- Up to three downshifts with one lever stroke.
- SL-M740 includes Optical Gear Display.
- 3-position Servo-Wave Action adjustment.



BR-M739 V-Brake[®] Cantilevers

- V-Brake design delivers powerful braking.
- Parallel-Push linkage keeps pads flat against rim.
- Low-flex construction reduces stress on frame.
- Sealed self-lubricating pivot.
- Fits standard cantilever bosses.
- M-System pads for all-weather performance.
- Quick-change cartridge brake pad.

Important :

V-Brake cantilevers and V-Brake levers must be used together. The use of other types of levers will adversely affect braking performance.



FD-M950/FD-M950-E

Front Derailleur

- Compact Top-Swing design reduces shifting effort.
- FD-M950-E type mounts directly to bottom bracket (seat tube adapter required).

FC-M739 Crankset

- Rigid lightweight 4-arm design with IG chainrings.
- Channel forged arms reduce weight.
- Seven arm lengths available from 165 to 180mm.
- FC-M739-5 type available with standard 5-arm chainrings.

RD-M739 Rear Derailleur

- Cold forged alloy construction.
- Smooth low-effort shifting from advanced Light-Action design.
- Teflon[™]-coated link bushings reduce friction.
- Sealed ceramic bushing guide pulley bearing.
- Sintered bushing tension pulley bearing.

Teflon is a registered trademark of The Dupont Corporation.

CS-M737-I Cassette Sprockets

- Fast-shifting 8-speed HG sprockets.
- Aluminum alloy sprocket carrier reduces weight, boosts rigidity.
- 11-28T R-group and 11-30T ak-group gearing available.

PD-M747 SPD[®] Pedal

- Off-road SPD racing pedal features easy step-in dual sided mechanism.
- Open design and special cleat plate resists mud build-up.
- Smooth precision sealed cartridge bearing unit.



PD-M636 SPD[®] Pedal

- Off-road SPD pedal for BMX, down hill, dual slalom, and other riding styles.
- Pop-up binding allows use of cleated or uncled shoes.
- Oversize cage provides firm footing.



FH-R080



FH-M565



BB-UN52



HB-M563



Brake Cable (T-Type)



HP-M563



FD-M567



FC-M569-5arm



FC-M569



CS-HG70-I



BL-M601



RD-M567



BR-M600



SL-M569



SHIMANO DEORE LX[®]

Hard-working components that get you where you want to go.

DEORE LX

BL-M601 ^(MC) V-Brake[®] Lever Set

- Servo-Wave action V-Brake lever.
- 3-position Servo-Wave adjustment.



BR-M600 V-Brake[®] Cantilevers

- V-Brake design delivers powerful braking.
- Low-flex construction reduces stress on frame.
- Enclosed pivot bearing.
- Fits standard cantilever bosses.
- M-System pads for all-weather performance.

Important :

V-Brake cantilevers and V-Brake levers must be used together. The use of other types of levers will adversely affect braking performance.



SL-M569 Rapidfire Plus[®] Shift Lever

- High-precision SIS shifting.
- Integrated Optical Gear Display.
- Up to 3 downshifts with one stroke.

FD-M567/FC-M567-E Front Derailleur

- Compact Top-Swing design for smooth low-effort shifting.
- FD-M567-E mounts directly to bottom bracket (seat tube adapter required).

CS-HG70-I Cassette Sprockets

- Fast-shifting 8-speed HG sprockets.
- 11-30T an-group and 11-28T ah-group gearing available.

FH-R080 Roller Clutch Freehub

- New 8-speed design.
- Ramp and roller clutch disperses pedaling loads for greater durability.
- Reduced engagement shock.
- Silent freewheeling.

PD-M535 SPD[®] Pedal

- Off-road SPD pedal for cross-country riding style.
- Easy Step-In feature for faster entry.
- Pedal contoured to prevent mud build-up.

Compact design reduces weight by 100g over previous type.



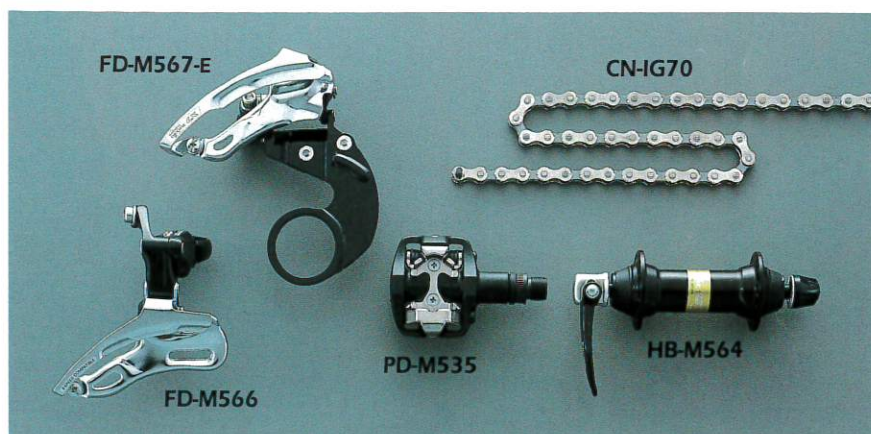
FC-M569 Crankset

- Rigid lightweight 4-arm IG chainrings.
- Lightweight forged crank arms.
- Arms available in 170 and 175mm lengths.
- FC-M567-5 type available with standard 5-arm chainrings.

RD-M567 Rear Derailleur

- Smooth low-effort shifting from Advanced Light-Action design.
- Teflon[™]-coated bushings on spring hanger pins.
- Chromized pulley bushings.

Teflon is a registered trademark of The Dupont Corporation.



See pages 32-37 for Deore LX specifications.

^(MC) : Minor changes

FH-R080



FH-MC38



BB-UN52



HB-MC33



CS-HG60-I



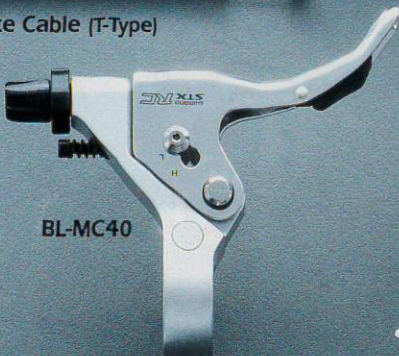
Brake Cable (T-Type)



FD-MC36



BL-MC40



SL-MC41



FC-MC40



RD-MC38



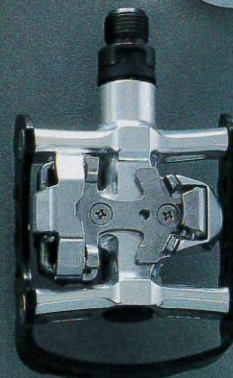
HP-MC30



BR-MC40



PD-M323



SHIMANO STX-RC™

Great performance wherever you ride your MTB.

SL-MC41 ^{New}

Rapidfire Plus® Shift Lever Set

- New 8-speed shift lever for STX-RC.
- Integral Optical Gear Display. ● Up to 3 downshifts with one stroke

FD-MC36/FD-MC36-E

Front Derailleur

- Compact Top-Swing design for smooth low-effort shifting. ● FD-MC36-E mounts directly to bottom bracket (seat tube adapter required).

FC-MC40 ^{New} Crankset

- New 4-arm crankset with IG chainrings.
- Arms available in 170 and 175mm lengths.

BL-MC40 ^{New} V-Brake® Lever Set

- 2-position Servo-Wave Action adjustment (recessed hex screw).

<Servo-Wave Action Setting Comparison>

BL-M600	H	M	L
BL-MC40	H		L

BL-MC40 "H" setting lies between H and M settings of BL-M600



RD-MC38 Rear Derailleur

- New 8-speed Advanced Light-Action derailleur. ● Teflon™-coated bushings on spring hanger pins. ● Chromized pulley bushings.

Teflon is a registered trademark of The Dupont Corporation.

CS-HG60-8-I Cassette Sprockets

- Fast-shifting 8-speed HG sprockets.
- 11-30T an-group and 11-28T ah-group gearing available.

FH-MC38 Freehub®

- New 8-speed freehub for STX-RC.
- Heavy-duty Parallax design. ● Rubber cap and contact sealing. ● FH-R080 roller clutch freehub also available.

BR-MC40 V-Brake® Cantilevers

- Awesome V-Brake stopping power.
- Dual position spring adjusters.
- Enclosed spring and bearing design simplifies installation. ● Low-flex construction reduces stress on frame.
- Fits standard cantilever bosses.
- M-System pads for all-weather performance

Important :

V-Brake cantilevers and V-Brake levers must be used together. The use of other types of levers will adversely affect braking performance.



PD-M636 SPD® Pedal

(See page 92 for more information.)

PD-M323 SPD® Pedal

- Great flexibility...SPD cleat binder on one side, normal pedal cage on the other.

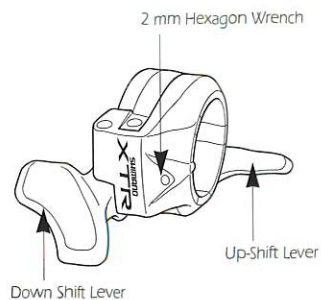


HIGH-END MTB COMPONENTS - FEATURES & SPECIFICATIONS

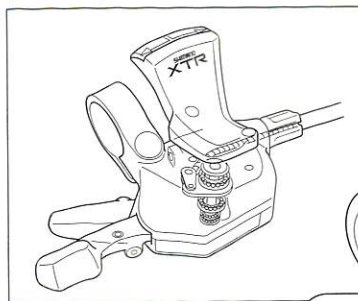
○ = yes Ø = no

Specification		Series	XTR			DEORE XT			DEORE LX		STX-RC	
Rapidfire SL Lever Set	Model No.		ST-M951	SL-M951	SL-SS95	ST-M739	SL-M740	SL-M739	SL-M569		SL-MC41	SL-MC38
	Shift Lever Specs	Types	combined shift & brake lever set	shift lever set only	remote Shifter	combined shift & brake lever set	shift lever set only	shift lever set only	shift lever set only		shift lever set only	shift lever set only
		Advanced Light Action	○	○	○	○	○	○	○		○	○
		Rear	8-speed	8-speed	8-speed	8-speed	8-speed	8-speed	8-speed		8-speed	8-speed
		Front	triple	triple	—	triple	triple	triple	triple		triple	triple
		Optical Gear Display	○	○	—	○	○	∅	○		○	∅
		Removable OGD Module	○	○	—	○	○	∅	∅		∅	∅
		Shift Cable Casing	sealed SIS-SP40				sealed SIS-SP40		sealed SIS-SP40		sealed SIS-SP40	
	Shift Cable	stainless steel				stainless steel		stainless steel		stainless steel (option)	stainless steel (option)	
	Brake Lever Specs	For V-Brake Only	○	—	—	○	—	—	—		—	—
		Power Adjuster	step-less	—	—	3-step	—	—	—		—	—
		Lightweight Lever	○	—	—	○	—	—	—		—	—
		Reach Adjuster	○	—	—	○	—	—	—		—	—
		Lever Pivot Bushing	low friction	—	—	low friction	—	—	—		—	—
		Dust Cover	∅	—	—	∅	—	—	—		—	—
		Barke Cable Casing	M-system	—	—	M-system	—	—	—		—	—
	Brake Cable	stainless steel (option)	—	—	stainless steel (option)	—	—	—		—	—	
Clamp Bolt		stainless steel	stainless steel	stainless steel	stainless steel	stainless steel	stainless steel	stainless steel		stainless steel	stainless steel	
Weight		337g		40g	358g	260g	208g	249g			289g	
V-Brake Lever	Model No.		BL-M950			BL-M739			BL-M601		BL-MC40	
	For V-Brake Only		○			○			○		○	
	Power Adjuster		step-less			3-step			3-step		2-step	
	Lightweight Lever		○			○			○		○	
	Reach Adjuster		○			○			○		○	
	Lever Pivot Bushing		low friction			low friction			low friction		low friction	
	Brake Cable Casing		M-system			M-system			M-system		M-system	
	Brake Cable		stainless steel (option)			stainless steel (option)			stainless steel (option)		stainless steel (option)	
	Clamp Bolt		stainless steel			stainless steel			stainless steel		stainless steel	
Weight		166g (pair)			159g (pair)			175g (pair)				
V-Brake	Model No.		BR-M950			BR-M739			BR-M600		BR-MC40	
	V-Brake System		○			○			○		○	
	M-System		○			○			○		○	
	Parallel Link		○			○			∅		∅	
	Brake Pad Types		M-70R2			M-70R2			M-70T3		M-70T2	
	Fixing Bolt Length (mm)		18/21.5/30.5 (mm)			15/18/26.5 (mm)			15/18/26.5 (mm)		16/18.5/27 (mm)	
	Cartridge Unit Spring		∅			∅			∅		○	
	Enclosed Pivot Sleeves		○			○			○		○	
	Bushings		bearing, DU type			hard brass			hard brass		hard brass	
	Spring Tension Adjuster		○			○			○		○	
	Fasteners		stainless steel			stainless steel			stainless steel		stainless steel	
	Easy-access Cable Fixing Bolt		○			○			○		○	
Weight		375g			383g			404g				
Front Hub	Model No.		HB-M950			HB-M738		HB-M737	HB-M564	HB-M563	HB-MC33	
	Parallax Design		○			○		○	○	○	○	
	Over Locknut		100mm			100mm		100mm	100mm	100mm	100mm	
	Axle Length		108mm			108mm		108mm	108mm	108mm	108mm	
	Axle Diameter & Material		11mm aluminum			11mm aluminum		9mm steel	10mm steel	9mm steel	9mm steel	
	QR Lever		aluminum			aluminum		aluminum	aluminum	aluminum	aluminum	
	QR Housing		aluminum			aluminum		aluminum	aluminum	aluminum	aluminum	
	QR Nut		aluminum			aluminum		aluminum	aluminum	aluminum	aluminum	
	Stainless Steel Ball Bearings		○			○		∅	∅	∅	∅	
	Cone Races		Borozon*			Borozon*		Borozon*		Borozon*		
	Cup Races		Borozon*			polished		polished		∅		
	Contact Sealing		double			double		double		single		
	Spoke Holes		36/32/28 holes			36/32 holes		36/32 holes		36/32 holes		
	Spoke Hole Circle		38mm			38mm		38mm		38mm		
	Hub Shell		aluminum/anodized			aluminum/anodized		aluminum/anodized		aluminum/anodized		
	Weight		190g			206g		202g	218g	205g	212g	

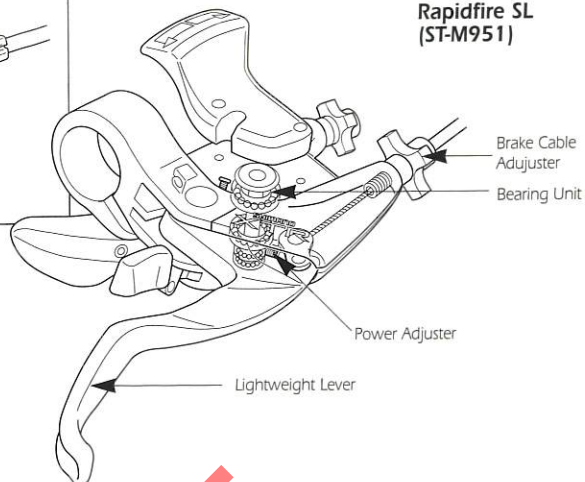
Remote Shifter
(SL-SS95)



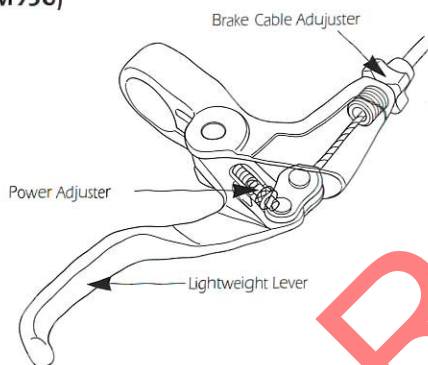
Separate Rapidfire SL
(SL-M951)



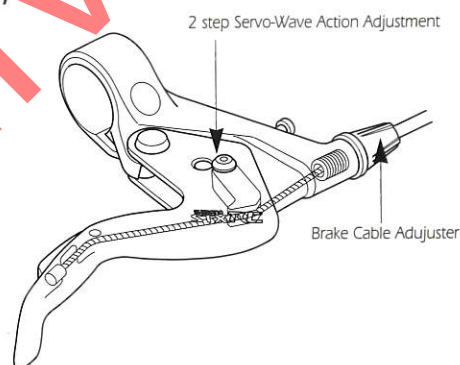
Rapidfire SL
(ST-M951)



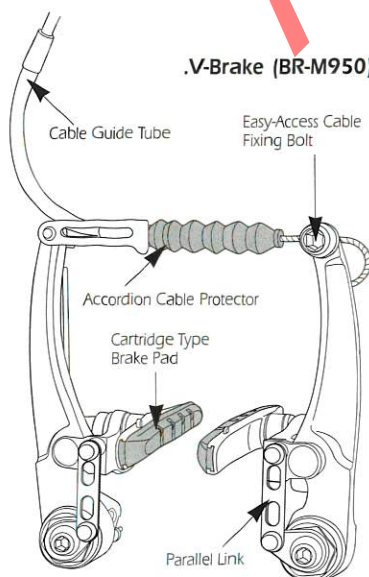
V-Brake Lever
(BL-M950)



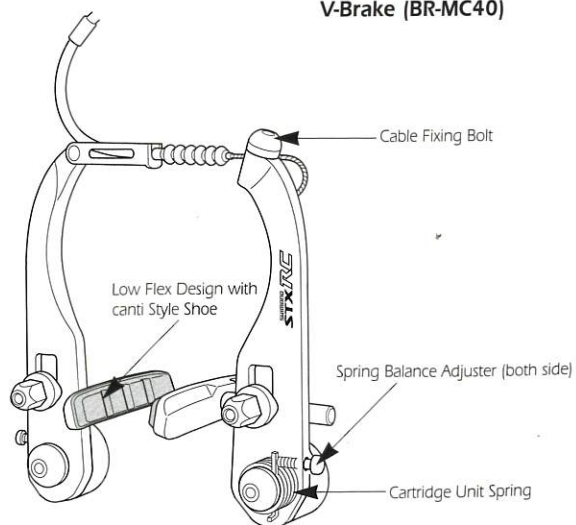
V-Brake Lever
(BL-MC40)



V-Brake (BR-M950)



V-Brake (BR-MC40)



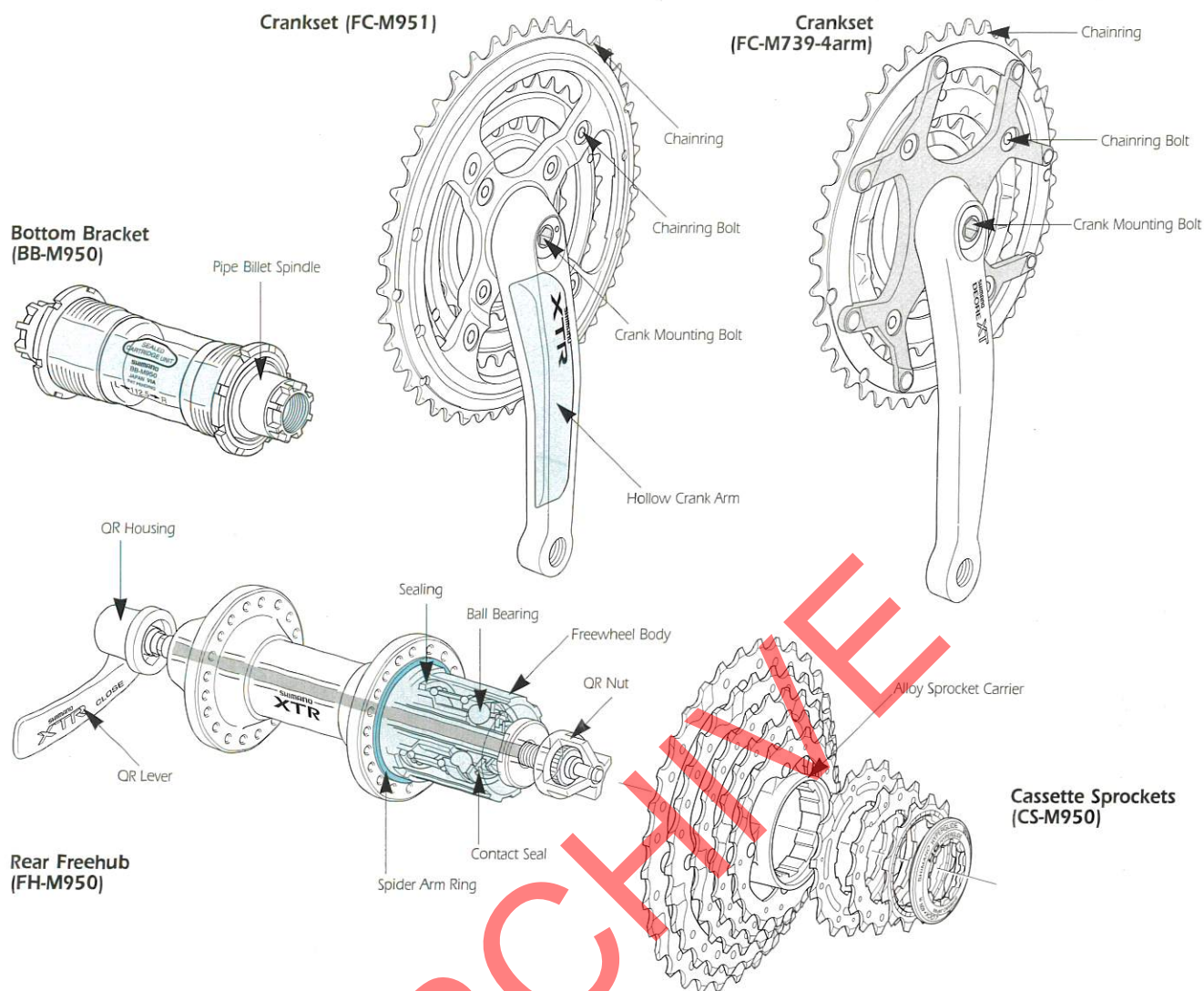
HIGH-END MTB COMPONENTS - FEATURES & SPECIFICATIONS

Specification	Series	XTR			DEORE XT		DEORE LX		STX-RC
*Crankset	Model No.	FC-M951	FC-M951-HG	FC-M951-DH	FC-M739	FC-M739-5arm	FC-M569	FC-M569-5arm	FC-MC40
	HyperDrive-C	Hyper Drive	Hyper Drive		○	○	○	○	○
	Dual SIS	○	○	—	○	○	○	○	○
	4-Arm Chaining	○	○	○	○	○	○	○	○
	Chaining Types	IG chaining	HG chaining	IG chaining	IG chaining	IG chaining	IG chaining	IG chaining	IG chaining
	Chain Types	IG chain	HG chain	IG chain	IG chain	IG chain	IG chain	IG chain	IG chain
	Number of Teeth	46-34-24T	48/46-36-26T	46/48/50/52/54T	44/42-32-22T	44/42-32-22T	42-32-22T	42-32-22T	42-32-22T
	Bolt Circle Diameter	112/68mm	110/74mm	110mm	104/64mm	94/58mm	104/64mm	94/58mm	104/64mm
	Crank Arm Length	165/167.5/170/172.5/ 175/177.5/180mm			165/167.5/170/172.5/ 175/177.5/180mm		170/175mm		170/175mm
	Crank Arms	forged ultra duralumin/ hollow type			aluminum	aluminum	aluminum	aluminum	aluminum
	Crank Bolts	M15 (mm) aluminum			stainless steel	stainless steel	stainless steel	stainless steel	stainless steel
	Outer Chaining	7075 aluminum	7075 aluminum	7075 aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
	Middle Chaining	7075 aluminum	7075 aluminum	—	aluminum	aluminum	aluminum	aluminum	aluminum
	Inner Chaining	7075 aluminum	7075 aluminum	—	aluminum	steel	aluminum	steel	steel
**Bottom Bracket	Chaining Bolts & Nuts	7075 aluminum	7075 aluminum	7075 aluminum	7075 aluminum	stainless steel	stainless steel	stainless steel	stainless steel
	Chainguard	○	○	○	○ (44T) ○ (42T)	○	○	○	○
	Weight	629g (175mm)			682g (175mm)		697g (175mm)	721g (175mm)	
	Model No.	BB-M950			BB-UN72	BB-UN72-E	BB-UN52	BB-UN52-E	BB-UN52
	Chain Line Stabilizer	○			○	○	○	○	○
	Marking	112	116	MM110 LL113	MM110 LL113	MM110 LL113	MM110 LL113	MM110 LL113	MM110 LL113
	Chain Line	47.5mm	50mm	47.5mm 50.0mm	47.5mm 50.0mm	47.5mm 50.0mm	47.5mm 50.0mm	47.5mm 50.0mm	47.5mm 50.0mm
	B.B. Shell Width	73/68mm	73/68mm	73/70/68mm	73/70/68mm	73/70/68mm	73/70/68mm	73/70/68mm	73/70/68mm
	Spindle Length	112.5mm	116mm	107mm 113mm	110.5mm 113mm	110.5mm 113mm	110.5mm 113mm	110.5mm 113mm	110.5mm 113mm
	Spindle	M22mm chrome-moly steel/ hollow type			chrome-moly steel/hollow type	chrome-moly steel/hollow type	chrome-moly steel	chrome-moly steel	chrome-moly steel
	Adapter	aluminum			aluminum	aluminum	resin	resin	resin
	Weight	175g			242g				
	Model No.	FH-M950			FH-M737		FH-M565	FH-R080	FH-MC38
	Sprockets	8-speed			8-speed		8-speed	8-speed	8-speed
Rear Freehub	11T Small Sprocket	○			○		○	○	○
	Roller Clutch	○			○		○	○	○
	Parallax Design	○			○		○	○	○
	Over Locknut	135mm			135mm		135mm	135mm	135mm
	Axle Length	146mm			146mm		146mm	146mm	146mm
	Axle Diameter & Material	10mm titanium			10mm steel		10mm steel	10mm	10mm
	QR Lever	aluminum			aluminum		aluminum	aluminum	aluminum
	QR Housing	aluminum			aluminum		aluminum	aluminum	aluminum
	QR Nut	aluminum			aluminum		aluminum	aluminum	aluminum
	Stainless Steel Ball Bearings	○			○		○	○	○
	Cone Races	Borozon***			Borozon***		Borozon***	Borozon***	Borozon***
	Cup Races	Borozon***			polished		polished	barrel polished	barrel polished
	Contact Sealing	double			double		double	double	single
	Spoke Holes	36/32/28 holes			36/32 holes		36/32 holes	36/32 holes	36/32 holes
Cassette Sprocket	Spoke Hole Circle	45mm			45mm		45mm	45mm	45mm
	Spider Arm Ring	aluminum			aluminum		steel	steel	○
	Hub Shell	aluminum/anodized			aluminum/anodized		aluminum/anodized	aluminum/anodized	aluminum/anodized
	Weight	371g			452g		442g	559g	559g
	Model No.	CS-M950			CS-M900-I		CS-HG70-I		CS-HG60-8-I
	Alloy Sprocket Carrier	forged aluminum			semi forged aluminum		aluminum		○
	Number of Sprockets	8-speed HG			8-speed HG		8-speed HG		8-speed HG
	Group Identification	P, ak			P, Q		R, ak		an, ah
	Sprocket	titanium and steel			steel		steel		steel
	Sprocket finish	champagne gold & titanium silver			champagne gold		chrome plated		silver
	Chain Compatibility	IG chain			IG chain		IG chain		IG chain
	11T Small Sprocket	○ (P) ○ (ak)			○		○		○
	Weight	232g (P-group)			316g (P-group)		256g (R-group)		326g (ah-group)
	Model No.	CN-IG90					CN-IG70		CN-IG51
Chain	Type	IG narrow type					IG narrow chain		IG narrow chain
	Inner Link Finish	nickel plated					barrel polished		barrel polished
	Outer Link Finish	nickel plated					nickel plated		nickel plated
	Link Pins	chromized/polished pin end					chromized/polished pin end		chromized
	Weight	314g (114 links)							

*FC-M950-HG crankset with conventional 5-arm spider is also available.

**E-type bottom bracket is for use with bottom bracket mount front derailleurs.

***The Borozon polishing process provides an ultra-smooth and precise bearing race surface.



Cassette Sprockets Availability Chart

Model No.	Chain Compatibility	Group Identification	Gear Combination	Compatible Freehubs
CS-M950	IG chain	8-speed P-group	12, 14, 16, 18, 21, 24, 28, 32	FH-M950/FH-M910/FH-M900/ FH-M737/FH-M565/FH-R080
		8-speed ak-group	11, 13, 15, 17, 20, 23, 26, 30	
CS-M900-I	IG chain	8-speed P-group	12, 14, 16, 18, 21, 24, 28, 32	FH-M950/FH-M910/FH-M900/ FH-M737/FH-M565/FH-R080
		8-speed R-group	12, 13, 14, 16, 18, 21, 24, 28	
CS-M737-I	IG chain	8-speed P-group	11, 12, 14, 16, 18, 21, 24, 28	FH-M950/FH-M910/FH-M900/ FH-M737/FH-M565/FH-R080
		8-speed ak-group	11, 13, 15, 17, 20, 23, 26, 30	
CS-HG70-I	IG chain	8-speed an-group	11, 13, 15, 17, 20, 23, 26, 30	FH-M950/FH-M910/FH-M900/ FH-M737/FH-M565/FH-R080
		8-speed ah-group	11, 12, 14, 16, 18, 21, 24, 28	
CS-HG60-8-I	IG chain	8-speed an-group	11, 13, 15, 17, 20, 23, 26, 30	FH-M950/FH-M910/FH-M900/ FH-M737/FH-M565/FH-R080
		8-speed ah-group	11, 12, 14, 16, 18, 21, 24, 28	
CS-HG70-C	HG chain	7-speed ac-group	11, 13, 15, 18, 21, 24, 28	11-tooth top gear compatible freehub
CS-HG50-C				
CS-IG60	IG chain	7-speed aj-group	11, 13, 15, 18, 21, 24, 28	for use with IG system only
CS-IG50		7-speed am-group	11, 13, 15, 18, 21, 24, 30	

Compatibility between IG and HG chains and cassette sprockets.

	IG		HG	
	IG Cassette Sprockets CS-IG60/ CS-IG50	IG Chainwheels FC-M951/FC-M739/FC-M737-IG/ FC-M569/FC-M563-IG/FC-MC40/ FC-MC36/FC-MC34/FC-MC33/ FC-MC32/FC-MC16/FC-MC14/FC-MC12	HG Cassette Sprockets CS-M950/CS-M900-I/ CS-M737-I/CS-HG70-I/ CS-HG60-8-I/ CS-HG50/CS-HG30	HG Chainwheels FC-M951-HG/ FC-M900/FC-M737/ FC-M563/FC-M291/ FC-M290/FC-CT92/ FC-CT91/FC-CT90
New IG Chains CN-IG90/CN-HG70/ CN-IG51/CN-HG31	compatible	compatible	compatible*	not compatible**
HG Chains CN-HG91/CN-HG90/ CN-HG70/CN-HG50/ CN-UG50	not compatible**	not compatible***	compatible	compatible

Important Information on IG and HG Compatibility

Mixing IG and HG-type drive train components may affect performance, and in some cases cause operational problems. If you cannot avoid mixing these components, please be aware of the information in the table above. The IG chain was improved for 1996, and as a result offers widened compatibility with HG sprockets.

* The new IG chains (CN-IG90, CN-HG70, CN-IG51, and CN-HG31) have a width of 7.1mm and are compatible with HG sprockets. Because the old IG chains (CN-IG50 and CN-HG30) have a width of 7.3mm, they should not be used with HG sprockets. If you use a new IG chain with old 8-speed HG cassette sprockets (CS-M737 and CS-HG70-8), the adjustment becomes more critical, so special care must be taken when adjusting the cable.

** This combination should not be used because poor shifting performance will result.

*** This combination is potentially dangerous due to the possibility of accidents caused by the chain being thrown from the chainwheels.

HIGH-END MTB COMPONENTS - FEATURES & SPECIFICATIONS

Series		XTR		DEORE XT		DEORE LX			STX-RC					
Specification														
Rear Derailleur	Model No.	RD-M951-GS	RD-M950-GS	RD-M739-GS	RD-M739-SGS	RD-M567			RD-MC38					
	Advanced Light Action	○ (Rapid Rise)	○	○	○	○			○					
	IG Cassette	Ø	Ø	Ø	Ø	Ø			Ø					
	Speeds	8-speed	8-speed	8-speed	8-speed	8-speed			8-speed					
	Max. Sprocket	32T	32T	32T	32T	32T			32T					
	Min. Sprocket	11T	11T	11T	11T	11T			11T					
	Front Difference	22T max.	22T max.	22T max.	20T max.	20T max.			20T max.					
	Total Capacity	33T (GS), 38T (SGS)	33T (GS), 38T (SGS)	33T	39T	39T			39T					
	Parallelogram Spring Adjuster	○	○	Ø	Ø	Ø			Ø					
	Guide Pulley	sealed bearing		sealed ceramic bushing		chromized steel bushing			sintered steel bushing					
	Tension Pulley	sealed bearing		sintered aluminum bushing		chromized steel bushing			—					
	Pulley Bolts	stainless steel		stainless steel		stainless			stainless steel					
	Hanger Bracket	cold forged aluminum/color anodized		aluminum/polished & clear coated		aluminum/electrostatic painted			aluminum/polished					
	Hanger Bracket Pivot Bolt	titanium		steel		steel			stainless steel					
	Hanger Bracket Pivot Seal	double O-rings		double O-rings		single O-ring			Ø					
	Pulley Cage Bracket	cold forged aluminum/color anodized		aluminum/polished & clear coated		aluminum/electrostatic painted			aluminum/polished					
	Pulley Cage Pivot Bolt	aluminum		steel		steel			steel					
	Pulley Cage Pivot Seal	double O-rings		single O-ring		Ø			Ø					
	Outer Link	cold forged aluminum/anodized		aluminum/painted		aluminum/painted			aluminum/polished					
Inner Link	cold forged aluminum/anodized		aluminum/painted		steel			steel						
Link Pin Bushings	Teflon™ coating (4)		Teflon™ coating (4)		Teflon™ coating (2)			Teflon™ coating (2)						
Outer Pulley Cage	aluminum/anodized	aluminum/anodized	aluminum/anodized	aluminum/anodized	steel/chrome plated			steel/pearl bright plated						
Inner Pulley Cage	aluminum/anodized	aluminum/anodized	aluminum/anodized	steel	steel/chrome plated			steel/black painted						
Weight	227g (GS)	207g (GS)	225g	250g	285g			288g						
*Front Derailleur	Model No.	FD-M950	FD-M950-E	FD-M900 FD-M901	FD-M739	FD-M739-E	FD-M738	FD-M567	FD-M567-E	FD-M566	FD-MC36	FD-MC36-E	FD-MC33	
	Advanced Light Action	○	○	○	○	○	○	○	○	○	○	○	○	
	Dual SIS	○	○	○	○	○	○	○	○	○	○	○	○	
	Top-swing Action	○	○	○	○	○	Ø	○	○	Ø	○	○	Ø	
	Differential Plate Mechanism	○	○	○	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	
	Rear Compatibility	8-speed	8-speed	8-speed	8-speed	8-speed	8-speed	8-speed	8-speed	8-speed				
	Top-low Max. Capacity	22T	22T	26T	22T	22T	22T	20T	20T	20T	20T	20T	22T	
	Top-middle Min. Capacity	12T	12T	10T	10T	10T	10T	10T	10T	10T	10T	10T	10T	
	Large Chainring	46/48T	46/48T	46/48T	42/44T	42/44T	42/44T	42T	42T	42T	42T	42T	42T	
	Cable Routing	top & bottom route types available		bottom (M900) top (M901)	top & bottom route types available		top & bottom route types available		top & bottom route types available		top & bottom route types available			
	Chain Stay Angle	66 – 69°			66 – 69°			63 – 66°/66 – 69°			63 – 66°/66 – 69°			
	Mount Type	Seat Tube Band Mount	28.6/31.8/ 34.9mm		28.6/31.8/ 34.9mm	28.6/31.8/ 34.9mm	—	28.6/31.8/ 34.9mm	28.6/31.8/ 34.9mm	—	28.6/31.8/ 34.9mm	28.6/31.8/ 34.9mm	—	28.6/31.8/ 34.9mm
		Band Material	aluminum/ anodized	—	aluminum	aluminum	—	aluminum	aluminum	—	aluminum	aluminum	—	aluminum
		B.B. Mounting Plate	—	○	—	—	○	—	—	○	—	—	○	—
		Plate Material	—	Carbon fiber	—	—	aluminum	—	—	aluminum	—	—	aluminum	—
	Outer Link	forged aluminum/ color anodized		forged aluminum	aluminum		aluminum		aluminum		aluminum			
	Inner Link	aluminum/color anodized		aluminum	aluminum		aluminum		aluminum		aluminum			
	Link Bushing	outer & inner		outer & inner	outer & inner		inner		outer & inner	inner		outer		
	Cable Anchor Nut	insert helicoil		—	insert helicoil		standard		standard		standard			
	Clamp Bolt & Cable Anchor Nut	titanium (option)		—	stainless steel		stainless steel		stainless steel		stainless steel			
	Fasteners & Adjustment Bolts	stainless steel		—	stainless steel		stainless steel		stainless steel		stainless steel			
	Chain Cage	aluminum/ nickel plated		chrome plated steel	steel/chrome plated		steel/chrome plated		steel/chrome plated		steel/chromica			
	Weight	110g	127g	118g	128g	140g		128g			135g			

Teflon is a registered trademark of The Dupont Corporation.

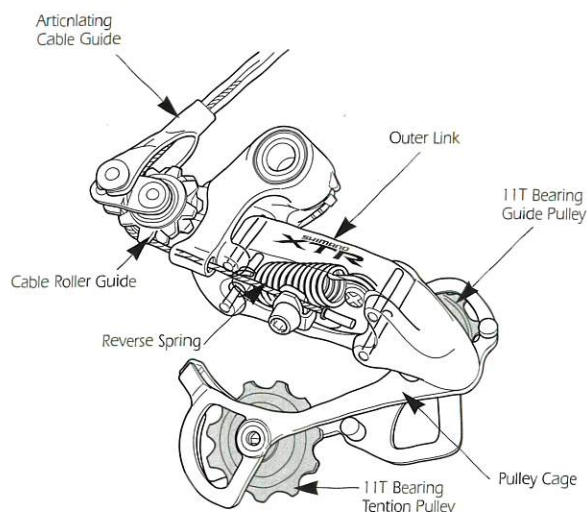
○ = yes Ø = no

Series		XTR			DEORE XT			DEORE LX		STX-RC	
Headset	Model No.	HP-M900	HP-M901	HP-M902	HP-M740	HP-M741	HP-M742	HP-M563	HP-M564	HP-MC30	HP-MC31
	Sealed Cartridge Bearings	Ø	Ø	Ø	○	○	○	○	○	○	○
	Thread	BC1" x 24TPI	BC1-1/8" x 26TPI	BC1-1/4" x 26TPI	BC1" x 24TPI	BC1-1/8" x 26TPI	BC1-1/4" x 26TPI	BC1" x 24TPI	BC1-1/8" x 26TPI	BC1" x 24TPI	BC1-1/8" x 26TPI
	Stack Height	34.3mm	34.3mm	40.3mm	37.6mm	37.6mm	39.9mm	37.6mm	37.6mm	37.6mm	37.6mm
	Locknut	aluminum w/O-ring seal			aluminum w/rubber seals			aluminum w/rubber seals		steel w/resin seals	
	Lock Washer	stainless steel			stainless steel			stainless steel		stainless steel	
	Upper Stem Cone	aluminum			aluminum			aluminum		steel	
	Upper Head Tube Cup	aluminum			aluminum			steel		steel	
	Lower Stem Cone	aluminum			aluminum			steel		steel	
	Cartridge Bearing Unit Sealing	rubber seals			rubber seals			resin seals		resin seals	
	Weight	119g	136g	167g	116g	127g	143g	146g	161g	170g	190g
SPD Pedal	Model No.	PD-M747			PD-M636			PD-M535		PD-M323	
	SPD Cleat Surfaces	both pedal surfaces			both pedal surfaces			both pedal surfaces		one surface	
	Floating Cage	Ø			○			Ø		Ø	
	Spindle Thread	BC 9/16" x 20TPI			BC 9/16" x 20TPI			BC 9/16" x 20TPI		BC 9/16" x 20TPI	
	Spindle	chrome-moly			chrome-moly			chrome-moly		chrome-moly	
	Cartridge Bearing Spindle	○			Ø			Ø		Ø	
	Cleat Retention Indicator	○			○			○		○	
	Cleat Retention Adjuster	○			○			○		○	
	Easy Step-in Feature	○			○			○		Ø	
	Body	aluminum			aluminum			aluminum/black anodized		aluminum	
Seat Post	Binding Plate	steel/chrome plated			steel/chrome plated			steel/chrome plated		steel/chrome plated	
	Weight	393g (pair)			640g (pair)			410g (pair)		520g (pair)	
	Model No.	SP-M910									
	One-bolt Clamp	○									
	Easy Adjust Feature	○									
	Special Easton® Tubing	○									
	Outer Diameter	26.8/27/27.2mm									
	Length	330mm									
	Material	aluminum									
	Weight	215g									
Seat Quick Release	Model No.	SQ-M900						SQ-M730			
	Position Hold Spring	Ø						○			
	Shaft Length	36 - 43mm/26 - 33mm						36 - 43mm/26 - 33mm			
	Shaft Diameter	6mm/8mm						6mm/8mm			
	Material & Finish	steel/chrome plated						steel/chrome plated			
	Weight	66g						75g			
Chain Deflector	Model No.				DF-M730						
	Material				plastic resin						
	Weight				9g						

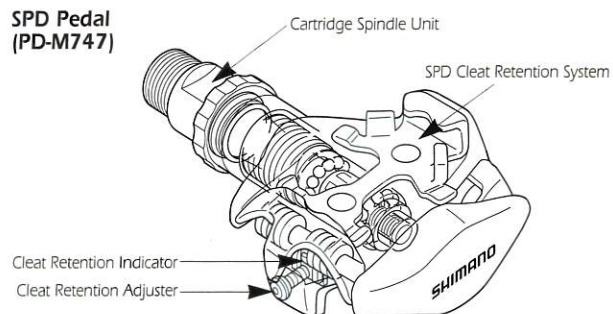
*The Borozon polishing process provides an ultra-smooth and precise bearing race surface.

**360mm length is available in 27.2mm diameter only.

Rear Derailleur (RD-M951)



SPD Pedal (PD-M747)





SHIMANO **STX**®



Intermediate
Recreational Cyclist

SHIMANO **A**™



Novice
Recreational Cyclist

SHIMANO **ACERA** X®



Entry Level Cyclist

SHIMANO **ALTUS**®



Entry Level Cyclist

SHIMANO **MJII**



Kids

Great performance and value for a wide range of recreational mountain bikes.

While the majority of cyclists do most of their riding on the road, they still want the stability and fat-tired toughness of a mountain bike when they decide to get into the dirt. The STX®, Alivio®, Acera-X®, Altus®, and Tourney® groups were developed specifically for these cyclists. These groups deliver much the same feeling of quality, responsiveness, and precise control found in the higher priced groups, but in a bike that's affordable to more people.

A moderately priced MTB group designed in the tradition of off-road racing components. The accent is definitely on performance.

Separate Rapidfire Plus®
EZ-Fire® Plus
Low-Flex Brakes
IG / HG
Roller Clutch Freehub®
Dual SIS®
Top Swing™ FD

page 40

A performance-oriented MTB component group with a stylish appearance. Alivio looks and feels great on or off the road.

page 41

Great performance and advanced functions with the accent on value. Acera-X makes possible a reasonably priced mountain bike with performance that's way above its class.

page 42

Altus brings Shimano performance and quality to a wide range of entry-level mountain bikes and mountain-style bikes.

page 43

MJII lets the kids ride quality mountain bikes just like their parents. A quality MTB group designed to provide easier shifting and braking by smaller hands.

page 47

SHIMANO
TOURNEY®
05/15/22/30 SERIES

Shimano quality and functions at a remarkably reasonable price. Series design allows different components to be freely mixed and matched.

page 50

SHIMANO STX[®]

STX offers race-bred performance and high-end appearance at a remarkably reasonable price.



V-Brake[®] Awesome V-Brake performance for mid-level MTB.



Shimano Digital Shifting Gear changing that's so precise it feels digital.



Rapidfire Plus[®] Intuitive push-pull shifting without compromising your grip.



Optical Gear Display At-a-glance gear position indication.



Advanced Light Action Lighter and more precise shifting action.



Shimano IG[™] Integrated drive train design for smoother shifting.



Roller Clutch Freehub Durable cam-and-roller clutch engages faster and freewheels silently.



Dual SIS[®] Precision indexed front and rear gear shifting.



Top Swing[™] Front Derailleur Compact low-friction design for easier chainwheel shifting.



Easy-Set Front Derailleur Mounts to bottom bracket for perfect alignment without adjustment.



HyperDrive-C[™] Compact drive train reduces weight and increases ground clearance.



Cartridge Bottom Bracket One-piece cassette bearing design for fast and easy installation.



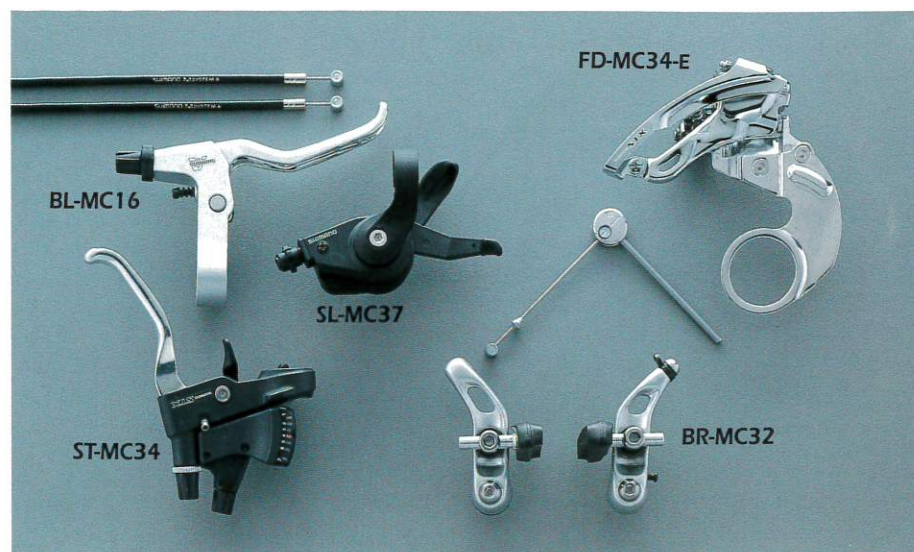
Anti-Vibration M-System[™] Quiet all-weather braking performance.



Light Alloy Quick Release Reduces weight and resist corrosion.



Parallax[®] Hub Oversize hub body and heavy-duty spoke flanges for off-road durability.

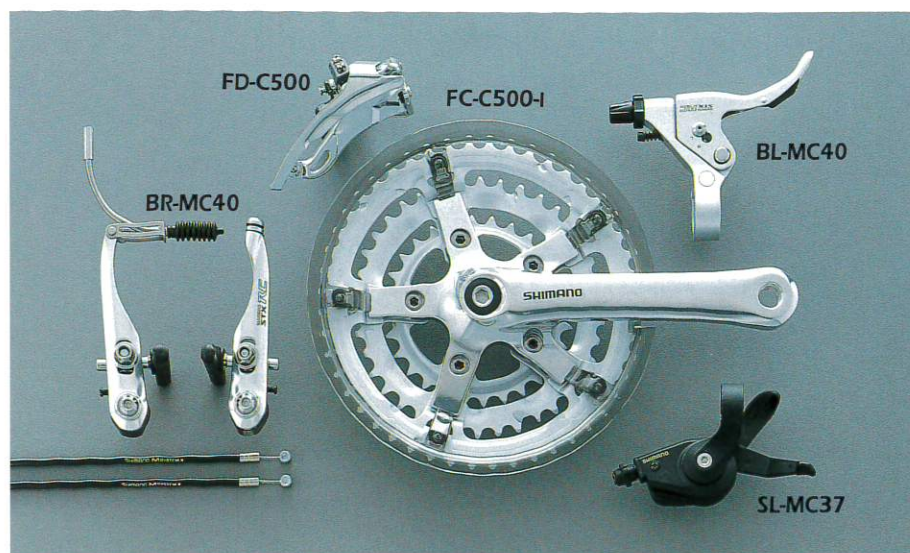






See page 44-45 for STX specifications.

- FC-MC34 and FC-MC34-B cranksets are also available with chain guard.
- FD-MC34-E front derailleur requires seat tube adapter.



It's sleek high-tech look enhances the appearance and value of any bike.



-  **Rapidfire Plus®** Intuitive push-pull shifting without compromising your grip.
-  **Shimano Digital Shifting** Gear changing that's so precise it feels digital.
-  **Optical Gear Display** At-a-glance gear position indication.
-  **Advanced Light Action** Lighter and more precise shifting action.
-  **Shimano IG™** Integrated drive train design for smoother shifting.
-  **Roller Clutch Freehub®** Durable cam-and-roller clutch engages faster and freewheels silently.
-  **EZ-Fire® Plus** Easy shifting with fingers on brake lever.
-  **Dual SIS®** Precision indexed front and rear gear shifting.
-  **Top Swing™ Front Derailleur** Compact low-friction design for easier chainwheel shifting.
-  **HyperDrive-C™** Compact drive train reduces weight and increases ground clearance.
-  **Cartridge Bottom Bracket** One-piece cassette bearing design for fast and easy installation.
-  **Low Flex Cantilever** Reduced cantilever and frame flex during braking.
-  **M-System™** Dependable all-weather braking.
-  **Light Alloy Quick Release** Reduces weight and resist corrosion.
-  **Parallax® Hub** Oversize hub body and heavy-duty spoke flanges for off-road durability.

See page 44-45 for ALVIO specifications.



Entry Level Cyclist

SHIMANO ACERA[®]

Advanced Shimano functions
plus shifting options make
Acera-X a value-packed
performer.



Shimano Digital Shifting

Gear changing that's so
precise it feels digital.



EZ-Fire Plus[®] Easy shifting
with fingers on brake lever.



Optical Gear Display

At-a-glance gear position
indication.



Advanced Light Action

Lighter and more precise
shifting action.



HG[™] Sprockets

Faster, smoother rear
derailleur shifting.



Dual SIS[®] Precision indexed
front and rear gear shifting.



Top Swing[™] Front

Derailleur Compact
low-friction design for easier
chainwheel shifting.



HyperDrive-C[™]

Compact
drive train reduces weight and
increases ground clearance.



Cartridge Bottom Bracket

One-piece cassette bearing
design for fast and easy
installation.



M-System[™]

Dependable
all-weather braking.



Parallax[®] Hub

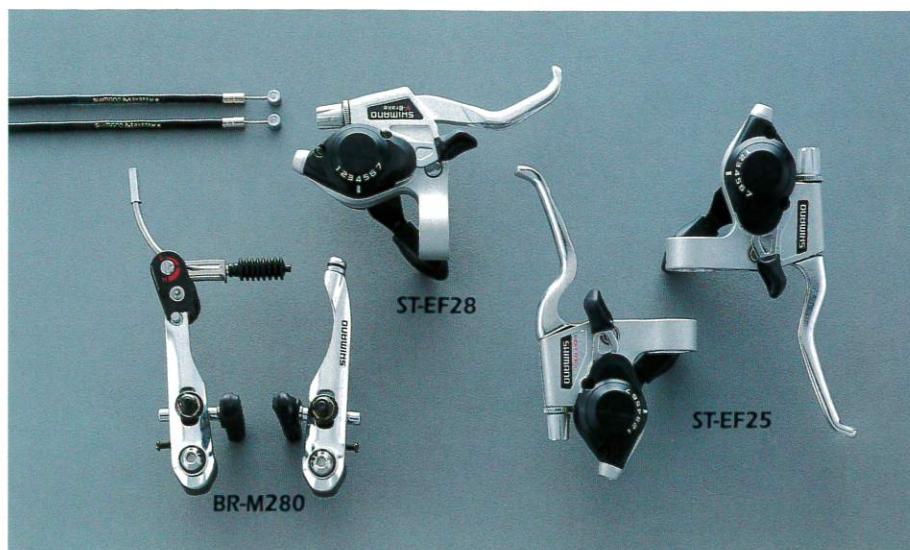
Oversize hub
body and heavy-duty spoke
flanges for off-road durability.



V-Brake[®] Modulator

Power
application control prevents
inadvertent lock-up.

ST-EF28 for use with V-Brakes with or
without power modulator.



See page 44-45 for Acera-X specifications.

● FC-M291 crankset available with chain guard.

SHIMANO ALTUS®

The "go anywhere" group for all types of sport, recreational, and utility bicycles.

ALTUS



Shimano Digital Shifting

Gear changing that's so precise it feels digital.

EZ-Fire® Plus Easy shifting with fingers on brake lever.

Optical Gear Display At-a-glance gear position indication.

Advanced Light Action Lighter and more precise shifting action.

HG™ Sprockets Faster, smoother rear derailleur shifting.

Dual SIS® Precision indexed front and rear gear shifting.

Top Swing™ Front Derailleur Compact low-friction design for easier chainwheel shifting.

Easy-Set Front Derailleur Mounts to bottom bracket for perfect alignment without adjustment.

HyperDrive-C™ Compact drive train reduces weight and increases ground clearance.

Cartridge Bottom Bracket One-piece cassette bearing design for fast and easy installation.

Parallax® Hub Oversize hub body and heavy-duty spoke flanges for off-road durability.

See page 44-45 for Altus specifications.

Series		SHIMANO STX		SHIMANO ALIVIO	
Specifications					
Rear Derailleur	Model No.	RD-MC34		RD-MC16	
	Speeds	7-speed		7-speed	
	Max. Sprocket	30T		30T	
	Min. Sprocket	11T		11T	
	F/Difference	20T max.		18T max.	
	Total Capacity	29T		37T	
	Advanced Light Action	○		○	
	IG/HG/UG Chain Compatibility	IG compatible		IG compatible	
Note		stainless steel fasteners			
*Front Derailleur	Model No.	FD-MC34/FD-MC34-E	FD-MC32	FD-MC14-B	
	Top-Low Max. Capacity	20T	22T	18T	
	Top-Middle Min. Capacity	10T	10T	8T	
	Top Gear Teeth	42T	42T	42T	
	Clamp Diameter	28.0 – 28.6/31.8/34.9mm	28.0 – 28.6/31.8/34.9mm	28.0 – 28.6/31.8/34.9mm	
	Chain Stay Angle	63 – 66°, 66 – 69°	63 – 66°, 66 – 69°	63 – 66°, 66 – 69°	
	Advanced Light Action	○	○	○	
	Top-Swing Action	○	∅	○	
Note		stainless steel fasteners	stainless steel fasteners	stainless steel fasteners	
Rapidfire/ EZ-Fire Plus	Model No.	ST-MC34	SL-MC40	SL-MC37	ST-EF30
	Dual SIS	Rear	7-speed	7-speed	7-speed
		Front	triple	triple	triple
	Lever Length	2-finger	—	—	2.5-finger
	Optical Gear Display	sliding type (above bar)	sliding type (below bar)	∅	dial type
	Note	Rapidfire Plus type	Rapidfire Plus type/ bent handlebar available	Rapidfire Plus type/ shift lever set only	EZ-Fire Plus
Brake Lever	Model No.	BL-MC40		BL-MC16	
	Lever Type	for V-Brake		for cantilever brake	
	Lever Length	1.5 finger		2.5-finger	
	Power Adjuster	○		∅	
	Servo Wave	○		∅	
	Cable Adjuster	○		○	
Cantilever Brake	Model No.	BR-MC40	BR-MC32-E	BR-MC16	
	Arm Length	—	M, L	M	
	Brake Pad Type	M70T2	M65T	M70T2	
	M-System/Anti-Vibration M-System	M-system	Anti-Vibration M-system	M-system	
	Low-Flex Design	○ (V-Brake)	∅	○	
Crankset	Model No.	FC-MC34-B		FC-MC16	
	Gearing	42-32-22T		42-34-24T	
	Bolt Circle Diameter	94/58mm		67mm	
	Crank Length	170/175mm		170/175mm	
	IG Compatible	○		○	
	HyperDrive-C	w/SGX-II		w/SGX-II	
Sealed Cartridge Bottom Bracket	Model No.	BB-LP26		BB-LP26-E	
	Marking/Spindle Length	MM110/110.5mm	LL113/113mm	MM110/110.5mm	LL113/113mm
	Chain Line	47.5mm	50.0mm	47.5mm	50.0mm
	Shell Width	68/70mm	68/70/73mm	68/70mm	68/70/73mm
Rear Freehub	Model No.	FH-MC32-S		FH-R050/Silent Clutch Freehub	
	Speeds	7-speed		7-speed	
	Over Lock Nut Dimension	130/135mm		130/135mm	
	Spoke Holes	36/32H		36/32H	
	QR Lever	aluminum		aluminum	
Front Hub	Model No.	HB-MC32-S		HB-MC12-P	
	Over Lock Nut Dimension	100mm		100mm	
	Spoke Holes	36/32H		36/32H	
	QR Lever	aluminum		aluminum	
Cassette Sprocket/ Freewheel	Model No.	CS-IG60		CS-IG50	
	Speeds	7-speed		7-speed	
	IG/HG/UG	IG		IG	
	Group Identification	aj (11-28T), am (11-30T)		aj (11-28T), am (11-30T)	
Chain	Color	chromica / silver (aj), silver (am)		nickel plated	
	Model No.	CN-IG51		CN-IG31	
	Type	IG narrow		IG narrow	
	Inner Link Finish	barrel polished		dark brown	
	Outer Link Finish	nickel plated		barrel polished	
Headset	Link Pin	chromizing treatment		standard	
	Model No.	HP-MC30		HP-MC31	
	Thread	BC1" x 24T.P.I.		BC1-1/8" x 26T.P.I.	
	Stack Height	37.6mm		37.6mm	

*The E-type front derailleur mounts to the bottom bracket through a support plate and also requires a special boss or clamp adapter on the seat tube.

**E-type bottom bracket is for use with bottom bracket mount front derailleurs.

SHIMANO ACERA-X		SHIMANO ALTUS		Series	Specifications	
RD-M291		RD-CT92		Model No.	Rear Derailleur	
7-speed		7 or 6-speed		Speeds		
28T		28T		Max. Sprocket		
11T		11T		Min. Sprocket		
18T max.		18T max.		F/Difference		
35T		35T		Total Capacity		
○		○		Advanced Light Action		
HG compatible		HG compatible		IG/HG/UG Chain Compatibility	Note	
FD-M291		FD-CT92-E		Model No.	Front Derailleur	
18T		18T		Top-Low Max. Capacity		
8T		8T		Top-Middle Min. Capacity		
42T		42T		Top Gear Teeth		
28.0 - 28.6/31.8mm		28.0 - 28.6/31.8mm		Clamp Diameter		
63 - 66°, 66 - 69°		63 - 66°, 66 - 69°		Chain Stay Angle		
○		○		Advanced Light Action		
○		○		Top-Swing Action	Note	
ST-EF28	ST-EF20	ST-EF25		Model No.	Rapidfire/ EZ-Fire Plus	
7-speed	7-speed	7-speed		Rear		
triple	triple	triple		Front		
2.5-finger	2.5-finger	short reach		Lever Length		
dial type	dial type	dial type		Optical Gear Display		
EZ-Fire Plus for V-Brake w/ or w/o modulator	EZ-Fire Plus	EZ-Fire Plus		Note		
				Model No.	Brake Lever	
				Lever Type		
				Lever Length		
				Power Adjuster		
				Servo Wave		
				Cable Adjuster		
BR-M280	BR-M290-E	BR-CT91	BR-CT90-E	Model No.	Cantilever Brake	
(with Modulator)	M, L	M	L	Arm Length		
M70 T2	M55T	standard	standard	Brake Pad Type		
M-system	M-system	M-system (option)	M-system (option)	M-System/Anti-Vibration M-System		
○ (V-Brake)	○	○	○	Low-Flex Design		
FC-M291		FC-CT92		Model No.	Crankset	
42-34-24T		42-34-24T		Gearing		
riveted		riveted		Bolt Circle Diameter		
170/175mm		170mm		Crank Length		
○		○		IG Compatible		
w/SGX-II		w/SGX-II		HyperDrive-C		
MM110/110.5mm	LL113/113mm	YL116/116mm	ZL121/121mm	Model No.	Sealed Cartridge Bottom Bracket	
47.5mm	50.0mm	47.5mm	50.0mm	Marking/Spindle Length		
68/70mm	68/70/73mm	68/70mm	73mm	Chain Line		
				Shell Width		
FH-M290		FH-CT91		FH-RM40		Rear Freehub
7-speed		7-speed		7-speed		
130/135mm		130/135mm		130/135mm		
36/32H		36H		36H		
steel		steel		steel		
HB-M290		HB-CT91		HB-RM40		Front Hub
100mm		100mm		100mm		
36H		36H		36H		
steel		steel		steel		
CS-HG50		CS-HG30-7		Model No.	Cassette Sprocket/ Freewheel	
7-speed		7-speed		Speeds		
HG		HG		IG/HG/UG		
ac (11-28T)		ac (11-28T)		Group Identification		
Nickel-plated		Nickel-plated		Color		
CN-HG50		CN-UG50		Model No.	Chain	
HG narrow		UG		Type		
black		black		Inner Link Finish		
black		black		Outer Link Finish		
chromizing treatment		chromizing treatment		Link Pin		
not available		not available		Model No.	Headset	
				Thread		
				Stack Height		

Separate Components

FD-C500 Front Derailleur

Note: Top route and bottom route both types available.



Model No.	SIS	Top-Swing Action	Pro-Set Gauge & Block	Chain Line	Top-Low Max. Capacity	Top-Middle Min. Capacity	Top Gear Teeth
FD-C500	○	○	○	47.5mm	20T	10T	48T
Clamp Diameter	Chain Stay Angle	Outer Link	Front Clamp Band	Rear Clamp Band	Chain Cage		
28.0 - 28.6 / 31.8mm	63 - 66°	steel/painted	steel/chrome plated	aluminum/barrel finish	steel/chrome plated		

FC-C500 Crankset



Model No.	Number of Teeth	Bolt Circle Diameter	Crank Arm Length	Crank Arm	Chainrings
FC-C500	48 - 38 - 28T	riveted	170/175mm	aluminum/polished	steel/painted

HB-HF07 Front hub for tandem bike



HB-HF05 Front hub for tandem bike



Model No.	Spoke Holes	Spoke Hole Circle	Over Locknut Diameter	Axle Length	Axle Diameter	Hub Seal	Parallax Hub	Hub Shell	Hub Axle	QR Lever
HB-HF07	48/40	62.5mm	100mm	108mm	ø 9mm	○	○	aluminum/anodized	steel	aluminum/anodized
HB-HF05	48/40	62.5mm	100mm	108mm	ø 9mm	○	○	aluminum/anodized	steel	aluminum/barrel finish

FH-HF07 Freehub for tandem bike



FH-HF05 Freehub for tandem bike



Model No.	Sprockets	Spoke Holes	Spoke Hole Circle	Over Locknut Diameter	Axle Length	Axle Diameter	Hub Seal	Freewheel Seal	Parallax Hub	Free-wheel	Hub Shell	Hub Axle	QR Lever
FH-HF07	8-speed	48/40	62.5mm	160/145/140mm	171/156/151mm	ø 10mm	○	○	○	steel	aluminum/anodized	steel	aluminum/anodized
FH-HF05	7-speed	48/40	62.5mm	145/140mm	156/151mm	ø 10mm	○	○	○	steel	aluminum/anodized	steel	aluminum/barrel finish

CS-UG70 8-speed pearl bright finish



14 - 15 - 16 - 17 - 18 - 19 - 20 - 21T
14 - 15 - 16 - 17 - 18 - 19 - 21 - 23T
15 - 16 - 17 - 18 - 19 - 20 - 21 - 23T
16 - 17 - 18 - 19 - 20 - 21 - 22 - 23T
16 - 17 - 18 - 19 - 20 - 21 - 22 - 24T

CS-UG70 7-speed pearl bright finish

14 - 15 - 16 - 17 - 18 - 19 - 21T
14 - 15 - 16 - 17 - 19 - 21 - 23T
16 - 17 - 18 - 19 - 20 - 21 - 22T
18 - 19 - 20 - 21 - 22 - 23 - 24T

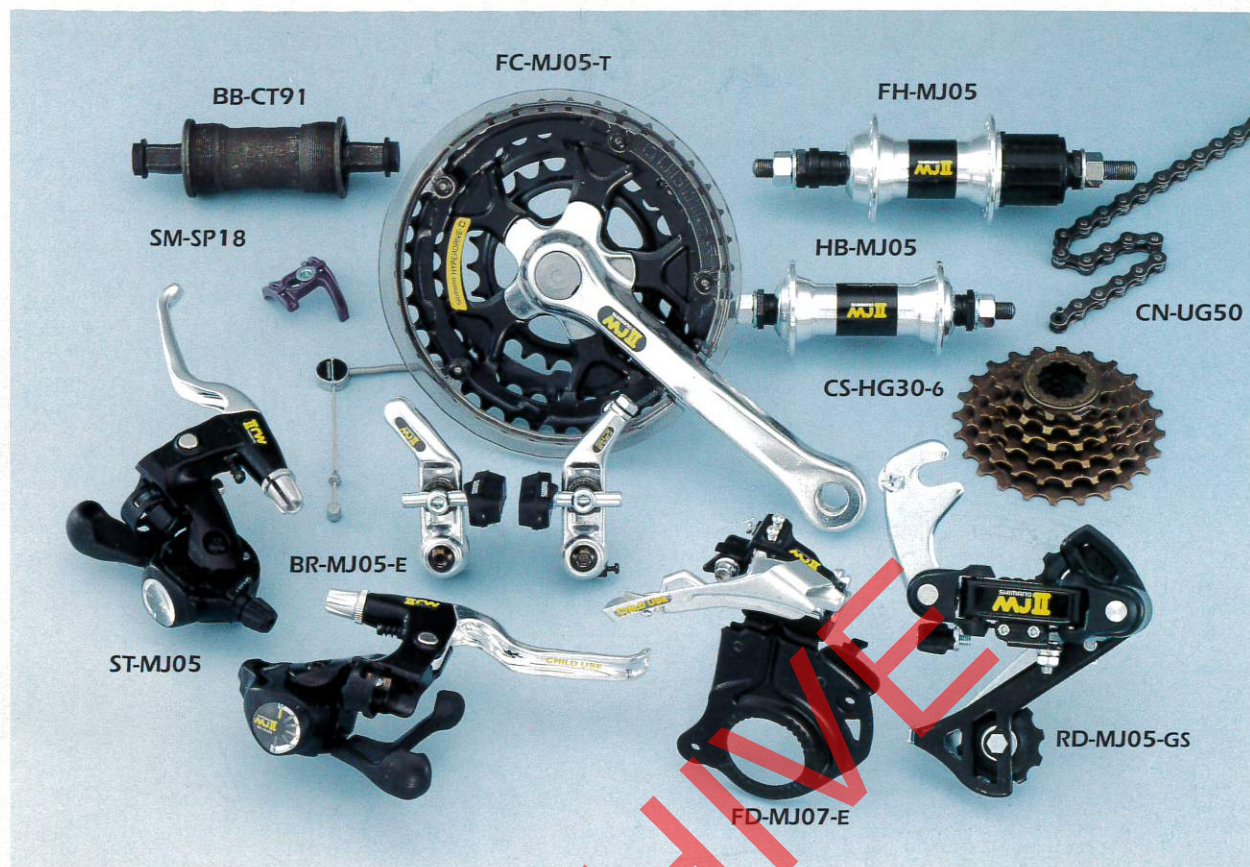
CS-UG70-7J 7-speed

15 - 16 - 17 - 18 - 19 - 21 - 23T
16 - 17 - 18 - 19 - 20 - 21 - 23T

CB-E110 Coaster brake



Spoke Holes	16	20	20	20	20	24	24	28	28	28	28	28	36	36	36	36	36	36
Over Locknut Diameter (mm)	106	106	109	109	109	109	117	106	109	109	109	117	109	109	109	117	117	124
Axle length (mm)	158	158	145	158	165	158	158	158	145	158	165	158	145	158	165	158	165	165



**Designed especially for
the bikes that kids ride.**

Rear Derailleur	Front Derailleur	Rapidfire
RD-MJ05-GS/RD-MJ05-SS <ul style="list-style-type: none"> 6-speed SIS Max. Sprocket: 34T (GS) / 28T (SS) Min. Sprocket: 11T Total Capacity: 34T (GS) / 28T (SS) Front Difference: 20T (GS) / 13T (SS) 	FD-MJ07-E <ul style="list-style-type: none"> Top-Swing Action For Triple Chainrings 14T Capacity 38T Large Chainring FD-MJ06 <ul style="list-style-type: none"> For Double Chainrings 10T Capacity 38T Large Chainring 	ST-MJ05-R <ul style="list-style-type: none"> Rear 6-Speeds ST-MJ05-T <ul style="list-style-type: none"> Front Triple ST-MJ05-D <ul style="list-style-type: none"> Front Double Clamp Diameter=19.1mm
Shift/Brake Lever	Cantilever Brake	Crankset
SB-MJ05 <ul style="list-style-type: none"> Rear 6-Speed SB-MJ05-T <ul style="list-style-type: none"> Front Triple SB-MJ05-D <ul style="list-style-type: none"> Front Double BL-MJ05/BL-MJ05 <ul style="list-style-type: none"> For Smaller Hands Clamp Diameter=19.1mm	BR-MJ05-E <ul style="list-style-type: none"> M-System Compatible (Option) 	FC-MJ05-T <ul style="list-style-type: none"> Dual SIS Compatible 38-32-24T Chainrings Crank Arm Length: 130/145/160mm FC-MJ05-D <ul style="list-style-type: none"> Dual SIS Compatible 38-28T Chainrings Crank Arm Length: 130/145/160mm
Sealed Cartridge Bottom Bracket	Freehub & Front Hub	Cassette Sprocket & Chain
BB-CT91 <ul style="list-style-type: none"> Easy Set Design For Triple Chainrings <ul style="list-style-type: none"> 116mm Spindle / 47.5mm Chainline (YL116) 121mm Spindle / 50.0mm Chainline (ZL121) For Double Chainrings <ul style="list-style-type: none"> 116mm Spindle / 43.5mm Chainline (YL116) 	FH-MJ05 <ul style="list-style-type: none"> For 6-Speed HG-C Sprockets 36 or 32 Spoke Holes 130 or 126 mm O.L.D. HB-MJ05 <ul style="list-style-type: none"> 36 or 32 Spoke Holes 100 mm O.L.D. 	CS-HG30-6 <ul style="list-style-type: none"> 6-speed HG Sprockets af-group (11-13-15-18-21-24T) CN-HG50 <ul style="list-style-type: none"> Dual SIS compatible CN-UG50 <ul style="list-style-type: none"> Dual SIS Compatible 38-28T Chainrings



Rapidfire® Easy operation for smaller hands.



Optical Gear Display
Instant gear position verification.



Advanced Light Action
Low-friction derailleurs.



Rear SIS® Indexed shifting for rear derailleur.



HG™ Sprockets Smoother and faster rear shifting.



Top-Swing™ Front Derailleur Reduced front shifting effort.



HyperDrive-C™ Reduced weight from smaller sprockets and chainrings.



Cartridge Bottom Bracket Easy installation without adjustment.



Easy-Set Front Derailleur Bottom bracket mounting plate sets derailleur position.



M-System™ Brakes Dependable all weather braking.



Parallax® Hub Oversized hub design for stronger wheels.

HOT NEW EQUIPMENT FOR BMX RIDERS.

Shimano DX



FrontHub /
Freehub /
Sprockets Kit Box



Hub

Sprocket



SHIMANO DX

Shimano components for BMX bikes.

FH-MX66 ^{New} Freehub

HB-MX66 ^{New} Rapidfire SL Shift Lever Set

CS-MX66 ^{New} Sprocket

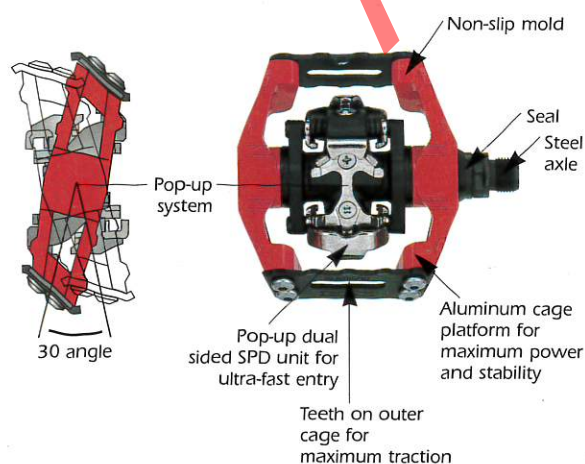
- Specially designed for BMX
- Splined sprocket mount for easy replacement
- Efficient sealing keeps out dirt and water
- Heavy-duty 10mm diameter front and rear axles
- Light alloy anodized finish shell
- 14, 15, 16, and 18-tooth sprockets available
- 36-spokes, 38mm spoke circle

PD-M636 SPD® Pedal

- Binding rotates 30° for easy "step-in" cleat insertion
- Oversize light alloy body grips shoe sole firmly even without cleat engagement
- Replaceable outer cage plates

BL-M600-MX V-Brake® Lever

- 1.5-finger lever size
- 3-position Servo-Wave Action adjuster
- Easy-grip cable adjuster
- Lever reach adjuster



BR-M600-MX V-Brake®

- V-Brake performance for the BMX bike
- 20mm of vertical pad adjustment for 20" wheels
- Low-flex design reduces stress on frame
- Braking action specifically designed for BMX riding

SH-MX80 ^{New} Street Style SPD® Shoe

A street style shoe featuring a new high-cut design that delivers more support around the ankle. High-strength split leather and Cordura construction stand up to the rigors of wild BMX riding. Enlarged toe cup helps relieve stress on toes. Dual lace-and-strap closure for a snug, non-loosening fit.

SH-MX70 Street Style SPD® Shoe

A lightweight shoe specifically designed for the wild BMX riding style. SPD capability, pedal-hugging sole, reinforced mid-sole, rubber toe protector cup, and dual lace-and-strap closure make it a great shoe for the pedal-mashing BMX riding style.



TY30-SERIES

SHIMANO TOURNEY®

Tourney brings Shimano quality and value to a wide range of recreational and utility bicycles.



EZ-Fire® Plus Easy shifting with fingers on brake lever.

Ratchet-Action

Low-effort multiple stroke front derailleur shifting action. (EF17-L/EF18-L shifters only)



Optical Gear Display

At-a-glance gear position indication.*



Advanced Light Action

Lighter and more precise shifting action.**



Rear SIS® Precise indexed shifting at the rear derailleur.***



HG™ Sprockets

Faster, smoother rear derailleur shifting.*



Dual SIS® Precision indexed front and rear gear shifting.*



Top Swing™ Front Derailleur

Compact low-friction design for easier chainwheel shifting.***



Cartridge Bottom Bracket

One-piece cassette bearing design for fast and easy installation.



M-System™ Dependable all-weather braking.



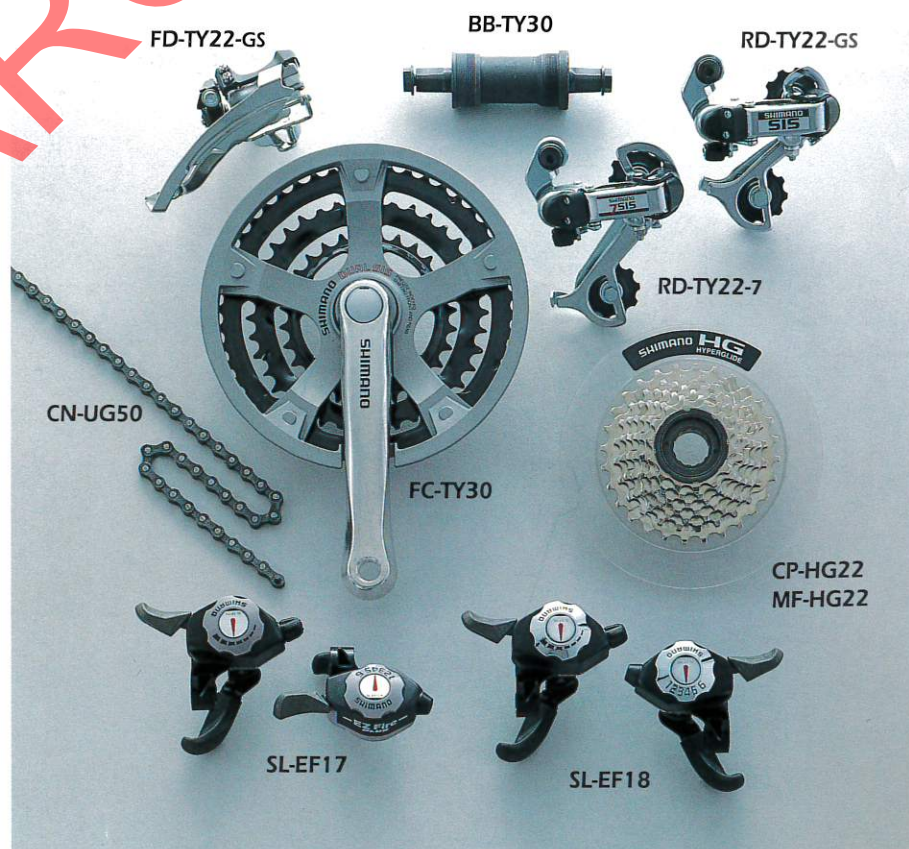
Parallax® Hub Oversize hub body and heavy-duty spoke flanges for off-road durability.*

*Tourney 30 only

**Tourney 22 and 30 only

***Tourney 22 only

****Tourney 22 and 30 only



TY15-SERIES



TY05-SERIES



Series	Rear Derailleur	Front Derailleur	Shift Lever
Tourney30 (Dual SIS)	RD-TY30-7/RD-TY30 <ul style="list-style-type: none"> 7-speed SIS/6-speed SIS Max. Sprocket : 28T Min. Sprocket : 14T Total Capacity : 34T Front Difference : 20T 	FD-TY30 FD-TY32 Top swing type <ul style="list-style-type: none"> For Triple Chainrings 22T Capacity 48T Large Chainring 	ST-EF20/ST-EF25 <ul style="list-style-type: none"> See page 45. SL-TY37 <small>New</small> <ul style="list-style-type: none"> For Triple Chainrings 22T Capacity 48T Large Chainring
Tourney22*	RD-TY22-7/RD-TY22-GS/RD-TY22-SS <ul style="list-style-type: none"> 7-speed SIS/6-speed SIS(GS & SS) Max. Sprocket : 28T Min. Sprocket : 14T Total Capacity : 34T(GS)/28T(SS) Front Difference : 20T(GS)/13T(SS) 	FD-TY22-GS/FD-TY22-SS <ul style="list-style-type: none"> For Triple Chainrings(FD-TY22-GS) For Double Chainrings(FD-TY22-SS) 22T Capacity(FD-TY22-GS) 14T Capacity(FD-TY22-SS) 48T Large Chainring 	SL-EF18 <small>New</small> <ul style="list-style-type: none"> SIS - 6-speed rear & front triple, ratchet action SL-EF17 <small>New</small> <ul style="list-style-type: none"> SIS - 6-speed rear & front triple, ratchet action
Tourney15	RD-TY15-GS/RD-TY15-SS <ul style="list-style-type: none"> 5-speed SIS Max. Sprocket : 28T Min. Sprocket : 14T Total Capacity : 34T(GS)/28T(SS) Front Difference : 20T(GS)/13T(SS) 	FD-TY15-GS/FD-TY15-SS <ul style="list-style-type: none"> For Triple Chainrings(FD-TY15-GS) For Double Chainrings(FD-TY15-SS) 22T Capacity(FD-TY15-GS) 14T Capacity(FD-TY15-SS) 48T Large Chainring 	SL-TY15 <ul style="list-style-type: none"> Rear 5-speed SIS, Front Friction
Tourney05	RD-TY05 <ul style="list-style-type: none"> 6-speed Max. Sprocket : 28T Min. Sprocket : 14T Total Capacity : 34T Front Difference : 20T 	FD-TY05 <ul style="list-style-type: none"> For Triple Chainrings 22T Capacity(FD-TY15-GS) 	SL-TY05 <ul style="list-style-type: none"> Friction

* Shift Lever Choice : SL-TY22 Thumb shifter, SL-TY37-7 / TY-30L, SL-EF18 / EF17 EZ-fire plus, SL-TY22 Thumb shifter.

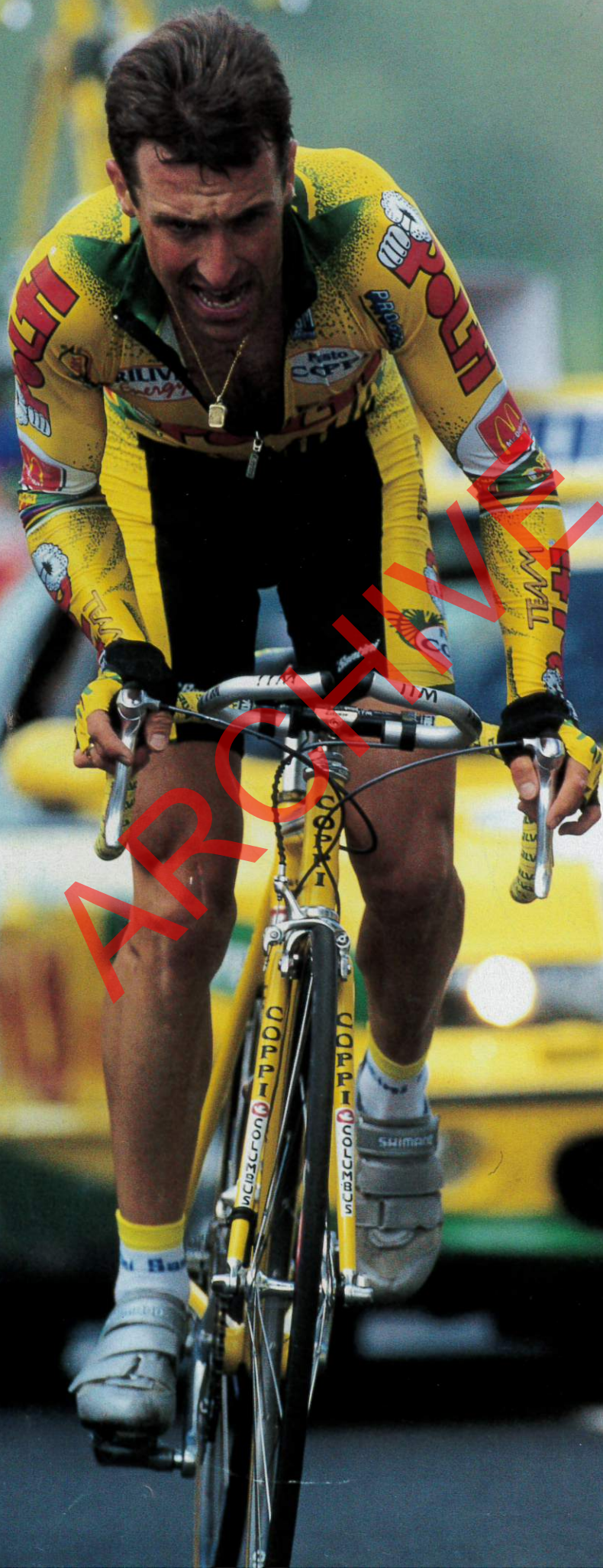
Series	Cantilever Brake	Crankset	Freewheel
Tourney30	BR-CT91-M BR-CT90-EL • M-System option BL-TY21	CN-HG50 <ul style="list-style-type: none"> HG chain 	MF-HG37 <ul style="list-style-type: none"> 7-speed HG Sprockets ax-group (14-16-18-20-22-24-28T) MF-HG22 <ul style="list-style-type: none"> 6-speed HG Sprockets Sprocket Combinations : X-group (14-16-18-20-22-24T) Y-group (14-16-18-21-24-28T) Z-group (14-17-20-24-28-32T)
Tourney22		CN-UG50	MF-HG22 <ul style="list-style-type: none"> 6-speed HG Sprockets Sprocket Combinations : X-group (14-16-18-20-22-24T) Y-group (14-16-18-21-24-28T) Z-group (14-17-20-24-28-32T)
Tourney15			MF-Z015 <ul style="list-style-type: none"> 5-speed UG Sprockets Sprocket Combinations : Two Groups Available (14-17-19-21-24T/14-17-20-24-28T)
Tourney05			MF-Y006 <ul style="list-style-type: none"> 6-speed UG Sprockets Sprocket Combination : 14-15-17-20-24-28T

FC-TY30 New / **FC-TS21**

- Dual SIS
- Resin cover (FC-TS21)
- Integral chain guard available
- 48-38-28T gearing







BB-TY30

- Marking : D-NL 122.5mm D-EL 127.5mm
- Chain Line : 47.5mm
- Shell Width : 68/70/73mm (D-NL) 68/73mm (D-EL)



Road components with a competitive edge.

Following in the tradition of the new Dura-Ace® group which was introduced in 1997, Ultegra® has been completely re-designed for 1998. The same design targets applied to Dura-Ace were also applied to the new Ultegra components to make them lighter, stronger, and better performing than ever. The new Ultegra group conveys the new "spirit of the sport" of road components.

		Dual Control Lever	Cassette Type	Chainwheel	Dual SIS®	Aluminum Alloy Sprocket Carrier	Brakes	
DURA-ACE®	 Pro Racer	9-speed	double			Super SLR		page 54
SHIMANO ULTEGRA®	 Hard Core Cyclist	9-speed	Triple or double			Super SLR		page 60
SHIMANO 105® SC	 Enthusiast Cyclist	8-speed	Triple or double			Super SLR		page 64
SHIMANO RX100	 Advanced Recreational Cyclist	8-speed	Triple or double			Super SLR		page 65
SHIMANO RSX™	 Intermediate Recreational Cyclist	7-speed	Triple or double			M-System		page 66
EXAGE® 300EX	 Novice Recreational Cyclist	7-speed	double			SLR		page 67



DURA-ACE®

Introduced in 1997, the new Dura-Ace group says everything you need to know about world-class road components. An incredible balance of light weight, rigidity, and control precision makes Dura-Ace the system by which all others are judged. At the heart of it all is the 9-speed drive train which provides more mid-range gearing for improved cadence control and more efficient use of energy. Every New-Dura-Ace component has been painstakingly developed to deliver the ultimate in strength and operating precision.

DURA-ACE®

Dura-Ace...the strategic weapon in the racer's arsenal.



ST-7700

Dual Control Lever

- New 9-speed compatible Dual Control Lever.
- Precision main lever bearing provides a smoother action and reduced shifting effort.
- Anatomically designed bracket relieves stress.
- Levers are positioned closer to the bar, release lever is longer for easier operation.
- In-line cylindrical Optical Gear Display
- Engineering plastics in bracket and non-visible areas reduce weight by 100g (pair).
- Low-mass aluminum alloy lever and mechanisms reduce weight.

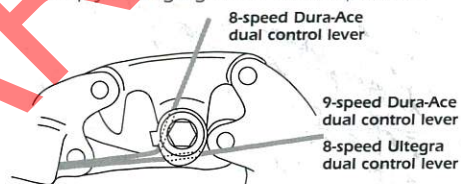


- Down tube shift levers (SL-7700) and bar end shifters (SL-B577) also available.

RD-7700

Rear Derailleur

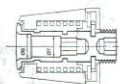
- High-precision action for 9-speed system.
- Can be used with 8-speed freehubs by simply changing cable mount position.



- Extension link spring and Teflon™ coated pivots provide a lighter shifting action.
- 11-tooth pulleys wear more evenly and run quieter.
- Zytel plastic reduces pulley weight and chain noise.
- New lightweight designs used throughout.

Teflon is a registered trademark of The Dupont Corporation.

Advanced Light Action design reduces friction



Hollow hanger bolt

11T Zytel pulleys run quieter, reduce wear

CS-7700

Cassette Sprockets

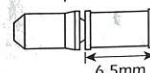
- Reduced cog spacing makes 9-speed sprocket cluster same width as 8-speed type.
- HG sprockets with new chamfering patterns improve shifting performance.
- Aluminum alloy sprocket carrier reduces weight while increasing rigidity and precision.
- Titanium lower sprockets and low-mass sprocket configuration reduce overall weight.
- Cassette cluster weighs 98.5g less than previous 8-speed type (12-23T).
- 11 through 15-teeth sprockets are combined with sprocket carrier types to reduce sprocket variations.



CN-7700

Chain

- New narrow design specifically for 9-speed system.
- External chain width has been reduced 0.7mm with minimal effect on inner link spacing.
- Tighter tolerances improve 9-speed shifting performance.



See page 64-69 for Dura-Ace specifications.

FD-7700 Front Derailleur

- Nickel plated aluminum alloy chain cage reduces weight.
- Widened chain cage mounting points increase rigidity for more precise shifting.
- Chain cage designed specifically for use with SG-X chainrings.



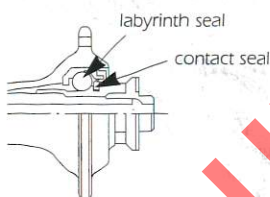
FC-7700 Crankset BB-7700 Bottom Bracket

- Hollow crank arms and pipe billet B.B. spindle reduce weight by 64g over previous crankset.
- Use of both ball and needle bearings increases spindle rigidity, splined crank arm mount increases joint strength.
- High-strength Super Duraluminum crank arms.
- Nickel plating extends chainring service life.
- Large chainring has new spike design for use with 9-speed chain.
- 53-42T, 53-39T, and 52-39T SG-X chainrings available.
- Crank arm length from 165 to 180mm in 2.5mm increments.
- Reinforcing ribs allow a narrower crank spider.

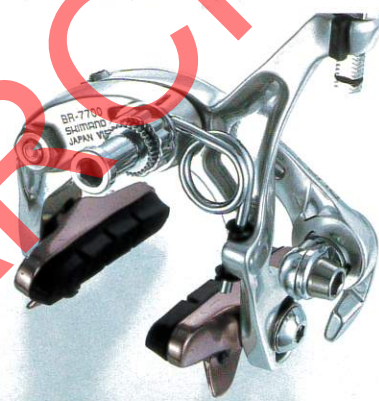


FH-7700 Freehub® HB-7700 Front Hub

- High-precision tolerances, low friction contact sealing, and improved grease formula reduce rolling resistance.
- Stainless steel balls and Borazon polished provide a smoother action.
- Bearings are protected by contact and labyrinth seals.
- Titanium freewheel body and aluminum alloy QR reduce weight.
- Aluminum alloy axle in front hub.
- Aero-type hubs also available.



BR-7700 Dual Pivot Brake Caliper



- Compact caliper arms and pads increase rigidity for more braking power and better response.
- Large coil caliper spring provides a lighter lever action.
- Stronger, more dependable braking from new compound, pads last up to 3 times longer.
- Low-mass design reduces caliper weight by 112.5g.
- Tapered pad holder makes pad changing easier.



SL-7700
Downtube Shift Lever Set



SL-BS77
9-Speed Bar End Shifters



BL-7402
Brake Lever



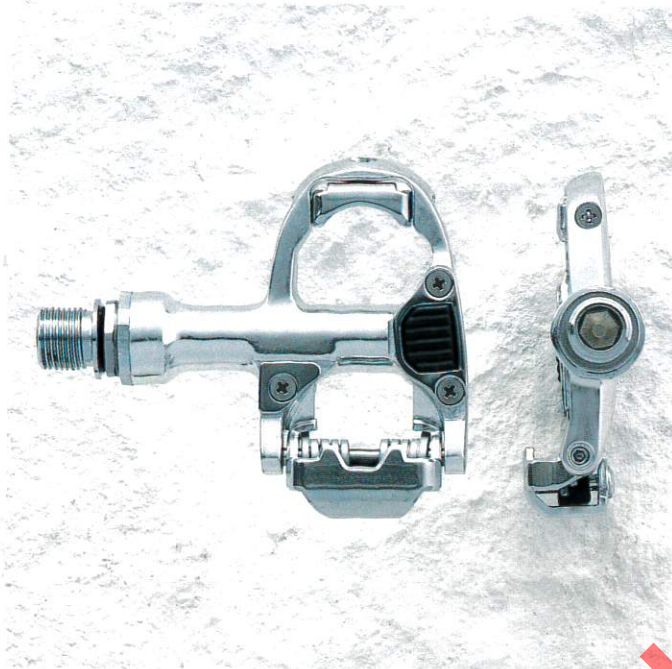
SP-7410
Seat Post



HP-7410
Cartridge Headset

New SPD-R™ road pedal improves pedaling efficiency.

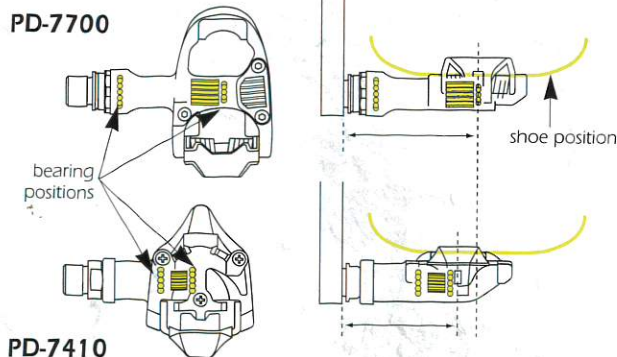
DURA-ACE



The 1998 SPD® line-up includes the new high-performance SPD-R™ system as part of the Dura-Ace® group. SPD-R is a completely new shoe and pedal system that increases pedaling efficiency for performance road cycling.

PD-7700 New SPD-R™ Pedal

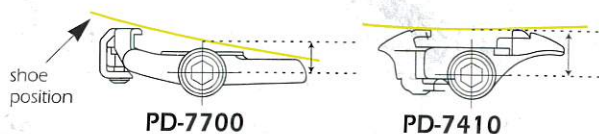
- Larger shoe contact surface than PD-7410.
- Inside bearings are positioned closer to crank arm to reduce flex.
- Outer bearings are positioned directly under cleat binder for more even load distribution and reduced flex.



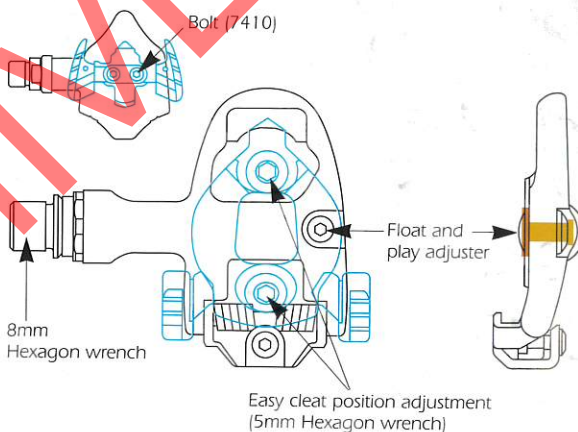
Light weight

	Pedal (Pair)	Cleat set	Total
PD-7700	298g	88g	386g
PD-7410	317g	81g	398g

- Angled pedal surface that's 6.5mm closer to spindle center (compared to PD-7410) allows a lower saddle position without any change in leg extension.



- Cleat binder position can be adjusted with 5mm hex wrench.
- Float and play adjuster lets riders set binding height and play to personal preferences.
- Hex recess spindle end allows pedal to be installed with 8mm hex wrench.



Three types of SPD-R cleats satisfy the needs of any cyclist:

- 1) SM-SH80 for fixed binding
- 2) SM-SH81 self aligning (6° of swing)
- 3) SM-SH82 self aligning (10° of swing)

■ SM-SH81 cleats are packaged with PD-7700 pedals.

■ All cleat sets include pontoon protectors.



New SH-R211 shoe uses the SPD-R system.



DURA-ACE[®]

TRACK

The fraction of a second advantage.

Hubs	Model No.	HB-7600
	Weight	313g (rear LF w/lock ring) 241g (front LF)
	Over Locknut	100mm (front), 120mm (rear)
	Holes	28H, 32H, 36H
	Hole Diameter	2.4mm
	Drop Width	9mm (front), 10mm (rear)
	Material/Finish	Hub Body: forged aluminum/anodized Hub Shell: composite poly carbonated resin
Sprocket	Model No.	SS-7600
	Weight	(1/2"x1/8" sprocket) 31g (13T), 38g (14T) 44g (15T), 53g (16T)
	Chain Size	1/2" x 1/8", 1/2" x 3/32"
	Teeth	13T, 14T, 15T, 16T
	Material/Finish	Chrome-moly steel
	Thread	BC 1.37 x 24T.P.I.

Crankset	Model No.	FC-7600
	Weight	605g (48T, 170mm)
	Chain Size	1/2" x 1/8", 1/2" x 3/32"
	Teeth	44T - 55T
	Crank Length	165mm, 167.5mm, 170mm, 172.5mm, 175mm
	Pedal Thread	BC 9/16" x 20T.P.I.
	Material/Finish	Crank: forged aluminum/anodized Chainring: aluminum/high-tech grey anodized Fixing bolt: steel/chrome plated
Bottom Bracket	Model No.	BB-7610
	Weight	307g (NJS type) 221g (Standard type)
	Cup Thread	BC 1.37x24T.P.I., M35x1.0T.P.I., M36x24T.P.I.
	Axle Length	68 - S - 109, 70 - S - 109
	Material/Finish (Axle)	nickel chrome-moly steel
Headset	Model No.	HP-7600
	Weight	90g
	Type	Exclusively designed for track
	Material/Finish	Nut, Upper Cone: aluminum/anodized Top Cone, Lower Cup Covers: high impact resin Upper & Lower Cups: steel bearing races





SHIMANO ULTEGRA®

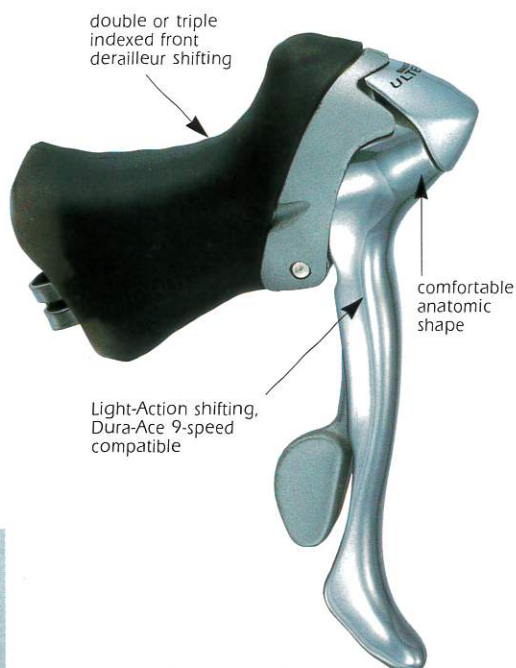
The Spirit of the Sport

All new for 1998, Ultegra offers pro-level performance that satisfies the demands of discriminating road racers, triathletes, and performance cyclists alike. The same design targets applied to Dura-Ace were used to make Ultegra lighter and stronger while providing an even higher level of control precision and response. At the heart of Ultegra is the new 9-speed drive train that delivers finer cadence control and more efficient use of energy. Also new is an available triple crankset which gives Ultegra 27-speed capability for use with quality touring bikes or high-performance road bikes with low-gear capability.

Ultegra's striking "smooth convex" design conveys a classic appearance on the level of the world's great road groups. The new Shimano Cycle Computer (available in November, 1997), with its hands-on-levers control capability, is also part of Ultegra. The flexible performance of the new Ultegra group reflects the new "Spirit of the Sport."

SHIMANO ULTEGRA®

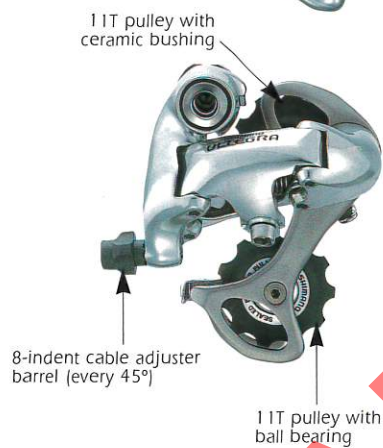
The Spirit of The Sport



ST-6500

Dual Control Lever Set

- 9-speed compatible Dual Control lever.
- Can be used with double or triple cranksets.
- Anatomically designed hood and lever for easy operation from any hand position.
- Smooth convex design provides a high-performance look.
- Cycle computer compatible type (ST-6501) incorporates integrated push-buttons for hands-on-bars computer operation.



RD-6500-SS/GS

Rear Derailleur

- Precision 9-speed compatible action.
- Same operating dimensions as Dura-Ace, allows for complete interchangeability.
- Can be used with 8-speed Ultegra (ST-6400), 105 (ST-1055), or RX-100 (ST-A550) shift levers.
- Advanced Light Action design results in precise, easy operation regardless of gear position.
- 11-tooth pulleys increase service life and reduce noise.
- Ceramic bushing in guide pulley and ball bearing in tension pulley reduce friction and lengthen pulley service life.
- Smooth convex design.

FC-6500

Double Crankset

FC-6503

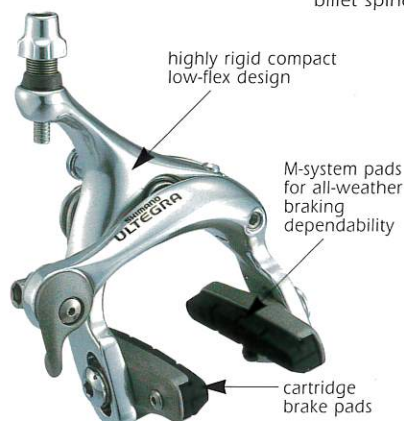
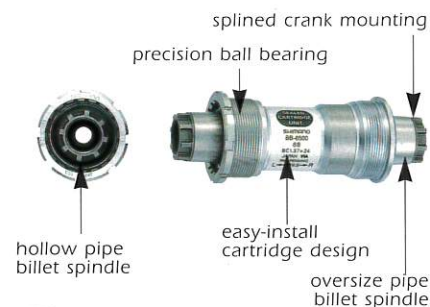
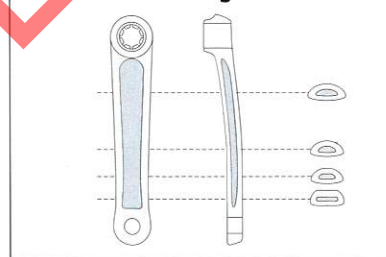
Triple Crankset

BB-6500

Cartridge Bottom Bracket

- Tunnel forged hollow crank arm reduces weight.
- Cartridge bottom bracket uses pipe billet spindle to reduce weight and increase BB strength.
- Wider bearing placement reduces spindle flex, increases pedaling efficiency.
- Splined crank arm-spindle joint increases strength and rigidity.

Hollow tunnel-forged crank arm



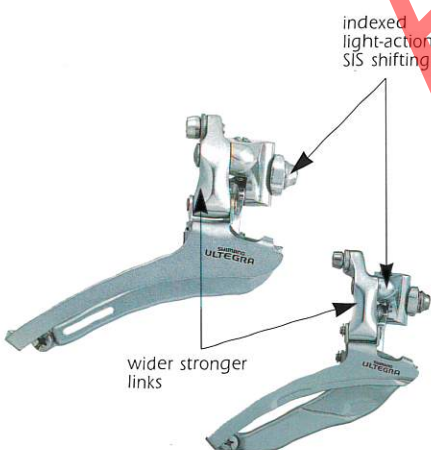
FD-6500

Front Derailleur (double)

FD-6503

Front Derailleur (triple)

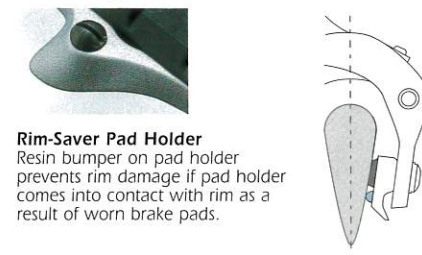
- Extra wide chain cage link increases strength and extends service life.
- FD-6503 provides precise shifting performance for triple cranksets with SG-X chainrings.



BR-6500

Dual Pivot Brake Caliper

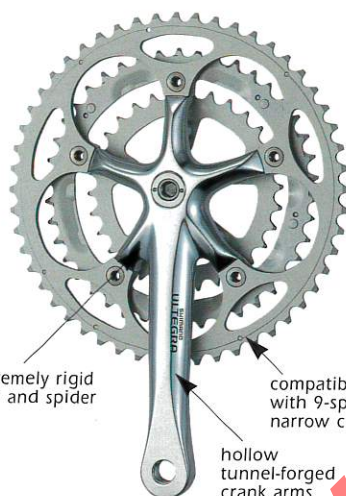
- Compact rigid design reduces flex and increases braking power.
- Compact cartridge-type brake pads are interchangeable with Dura-Ace.
- New M-System pad composition provides stronger braking power in any environment.
- Resin bumper tire guides will not damage deep rims when pads wear down.



Rim-Saver Pad Holder

Resin bumper on pad holder prevents rim damage if pad holder comes into contact with rim as a result of worn brake pads.

See page 68-73 for ULTEGRA specifications.



CS-6500 Cassette Sprockets

- 9-speed sprocket cluster has same width as previous 8-speed type.
- Lower gears mount through alloy sprocket carriers that increase rigidity and reduce weight.
- 9-speed cluster is 20% lighter (49g) than previous 8-speed type.

9-speed HG



FH-6500 Freehub® HB-6500 Front Hub

- Borozon polished cups and cones for precision rotation.
- Aluminum alloy quick release features easy-close, hard-open action.
- Freehub mounts 8- or 9-speed sprocket clusters with 11T top gear.



SP-6400



PD-6500



BL-6403

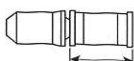
CN-HG92 9-Speed Chain

- Compatible with Ultegra (CS-6500) and Dura-Ace (CS-7700) cassette sprockets.
- Precision construction assures fast and accurate shifting with narrower 9-speed sprocket spacing.

9-speed compatible



Note: Due to the special narrow width of the CN-HG92 and CN-7700 chains, a 6.5mm ampule-type pin must be used to connect them.



TL-CN22

Due to narrow inner link spacing, the TL-CN22 or TL-CN31 chain tool must be used to connect or break the CN-HG92 and CN-7700 chains.





FH-1056



HB-1055



FD-1057



PD-A525



BB-UN52

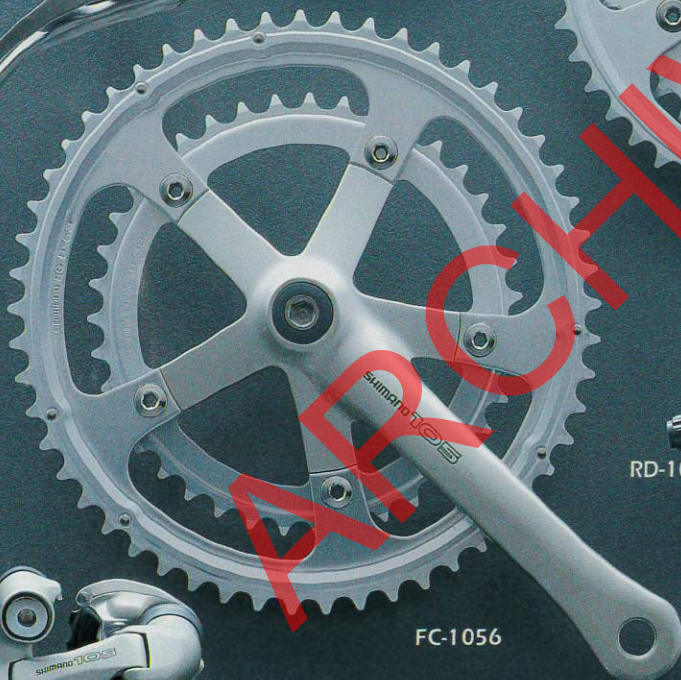


FD-1056



FC-1057

HP-1055



FC-1056



RD-1056-GS



CN-HG70



RD-1056



CS-HG70-8



BR-1055



ST-1055



BL-1055



SL-1056-8

SHIMANO 105[®] SC

High-performance road groups for sport, fitness, and recreational cycling.

ST-1055/ST-A550

Dual Control Lever

- Hands-on-bars shifting and braking.
- ST-1055-T model for triple crankset.



RD-1056/RD-A551

Rear Derailleur

- 7- or 8-speed drive trains.
- Light alloy outer link.
- Sintered alloy bushing pulley bearing.

CS-HG70-8 Cassette Sprockets

- 8-speed HG cassette sprockets.
- Five 8-speed combinations.



FC-1056/FC-A551 Crankset

- 53-42T, 53-39T, and 52-42T types available.
- FC-1057 and FC-A550 triples available (52-42-30T).
- FC-1056 available in 165, 167.5, 170, 172.5 and 175mm lengths.
- FC-A551 available in 165 and 170mm lengths

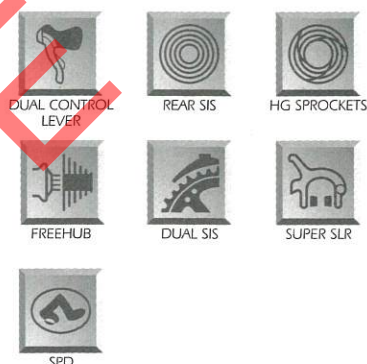


PD-A525 SPD[®] Pedal

- Adjustable cleat binding tension with indicator.

SL-BS64-8 Bar End Shifters

- 8-speed SIS bar end shifting.



BR-1055/BR-A550

Dual Pivot Caliper Brake

- Increased stopping power over single pivot types.
- Coated washer and thrust bearing reduce friction.

SHIMANO RX100



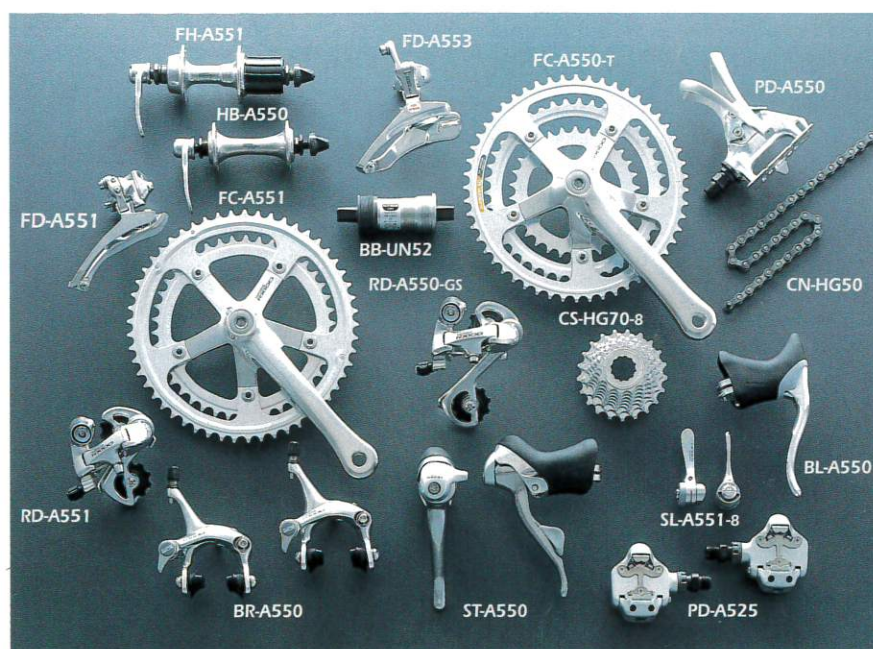
FH-1056/FH-A551 Freehub[®]

- Available in 7- or 8-speed versions.
- Contact sealing keeps out water and dirt

FD-1056/FD-A551

Front Derailleur

- SIS double chainwheel shifting.
- FD-1057 and FD-A553 types available for triple cranksets



See page 68-73 for 105-SC and RX-100 specifications.



FL-A410

FC-A413

PD-A550

HB-A410

FC-A410

CN-HG50

BB-LP26

RD-A410-GS

CS-HG50

FC-A415

FD-A410

FD-A551

BL-A410

RD-A410-ss

SL-A410

PD-A525

BR-A410

ST-A410

SM-ST10

SHIMANO RSX™

Racing-type components for the high-performance sport bike.

ST-A410 Control Lever

- Hands-on-bars shifting and braking.
- 7-speed rear, double or triple chainrings.
- In-line Optical Gear Display available.



RD-A410-SS/RD-A410-GS Rear Derailleur

- 7-speed close ratio SS type, wide ratio GS type.
- Sintered alloy bushing pulley bearings.



CS-HG70-7 Cassette Sprockets

- Smooth shifting 7-speed HG.
- Six combinations available.

FH-A410 Freehub®

- Contact sealing keeps out water and dirt.
- 7-speed HG sprockets.

FD-A410 Front Derailleur

- Indexed SIS shifting on both double and triple.
- Compact low-friction Top-Swing design.



FC-A410/FC-A415

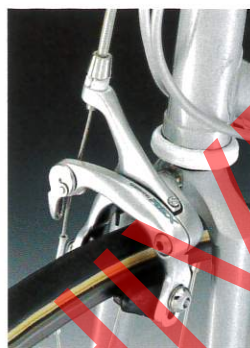
Double Crankset

FC-A413 Triple Crankset

- New FC-A415 double crankset available.
- FC-A413 triple for wide range gearing.
- Smooth shifting SG-X chainrings.
- 170 or 175mm arm lengths.

BR-A410 Dual Pivot Caliper Brake

- Strong dual-pivot stopping power.
- All-weather M-system pads.



EXAGE® 300EX



See page 68-73 for RSX specifications.

ROAD COMPONENTS - FEATURES & SPECIFICATIONS

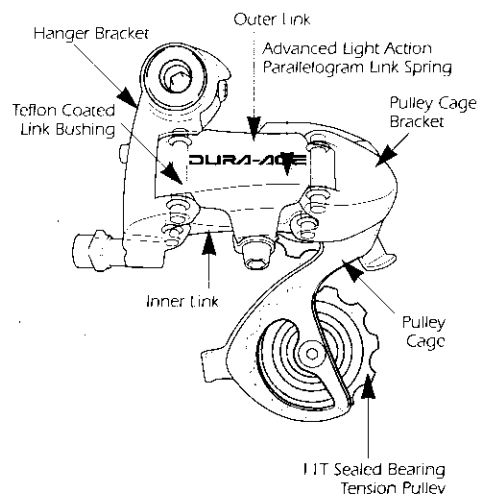
Specifications		Series		DURA-ACE		ULTEGRA		SHIMANO 105-SC	
Rear Derailleur	Model No.	RD-7700		RD-6500-SS		RD-6500-GS		RD-1056-SS	
	Advanced Light Action	○		○		○		○	
	No. of Sprockets	9-speed or 8-speed		9-speed or 8-speed		9-speed or 8-speed		8-speed	
	Max. Sprocket	27T		28T		27T		28T	
	Min. Sprocket	11T		11T		11T		12T	
	Front Difference	14T max.		14T max.		22T max.		13T max.	
	Total Capacity	26T		29T		37T		28T	
	Parallelogram Spring Adjuster	○		○		○		○	
	Guide Pulley Pivot	bearing		ceramic bushing		ceramic bushing		sintered aluminum	
	Tension Pulley Pivot	bearing		bearing		bearing		sintered aluminum	
	11T Pulley	○		○		○		○	
	Hanger Bracket	cold forged aluminum/anodized		aluminum/clear coated		aluminum/clear coated		aluminum/painted	
	Hanger Bracket Pivot Seal	double O-ring		double O-ring		double O-ring		○	
	Pulley Cage Bracket	cold forged aluminum/anodized		aluminum/clear coated		aluminum/clear coated		aluminum/painted	
	Pulley Cage Pivot Seal	double O-ring		double O-ring		double O-ring		○	
	Outer Link	cold forged aluminum/anodized		aluminum/clear coated		aluminum/clear coated		aluminum/painted	
	Inner Link	cold forged aluminum/anodized		aluminum/barrel		aluminum/barrel		steel/pearl bright finish	
	Sealed Link Pins	stainless steel (4-sealed)		stainless steel (4-sealed)		stainless steel (4-sealed)		outer link (2-sealed)	
	Link Pin Bushings	Teflon™ coating (4)		Teflon™ coating (4)		Teflon™ coating (4)		hard brass (3)	
	Outer Pulley Cage	cold forged aluminum/anodized		aluminum/anodized		aluminum/anodized		aluminum/polished	
	Inner Pulley Cage	aluminum/anodized		aluminum/barrel		aluminum/barrel		steel/pearl bright finish	
	Weight	195g		215g		221g		247g	
Front Derailleur	Model No.	FD-7700-B	FD-7700-F	FD-6500-B/6500-F	FD-6503-B/6503-F	FD-1056-B	FD-1056-F	FD-1057	
	Advanced Light Action	○	○	○	○	○	○	○	
	Dual SIS	○	○	○	○	○	○	○	
	Top-Swing Action	○	○	○	○	○	○	○	
	Replaceable Chain Cage	○	○	○	○	○	○	○	
	Capacity	15T	15T	15T	22T (triple use)	15T	15T	22T (triple use)	
	Link Bushing	upper & lower AB-pins	upper & lower AB-pins	lower A-pin	lower A-pin	lower A-pin	lower A-pin	lower A-pin	
	O-ring Seals	○	○	○	○	○	○	○	
	Spring Cover	○	○	○	○	○	○	○	
	Chain Stay Angle	61 - 66°	61 - 66°	61 - 66°	61 - 66°	61 - 66°	61 - 66°	63 - 66°	
	Mounting	band	brazed-on	band/brazed-on	band/brazed-on	band	brazed-on	band	
	Band Diameter	28.6mm	—	28.6mm	28.6mm	28.6mm	—	28.6/31.8mm	
	Band/Brazed-On Clamp	forged aluminum/anodized	aluminum/clear coated	aluminum/clear coated	aluminum/clear coated	aluminum/painted	aluminum/painted	aluminum/painted	
	Outer Link	forged aluminum/anodized	aluminum/clear coated	aluminum/clear coated	aluminum/clear coated	aluminum/painted	aluminum/painted	aluminum/painted	
	Inner Link	forged aluminum/anodized	aluminum/clear coated	aluminum/clear coated	aluminum/clear coated	aluminum/painted	aluminum/painted	aluminum/painted	
	Chain Cage	aluminum/nickel plated	aluminum/nickel plated	steel/pearl bright	steel/pearl bright	steel/chrome plated	steel/chrome plated	steel/chrome plated	
	Weight	—	72.5g	81g (6500-F)	—	105g	—	—	
Dual Control Lever	Model No.	ST-7700		ST-6500		ST-1055		ST-1055-T	
	Optical Gear Display	○ (rear)		○		○		○	
	Rear	9-speed		9-speed		8-speed		—	
	Front	double		double/triple		double		triple	
	Max. Single-Stroke Shifts	3 (rear)		3 (rear)*		3 (rear)		—	
	Handle Bar Dia.	23.8 - 24.2mm		23.8 - 24.2mm		23.8 - 24.2mm		23.8 - 24.2mm	
	Bracket	engineering plastic		engineering plastic		aluminum/painted		aluminum/painted	
	Levers	aluminum/anodized		aluminum/clear coated		aluminum/painted		aluminum/painted	
	Shift Cable Casing	SIS-SP40		SIS-SP40		SIS-SP40		SIS-SP40	
	Shift Cable	stainless steel		stainless steel		stainless steel		stainless steel	
Shift Lever	Model No.	SL-7700	SL-B577	not available		SL-1056-B	SL-B564-B		
	Light Action Lever (F)	○	○	compatible with SL-7700/SL-B577		○	○		
	No. of Speeds	9-speed	9-speed			8-speed	8-speed		
	Mount Position	down tube	bar end			down tube	bar end		
	Tube Diameter	brazed-on	—			brazed-on	19.0 - 22.0mm (inside)		
	Material	aluminum/polished	aluminum/polished			aluminum/painted	aluminum/painted		
	Shift Cable Casing	SIS-SP40	SIS-SP40			SIS sealed	SIS-SP		
	Weight	—	—			70g	183g		

* except downshifts to bottom gear

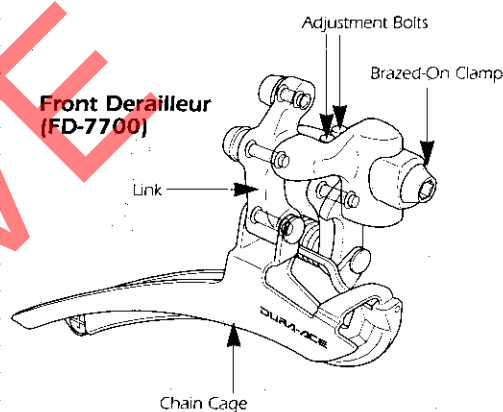
Teflon is a registered trademark of The DuPont Corporation.

SHIMANO RX-100		SHIMANO RSX		SHIMANO 300EX
RD-A551	RD-A551-GS	RD-A410-SS	RD-A410-GS	RD-A300
Ø	Ø	Ø	Ø	Ø
8-speed	7-speed	7-speed	7-speed	7-speed
28T	30T	28T	28T	28T
12T	12T	11T	11T	12T
13T max.	20T max.	13T max.	20T max.	13T max.
28T	36T	28T	36T	28T
Ø	Ø	Ø	Ø	Ø
sintered aluminum	sintered aluminum	sintered aluminum	sintered aluminum	sintered aluminum
sintered aluminum	sintered aluminum	sintered aluminum	sintered aluminum	sintered aluminum
Ø	Ø	Ø	Ø	Ø
aluminum/polished	aluminum/polished	aluminum/painted	aluminum/painted	aluminum
Ø	Ø	Ø	Ø	Ø
aluminum/polished	aluminum/polished	aluminum/painted	aluminum/painted	aluminum & resin
Ø	Ø	Ø	Ø	Ø
aluminum/polished	aluminum/polished	steel/polished	steel/polished	steel/painted
steel/pearl bright finish	steel/pearl bright finish	steel/painted	steel/brack	steel/painted
outer link (2-sealed)	outer link (2-sealed)	Ø	Ø	Ø
hard brass (3)	hard brass (3)	Ø	Ø	Ø
steel/pearl bright finish	steel/pearl bright finish	steel/pearl bright finish	steel/pearl bright finish	steel/zinc plated
steel/pearl bright finish	steel/pearl bright finish	steel	steel/brack	steel
302g				282g
FD-A551-B	FD-A551-F	FD-A553	FD-A410	FD-A300-B
Ø	Ø	Ø	Ø	Ø
Ø	Ø	Ø	Ø	Ø
Ø	Ø	Ø	Ø	Ø
Ø	Ø	Ø	Ø	Ø
15T	15T	26T (triple use)	20T (double & triple use)	14T
lower A-pin	lower A-pin	lower A-pin	Ø	Ø
Ø	Ø	Ø	Ø	Ø
Ø	Ø	Ø	Ø	Ø
61 - 66°	61 - 66°	63 - 66°	61 - 66° (double)/63 - 66° (triple)	61 - 66°
band	brazed-on	band	band	band
28.6mm	—	28.6mm	28.6/31.8mm	28.6mm
aluminum/polished	aluminum/polished	aluminum/polished	aluminum/painted	steel/pearl bright finish
aluminum/polished	aluminum/polished	aluminum/polished	aluminum/polished	steel/zinc plated
die cast zinc	die cast zinc	die cast zinc	steel	steel
steel/chrome plated	steel/chrome plated	steel/chrome plated	steel/chrome plated	steel/chrome plated
105g		121g		
ST-A550		ST-A410		not available
Ø		Ø (optional)		
8-speed		7-speed		
double		double/triple		
3 (rear)		3 (rear)		
23.8 - 24.2mm		23.8 - 24.2mm		
aluminum/polished		aluminum/polished		
aluminum/polished		aluminum/violet-silver painted		
SIS-SP40		SIS-SP40		
steel		steel		
495g (pair)				
SL-A551-FCAL	SL-A550-T	SL-A410	SL-A400	
Ø	Ø	Ø	Ø	
8-speed	7-speed/triple	7-speed	7-speed	
down tube	down tube	down tube	down tube	
brazed-on	brazed-on	brazed-on	28.6mm or brazed-on	
aluminum/polished	aluminum/polished	aluminum/pearl bright finish	aluminum/barrel finish	
SIS	SIS	SIS	SIS	
70g			76g	

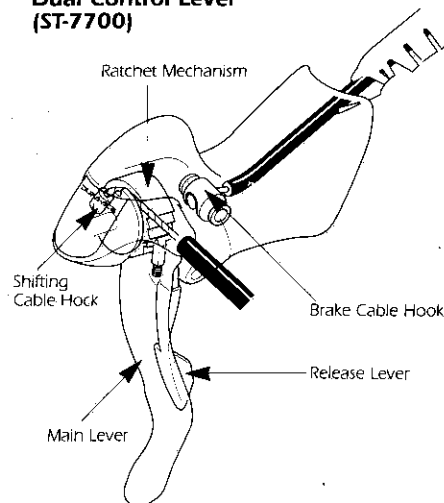
Rear Derailleur (RD-7700)



Front Derailleur (FD-7700)



Dual Control Lever (ST-7700)



Series		DURA-ACE	ULTEGRA	SHIMANO 105-SC
Specifications				
Aero Brake Lever	Model No.	BL-7402	BL-6403	BL-1055
	Return Spring (SLR)	○	○	○
	Bar Diameter	23.8 – 24.2mm	23.8 – 24.2mm	23.8 – 24.2mm
	Lever Stroke	88mm	84mm	84mm
	Brake Cable Casing	SLR outer	SLR outer	SLR outer
	Lever	aluminum/anodized	aluminum/painted	aluminum/painted
	Bracket	aluminum/chrome plated	aluminum	aluminum
	Bracket Cover	black or white	black or white	black, white, or gray
Brake Caliper	Weight	240g (pair)	272g (pair)	252g (pair)
	Model No.	BR-7700	BR-6500	BR-1055
	Type	Super SLR dual pivot	Super SLR dual pivot	Super SLR dual pivot
	Reach	49mm	49mm	49mm 57mm
	Pads	low profile/w holder	low-profile w/holder	one piece
	Detachable Pads	○	○	○
	Caliper	cold forged aluminum/anodized	forged aluminum/anodized	forged aluminum/painted
	C-Arm Pivot	coated pivot washer & thrust bearing	coated pivot washer	coated pivot washer & thrust bearing
Crankset	Y-Arm Pivot	coated pivot washer & thrust bearing	thrust bearing	○
	Weight	317.5g	334.5g (FSR)	360g (F&R)
	Model No.	FC-7700	FC-6500	FC-6503
	HyperDrive	○	○	○
	Dual SIS	○	○	○
	CN-7700/HG92 Compatible	○	○	○
	Hollow Crank Arm	○	○	○
	One-Key Release	○	○	○
Bottom Bracket	Reinforced Spider	○	○	○
	Number of Teeth	53-42T/53-39T/52-39T	53-42T/53-39T/52-39T	52-42-30T
	Bolt Circle Diameter	130mm	130mm	130/74mm
	Crank Arm Length	165/167.5/170/172.5/175/177.5/180mm	165/167.5/170/172.5/175mm	165/167.5/170/172.5/175mm
	Crank Arms	forged aluminum/anodized	forged aluminum/anodized	aluminum/painted
	Crank Fixing Bolts	stainless steel	stainless steel	stainless steel
	Chainrings	aluminum/nickel plated	aluminum/anodized	aluminum/anodized
	Weight	600g (175mm/53-39T)	643g (175mm/53-39T)	686g (170mm/52-42T)
Front Hub	Model No.	BB-7700	BB-6500	BB-UN52
	Crankset	FC-7700	FC-6500	FC-6503
	Pipe/Billet Spindle/Serration Mounting	○	○	○
	Chainline Stabilizer	○	○	○
	Chainline	43.5mm	43.5mm	45mm
	B.B. Shell Width	68/70mm	68/70mm	68/70mm
	Marking	—	—	MM107
	Spindle Length	109.5mm	109.5mm	118.5mm
Front Hub	Spindle Material	chrome-moly steel	chrome-moly steel	chrome-moly steel
	Adaptor	aluminum	aluminum	steel
	Weight	173g (B.B. shell width 68mm)	221.5g (68mm)	427g
	Model No.	HB-7700	HB-6500	HB-1055
	Over Locknut	100mm	100mm	100mm
	Axle Length	108mm	108mm	108mm
	Spoke Holes	36/32/28/24	36/32/28	36/32
	Spoke Hole Circle	38mm	38mm	38mm
Front Hub	Sealings	labyrinth and contact seals	labyrinth and contact seals	single contact seal
	Stainless Steel Balls	○	○	○
	Hub Shell	cold forged aluminum/anodized	forged aluminum/anodized	forged aluminum/anodized
	Weight	178g	198g	228g

SHIMANO RX-100

BL-A550
○
23.8 – 24.2mm
84mm
SLR outer
aluminum/anodized
aluminum
black or white
252g

BR-A550

Super SLR dual pivot
49mm or 57mm
one-piece
Ø
forged aluminum/anodized
coated pivot washer & thrust bearing
Ø
348g (F&R)

FC-A551

○
○
Ø
Ø
Ø
Ø
53-42T/53-39T/52-42T
130mm
165/170/175mm
aluminum/mirror polished
chrome-moly steel
aluminum & steel
686g (170mm/52-42T)

BB-UN52

FC-A551
Ø
○
43.5mm
68/70mm
MM107
107mm
chrome-moly steel
steel
427g

HB-A550

100mm
108mm
36/32
38mm
single contact seal
Ø
aluminum/mirror polished
202g

SHIMANO RSX

BL-A410
○
23.8 – 24.2mm
84mm
M-system outer
aluminum/polished
aluminum
black
258g

BR-A410

M-system dual pivot
49mm
one-piece
Ø
forged aluminum/polished
Ø
Ø
382g (F&R)

FC-A415

○
○
Ø
Ø
Ø
Ø
52-42T
130mm
165/170/175mm
aluminum/mirror polished
stainless steel
aluminum & steel
690g (170mm)

BB-UN52

FC-A415
Ø
○
43.5mm
68/70mm
MM107
107mm
chrome-moly steel
steel
427g

HB-A410

100mm
108mm
36/32
38mm
single contact seal
Ø
aluminum/dia cut
199g

SHIMANO 300EX

BL-A251
○
23.8 – 24.2mm
88mm
SLR outer
aluminum/polished
steel/zinc plated
black or white
310g

BR-A250

SLR single pivot side pull
49mm or 57mm
one-piece
Ø
forged aluminum/polished
Ø
Ø
382g (F&R)

FC-A300

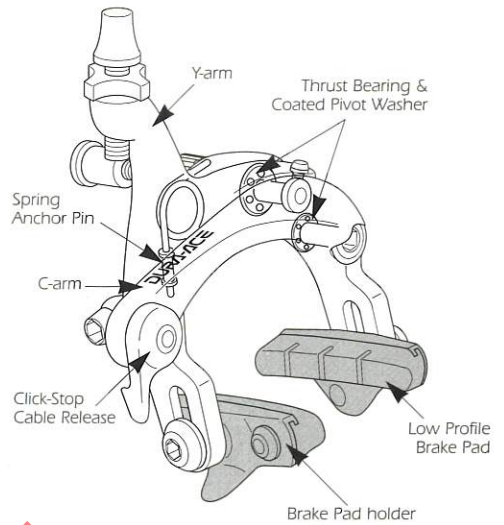
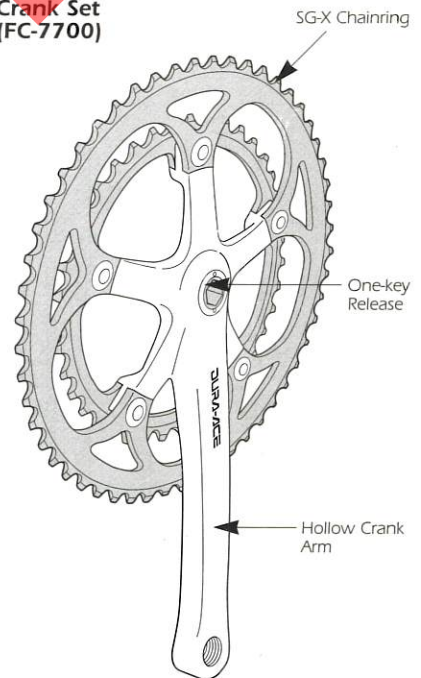
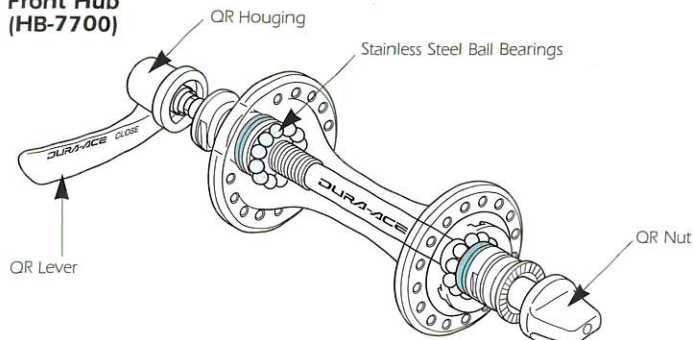
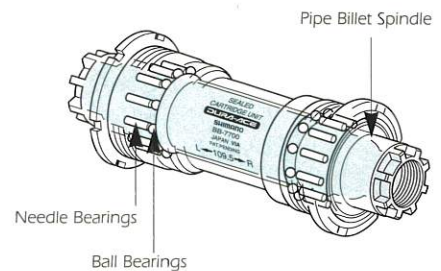
Ø
Ø
Ø
Ø
Ø
Ø
52-42T
130mm
170/175mm
aluminum/polished
steel
steel/painted
788g (170mm)

BB-CS12

FC-A300
Ø
○
43.5mm
68/70mm
XL118
118mm
chrome-moly steel
resin
resin

HB-RM50

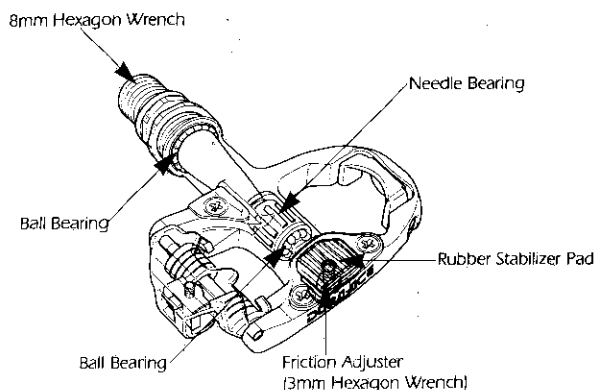
100mm
108mm
36/32
38mm
single contact seal
Ø
aluminum/dia cut
235g

Dual Pivot Brake Caliper (BR-7700)**Crank Set (FC-7700)****Front Hub (HB-7700)****Bottom Bracket (BB-7700)**

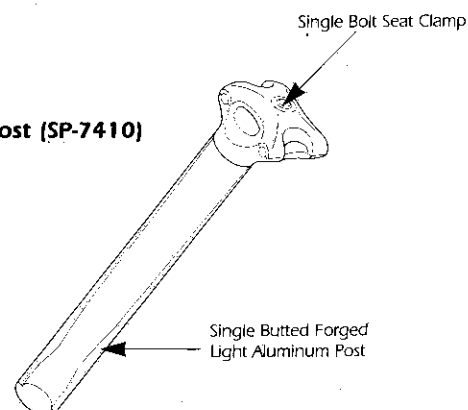
Series		DURA-ACE	ULTEGRA	SHIMANO 105-SC
Rear Freehub	Model No.	FH-7700	FH-6500	FH-1056
	No. of Sprockets	9-speed & 8-speed	9-speed & 8-speed	8-speed
	Over Locknut	130mm	130mm	130mm
	Axle Length	141mm	141mm	141mm
	Spoke Holes	36/32/28/24 28/24/16/12 (aero type)	36/32/28	36/32
	Spoke Hole Circle	44mm	42mm	45mm
	Sealings	labyrinth and contact seals	labyrinth and contact seals	single contact seal
	Stainless Steel Balls	○	Ø	Ø
	Hub Shell	cold forged aluminum/anodized	forged aluminum/anodized	forged aluminum/anodized
	Weight	376g	410g	427g
Cassette Sprockets	Model No.	CS-7700	CS-6500	CS-HG70-8
	Speeds	9-speed	9-speed	8-speed
	Group Identification	—	—	S, T, U, V, W
	Color	champagne gold & Ti-silver	chrome plated	silver
	Weight	159.5g (12-23T)	203g (12-23T)	278g (U group)
Chain	Model No.	CN-7700	CN-HG92	CN-HG70
	Type	HG narrow (9-speed)	HG narrow (9-speed)	HG narrow
	Inner Link Color	nickel plated	gray	gray
	Outer Link Color	nickel plated	silver	black
	Weight	304g (116 links)	304g (116 links)	335g (114 links)
Headset	Model No.	HP-7410	HP-6500	HP-1055
	Sealed Cartridge Bearings	○	○	Ø
	Thread	BC 1" x 24 T.P.I.	BC 1" x 24 T.P.I.	BC 1" x 24 T.P.I.
	Stack Height	37.6mm	37.6mm	32.7mm
	Locknut	aluminum	aluminum	aluminum w/stem seal
	Upper/Lower Cups	aluminum	aluminum	composite
	Upper Stem Cone	aluminum	aluminum	composite
	Stem Cone	aluminum	steel	steel
	Weight	101g	109g	101g
Pedal	Model No.	PD-7700	PD-7410*	PD-6500*
	Type	SPD-R	SPD	SPD
	Road Clearance	34°	36°	34°
	Cleat Retention Adjuster	○	○	○
	Cleat Retention Indicator	○	○	○
	Rubber Stabilizer Pad	○	—	—
	Spindle Thread	BC 9/16" x 20 T.P.I.	BC 9/16" x 20 T.P.I.	BC 9/16" x 20 T.P.I.
	Spindle	nickel chrome-moly steel	nickel chrome-moly steel	chrome-moly steel
	Body	aluminum/anodized	aluminum/anodized	aluminum/polished
	Weight	298g	317g	348g
				390g
Seat Post	Model No.	SP-7410	SP-6400-A	SP-6400-B
	Post Type	round	round	oval
	Easton Tubing	○	Ø	Ø
	Outer Dia. (mm)	26.8/27.0/ 27.2	25.0/25.8/26.0/ 26.6/26.8/27.0/ 27.2	25.0/25.8/26.0/ 26.6/26.8/27.0/ 27.2
	Length	270mm	205mm	205mm
	Material	thin wall aluminum	aluminum	aluminum
	Weight	195g		286g

*The PD-7410 and PD-6500 SPD pedals feature fixed or self aligning cleat retention. Choose the appropriate type cleat for the desired retention mode.

SPD-R Pedal (PD-7700)

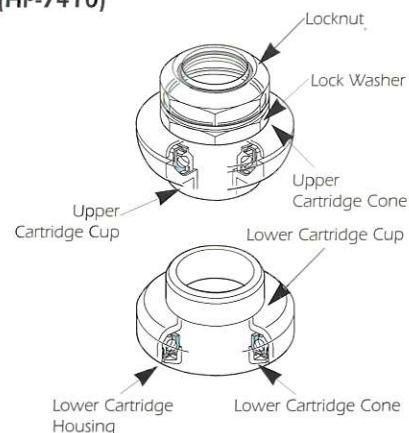


Seat Post (SP-7410)



SHIMANO RX-100		SHIMANO RSX	SHIMANO 300EX
FH-A551		FH-A410	FH-HG50
8-speed		7-speed	7-speed
130mm		130mm	126mm
141mm		141mm	137mm
36/32		36/32	36/32
45mm		45mm	45mm
single contact seal		single contact seal	Ø
Ø		Ø	Ø
aluminum/mirror polished		aluminum/dia cut	aluminum/dia cut
427g			
CS-HG70-8		CS-HG50-7	CS-HG50-7
8-speed		7-speed	7-speed
S, T, U, V, W		ai (11-12-14-16-18-21-24)	E, H, I, J, L, M
silver		black	brown/silver low gear
278g (U group)			
CN-HG70		CN-HG50	CN-HG50
HG narrow		HG narrow	HG narrow
gray		black	black
black		black	black
335g (114 links)		335g (114 links)	335g (114 links)
HP-1055			
Ø			
BC 1" x 24 T.P.I.			
32.7mm			
aluminum w/stem seal			
composite			
composite			
steel			
101g			
PD-A525	PD-A550		
SPD	toe clip		
31°	32°		
○	—		
○	—		
—	—		
BC 9/16" x 20 T.P.I.	BC 9/16" x 20 T.P.I.		
chrome-moly steel	chrome-moly steel		
aluminum/white or silver painted	aluminum		
390g	407g		

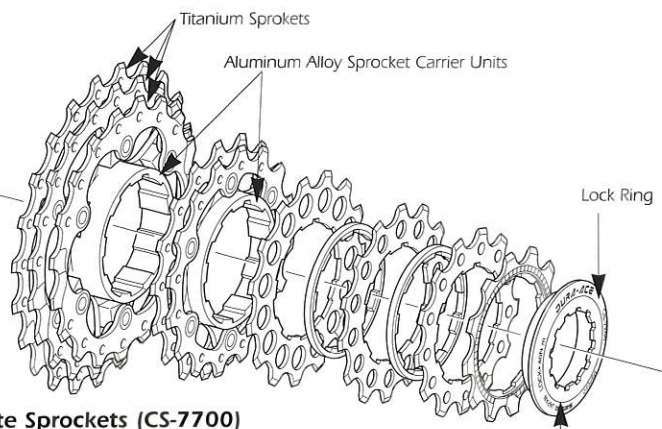
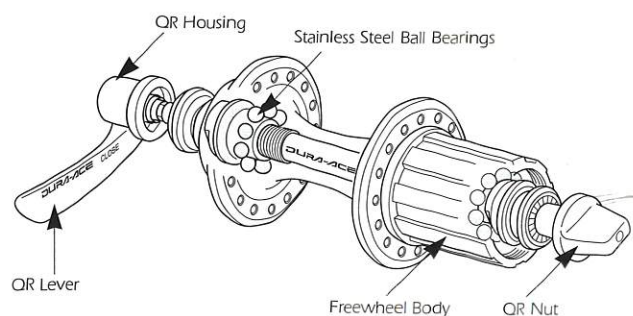
Cartridge Headset (HP-7410)



Cassette Sprockets Combinations

Model No.	Speeds	Group Letter	Gearing
CS-7700	9	—	11, 12, 13, 14, 15, 16, 17, 19, 21
		—	12, 13, 14, 15, 16, 17, 18, 19, 21
		—	12, 13, 14, 15, 16, 17, 19, 21, 23
		—	11, 12, 13, 14, 15, 17, 19, 21, 23
		—	12, 13, 14, 15, 17, 19, 21, 23, 25
		—	12, 13, 14, 15, 17, 19, 21, 24, 27
CS-6500	9	—	11, 12, 13, 14, 15, 16, 17, 19, 21
		—	12, 13, 14, 15, 16, 17, 18, 19, 21
		—	12, 13, 14, 15, 16, 17, 19, 21, 23
		—	11, 12, 13, 14, 15, 17, 19, 21, 23
		—	12, 13, 14, 15, 17, 19, 21, 23, 25
		—	12, 13, 14, 15, 17, 19, 21, 24, 27
CS-7401 CS-HG90-8 CS-HG70-8	8	S	12, 13, 14, 15, 16, 17, 19, 21
		T	13, 14, 15, 16, 17, 19, 21, 23
		U	12, 13, 14, 15, 17, 19, 21, 23
		V	13, 14, 15, 17, 19, 21, 23, 26
		W	12, 13, 15, 17, 19, 21, 23, 25
		E	12, 14, 16, 18, 21, 24, 28
CS-HG50-7	7	H	13, 15, 17, 19, 21, 23, 26
		I	13, 14, 15, 17, 19, 21, 23
		J	13, 14, 15, 16, 17, 19, 21
		L	12, 13, 14, 15, 17, 19, 21
		M	13, 15, 17, 19, 21, 24, 28

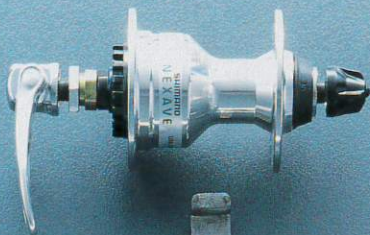
Rear Freehub (FH-7700)



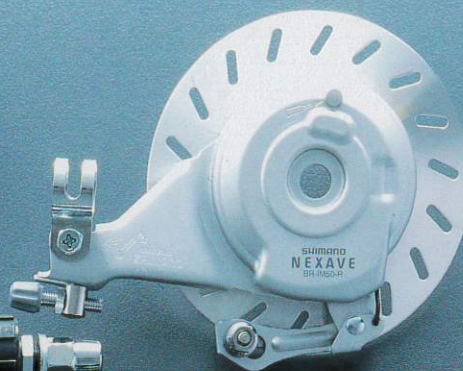
Cassette Sprockets (CS-7700)

Two types of lock ring can be used with the CS-7700 / CS-6500 : one with top 11 teeth and one with top 12 teeth.

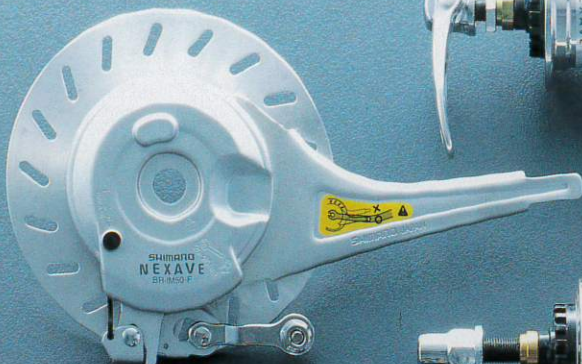
HB-IM50



BR-IM50-R



BR-IM50-F



FH-IM50



FD-MC36



CS-HG60-I



CN-IG51



BB-UN52



FC-T400



FD-T401



RD-T400



FC-T401



BR-T400



ST-T400



BL-T400



SL-MC41



SHIMANO NEXAVE™

for Sport Touring Bike

Please see pages 6 through 11 for product features and benefits.

Rapid-Rise Rear Derailleur

Model No.	RD-T400
Speeds	8-speed
Max. Sprocket	34T
Min. Sprocket	11T
F / Difference	20T max.
Total Capacity	43T
Features	Rapid-Rise (Reverse Spring), Roller Guide, Pre-Select Arm, Advanced Light Action

Front Derailleur

Model No.	FD-T401	FD-T400/ FD-MC36 (STX-RC)
Top-Low Max. Capacity	20T	20T
Top-Mid Min. Capacity	10T	10T
Top Gear Teeth	48T	42T
Clamp Band	28.6 / 31.8 / 34.9 mm	28.6 / 31.8 / 34.9 mm
Chain Stay Angle	63-66°, 66-69°	63-66°, 66-69°
Features	Advanced Light Action, Top-Swing Action, Dual SIS	Advanced Light Action, Top-Swing Action, Dual SIS

Tap-Fire™ / Brake Lever

Model No.	ST-T400	BL-T400
Dual SIS	Rear	8-speed
	Front	triple
Lever Length	3-finger	3-finger
Optical Gear Display	dial type	—
Brake Compatibility	V-Brake Modulator / Canti-Lever Brake / Roller Brake Modulator	

NOTE: BL-T400 / ST-T400 brake levers have a mode select to accommodate usage with V-brake with modulator, cantilever or HRB type brakes.
(See page 11 for more information)

V-Brake® with Power Modulator

Model No.	BR-T400
Fixing Bolt	stainless steel
Features	Power Modulator (3 step adjustable) Low flex Design, Cartridge Spring, Spring Balance Adjuster (both side)

Hub Roller Brake with Power Modulator

Model No.	BR-IM50F / R
Use	HB-IM50 / FH-IM50
Features	Power Modulator, Large Cooling Fin, Silent all weather Braking, Low Maintenance

Front hub & Freehub

Model No.	HB-IM50	FH-IM50
Use	BR-IM50-F	BR-IM50-R
Over Lock-nut Dimension	100 mm	135 mm
Axle Length	108 mm (QR)	108 mm (nut)
Spoke Holes	36H	36H
Spoke Hole Circle	52 mm	45 mm
Speed	—	8-speed
Features	Quick Release, Sealed Mechanism	Roller Clutch, Sealed Mechanism

Cassette Sprocket

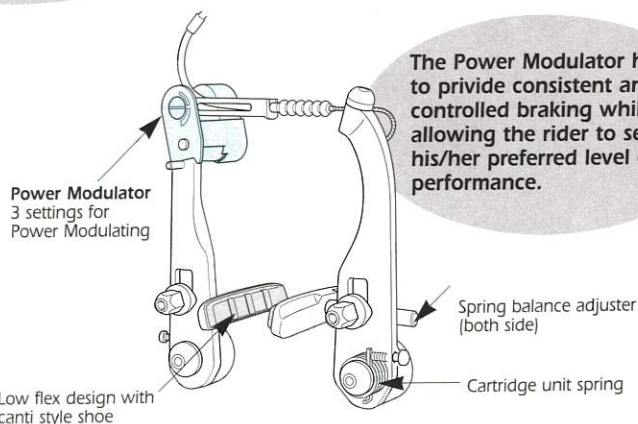
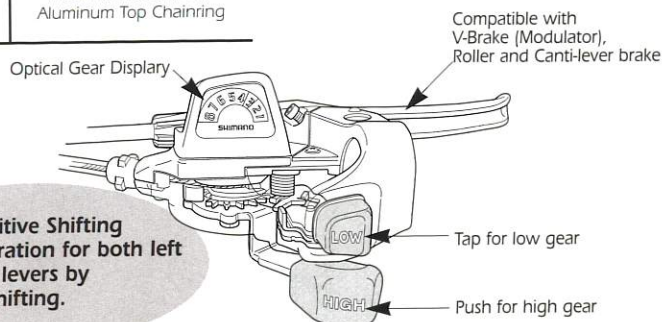
Model No.	CS-HG60-8I
Speeds	8-speed
Combination	11-13-15-17-20-23-26-34T
Features	MegaRange, HG Cassette Sprocket

Crankset

Model No.	FC-T401	FC-T400
Gearing	48-38-28T	42-32-22T
Bolt Circle Diameter	79 mm	104 / 64 mm
Crank Length	170 / 175 mm	170 / 175 mm
IG Chain Compatible	○	○
Spider	5-arm	4-arm
BB	BB-UN52	
Chain Line	47.5 mm	50.0 mm
Spindle Length	110.5 mm	113 mm
Features	Chaincase Compatible, Aluminum Crank set, Aluminum Top Chaining	



More Intuitive Shifting
same operation for both left
and right levers by
Tap-Fire shifting.





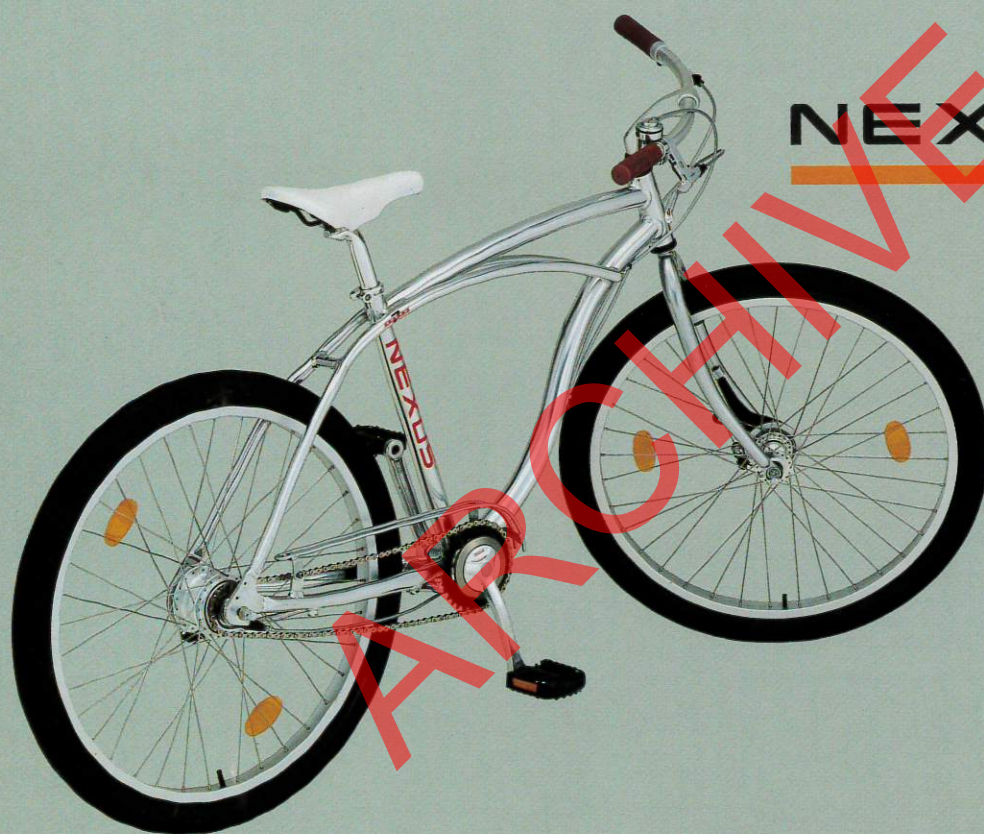
NEXUS®

Nexus® opens up a new world of cycling possibilities.

The Nexus® concept can be summed up in one simple phrase... "everything's inside." Nexus eliminates the need for derailleurs by putting the gear shifting mechanisms inside of the rear hub. Powerful hub-mounted roller brakes eliminate externally mounted calipers. The result is that there are fewer exposed mechanisms. The bike looks cleaner and less intimidating, and requires less maintenance. Furthermore, many "rider-friendly" innovations make the Nexus equipped bike easier, more comfortable, and more fun to ride.

Nexus components are unique in that they're not limited to use on a specific type of bike. There's no limit to the way that Nexus can be used. Freed from the design constraints imposed by derailleurs, brake calipers, and cantilevers, bicycle makers can more easily incorporate Nexus into new and innovative designs for a wide range of bicycles.

While Nexus is making the bicycle simpler and more rider-friendly, it's also stimulating the development of new types of bicycles that are breaking through conventional design barriers. This is what's great about Nexus...it's opening up a whole new world of cycling possibilities.



NEXUS®

NEXUS



SHIMANO

SHIMANO

INTER-4™

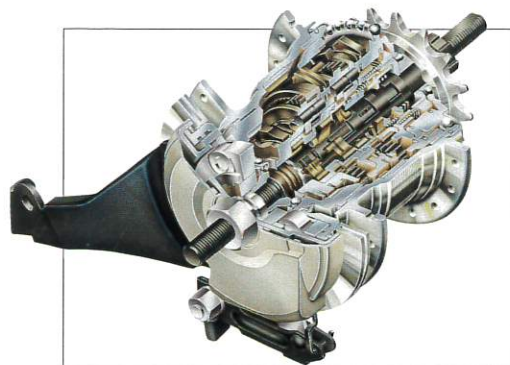
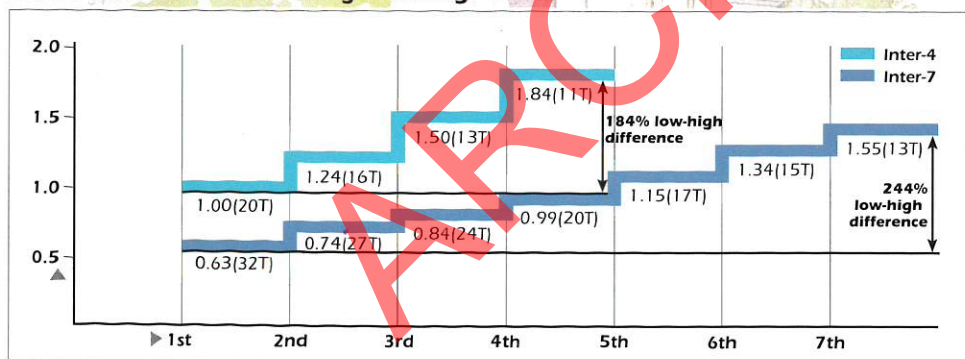
INTER-7®

Multi-Speed cycling
without a derailleur.**INTER-4 / INTER-7 Internal Gear Rear Hubs****SG-7R41** Inter-7 Rear Hub (with cable-activated roller brake)**SG-4R31** Inter-4 Rear Hub (with cable-activated roller brake)**SG-7R41 hub features the following improvements:**

- High-precision bearings enhance rolling smoothness.
- Hub can be laced up with 13 or 14 gauge spokes.
- SG-7R41 hub is 40g lighter than conventional SG-7R40.

- Inter-4 and Inter-7 shift gears quickly and easily whether you're pedaling or not.
- Shift modulator mechanism reduces shock and smoothes out the shift when changing gears under high pedal loads.
- Silent clutch freewheel (4-speed hubs) eliminates ratchet noise when coasting.

The Inter-7 and Inter-4 internal gear hubs provide just the right gear for climbing hills, cruising, or just rambling around town. Inter-7 delivers wide-range touring-type gearing with seven evenly spaced gear ratios that correspond to a 13-15-17-20-24-27-32 freewheel. Both hubs are available with cable-activated Inter-M roller brake or pedal-activated coaster brake. Shift modulator mechanism smoothes out shifting under high pedal loads by reducing shock. Two permanently lubricated heavy-duty planetary gear sets and step-up gearing provide years of trouble-free service.

**SG-7R41****SG-4R31****Inter-7 and Inter-4 Wide-Range Gearing**

The table above shows the gear ratios for the Inter-7 and Inter-4 hubs when used with a 20T sprocket. The numbers in parentheses show the sprocket size each gear ratio corresponds to in a derailleur system.



SHIMANO

INTER-S™

Take your choice of Revo-Shift, Rapidfire-L, or pushbutton shifting.

INTER-S Shifters

SB-7S45 ^{New} 7-Speed Revo-Shifter

SB-4S30 4-Speed Revo-Shifter

SB-4S31 4-Speed Revo-Shifter*

* Short-throw action and shorter lever reach for youth bicycles

- Easy twist-grip shifting action.
- Large dial-type Optical Gear Display
- Three types available for youth bicycles
- New SB-7S45 Revo-Shifter can be used with cantilever brakes, VBrakes, and Nexus hub roller brakes.

The Inter-S Revo-Shifters offer an easy rotary shifting action. Just turn the shift ring located at the inside of the grip. Large dial-type Optical Gear Display provides easy-to-read gear position indication. The brake lever on the new SB-7S45 Revo-Shifter offers compatibility with various types of brakes.



SB-7S45



SB-4S30



SB-4S31

ST-7S60/ST-4S50 Push Button Shifters

- Dual-action mechanism features thumb lever for down-shifting with "push-button" up-shifting.
- Available in 4-speed (ST-4S50) and 7-speed (ST-7S60) versions
- Gear position indicator shows selected gear.

The new Inter-S Push Button Shifter uses Rapidfire technology with a new casual flair. Push Button Shifter has an extra-long lever for easy up-shifting, and a easy to push bottom on top for down-shifting. Perfect for casual cycling around town, at a beach, or on the bike path.



ST-7S60



ST-4S50

ST-7S20/ST-4S20 Rapidfire-L Lever Sets

- Rapidfire-L lever provides rocker-type shifting that's extremely easy to use.
- Both 4- and 7-speed types feature large dial-type Optical Gear Display for quick gear verification at a glance.

Rapidfire technology has been applied to Nexus. Available in 4- and 7 speed versions, the Rapidfire-L lever sets use an L-shaped rocker action lever that makes shifting the Nexus rear hub fast and easy without releasing your grip on the handle bar. Push the lever down for a higher gear, or to the left for a lower one. It couldn't be easier.



ST-7S20



ST-4S20



BL-T400 Brake Lever

- This Nexave brake lever can be used with any Inter-S shifter except the Revo-Shift types.
- Can be used with cantilever brakes, V-Brakes with power modulator, or Nexus hub roller brakes.

SHIMANO

INTER-M®

Strong, easily controllable
all weather braking.

INTER-M Rear Brakes

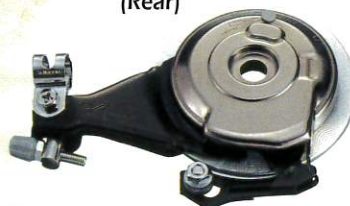
BR-IM41 Inter-M Roller Brake (for Inter-7 rear hub)

BR-IM31 Inter-M Roller Brake (for Inter-4 rear hub)

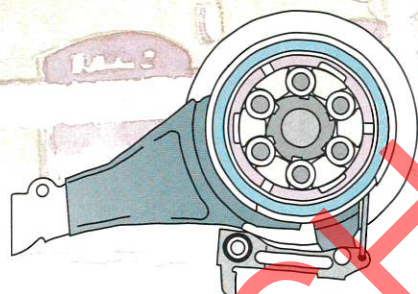
- Inter-M roller brakes mount directly to the hub and eliminate the need for external brake cantilevers.
- Meets DIN 79100 specifications.
- Cam-and-roller design delivers strong and highly controllable braking power.
- Silent operation eliminates annoying brake squeal.
- Sealed mechanism means braking action is unaffected by weather.

Here's the safest and surest way to stop without the need for external brake callipers. The Inter-M rear hub brakes use a precision cam-and-roller design that delivers strong yet easily controllable braking power. Large disk-type radial cooling fins keep temperatures down, eliminate fade, and extend the service life of the lubricant. Sealing channels keep out dirt and water to assure safe and dependable braking performance in wet or dry conditions.

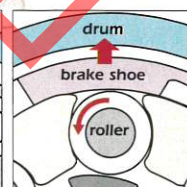
BR-IM41-R
(Rear)



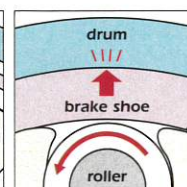
BR-IM31



Cam and roller rotate when brake is applied.



Brake shoe moves up to drum while roller is rotating.



Brake shoe contacts drum to begin braking.

NEXUS Freehub

FH-IM40 Freehub

- 7-speed freehub specifically designed to work with the Inter-M hub mounted roller brakes.

Nexus provides even more design freedom with a conventional 7 speed freehub that can be used together with the Inter-M roller brake. Great for bicycle designs that use derailleurs but not external caliper or cantilever brakes.



FH-IM40



NEXUS

SHIMANO

INTER-M®

Integrated braking power modulator helps prevent front wheel lock-up.

Inter-M Front Brake

HB-IM40 Front Hub

HB-IM30 Inter-M Roller Brake

HB-NX40 Front Hub

- Roller brake mounts to front hub for powerful all-weather braking performance.
- Meets DIN 79100 specifications.
- To avoid front wheel lock-up, a power modulator controls the front braking power when applied suddenly.
- Anti-squeal design suppresses annoying brake noise.
- Rubber sealing cups keep out dirt, mud, and water.

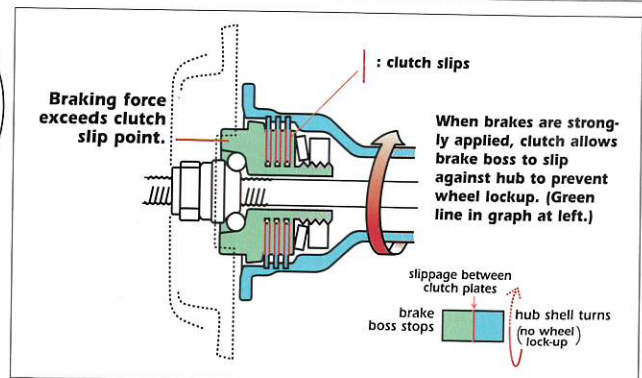
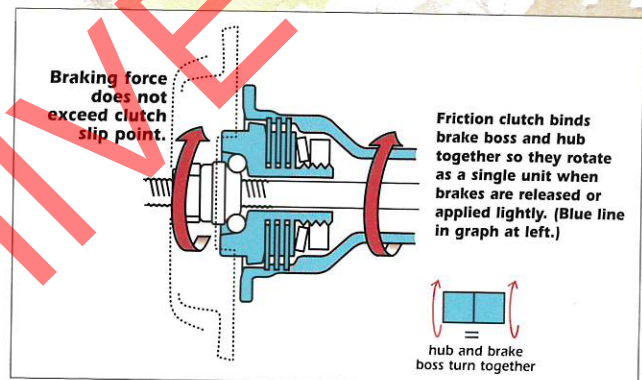
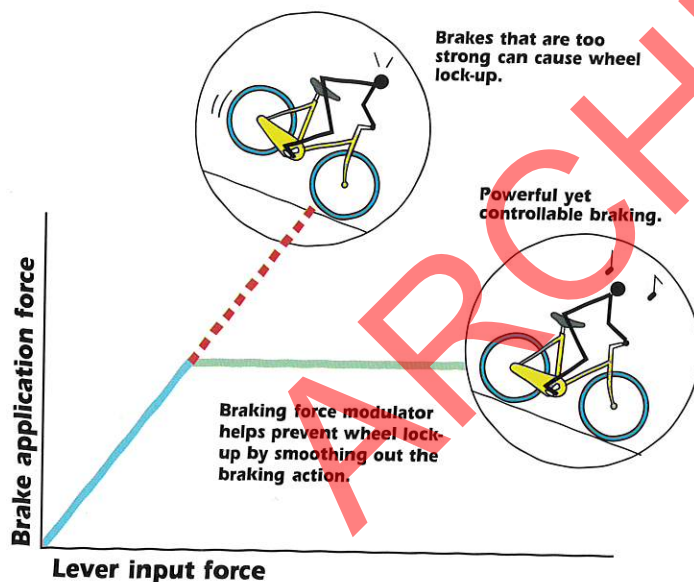
The Inter-M front hub incorporates a multi-plate friction clutch that helps modulate sudden braking forces. The clutch mechanism is inside the hub between the brake mounting boss and the hub body. This mechanism allows a small amount of slippage between the brake and hub when high braking loads are applied. For example, the hub will not let the front wheel lock up when the brakes are applied strongly on a downhill. (Note: A braze-on stopper plate is needed on the inside of the fork leg in order to mount the brake.)



HB-IM40



BR-IM41-F (Front)



SHIMANO

INTER-L™

A high-power hub dynamo for cycling at night.

INTER-L Hub Dynamo

HB-NX10 Inter-L Hub Dynamo

SW-NX10 Switch

- Highly efficient power generator delivers brightness at low RPM.
- Meets DIN and K10916 specifications.
- Electric power modulator extends bulb life by controlling current output.
- Will prevent the operating bulb from being overloaded if one burns out in a two-bulb system.
- Convenient handlebar-mounted switch allows dynamo to be turned on or off while riding.
- Rotates with less resistance than conventional dynamos.

Highly efficient Inter-L hub dynamo provides illumination for cycling without the need for batteries. The dynamo reaches maximum output at low RPM so you get plenty of illumination even when riding slowly or starting off.

The power modulator stabilizes electric current to extend bulb life. In multiple bulb systems, the current output will adjust automatically if one lamp burns out in order to protect other bulbs. Convenient handlebar-mounted switch lets you turn the dynamo on or off while you're riding, (SW-NX10 handlebar switch is supplied with dynamo.)

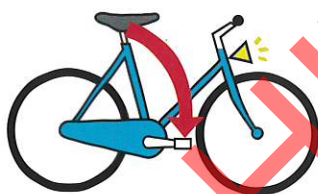


HB-NX10

SW-NX10

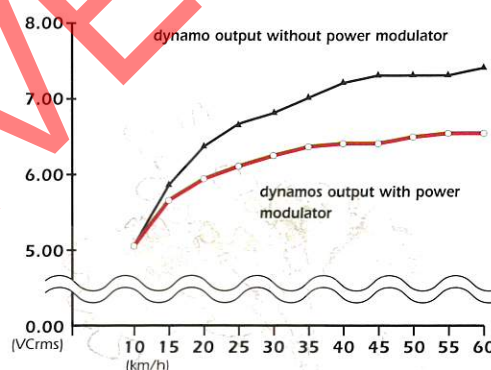


Conventional type



Inter-L

Low friction design means Inter-L has half of the friction of standard dynamos.



SHIMANO

INTER-C™

Stylish design plus elastomer cushioning to reduce pedaling shocks.

INTER-C Cranksets

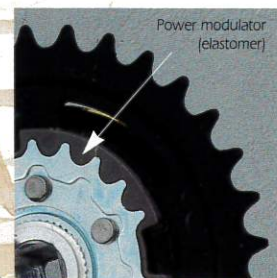
FC-NX70 Crankset (with power modulator)

FC-NX40 Crankset (without power modulator)

- Stylish solid disc design goes well with any bicycle design.
- Chainwheel specifically designed to accommodate chain guard.
- Elastomer power modulator reduces pedaling and coaster brake application shocks (FC-NX70 only).



FC-NX70



Power modulator (elastomer)

NEXUS Headset

- Rotating ring locks fork to stabilize parked bicycle.
- Enhances the "system" look of the Nexus components.

Model No.	HP-NX10
A	ø29.85 - 30 mm or ø30.01 - 30.2 mm
B	30.5 to 31.5 mm
Front Fork Stem Thread Size	BC1" x 24T.P.I.
C	ø38 mm (max.)
Head Tube Material	steel



HP-NX10

INTER-7 / INTER-4 INTERNALLY GEARED HUBS

Model No.		SG-7R41	SG-7C21	SG-4R31	SG-4C30
Speed		7-Speed	7-Speed	4-Speed	4-Speed
Silent Clutch		—	—	○	—
Shifting Power Modulator		○	○	○	○
Shifting Lever		ST-7S20, SB-7S40, ST-7S60		SB-4S30, ST-4S20, ST-4S50	
Internal Brake	Coaster	—	○	—	○
	Inter M Brake	BR-IM41-R	—	BR-IM31-R	
Corrosion Resist Coating		○	○	Option	Option
Gear Ratio	Total	244%	244%	184%	184%
	1	0.632	0.632	1.000	1.000
	2	0.741	0.741	1.244	1.244
	3	0.843	0.843	1.500	1.500
	4	0.989	0.989	1.843	1.843
	5	1.145	1.145	—	—
	6	1.335	1.335	—	—
7	1.545	1.545	—	—	
Axle Length		192 / 176mm	169.5mm	185.5 / 169.5mm	165.6mm
Over Lock-nut Dimension		130mm	127mm	123.5 / 127mm	123.5mm
Spoke Hole		36H	36H	36H	36H
Spoke Size		#13, #14		#13, #14	
Sprocket Teeth		16T, 18T, 19T, 20T, 21T, 22T	16T, 18T, 19T, 20T, 21T, 22T		
Chain-Line	15T	42.8mm	44mm	—	—
	16T	45.3mm	46.5mm	44mm O.L.D. 123.5mm 43.75mm O.L.D. 127mm	44mm O.L.D. 123.5mm
	18T - 22T	40.3 / 45.3mm	41.5 / 46.5mm	39 / 44mm O.L.D. 123.5mm 38.75 / 42.75mm O.L.D. 127mm	39.44mm O.L.D. 123.5mm
Weight	With Brake		1780g	—	1680g
	Without Brake	1480g	—	1330g	—

INTER-S SHIFTERS

Model No.	ST-7S45	ST-7S20	ST-7S60	SB-4S30	ST-4S20	ST-4S50
Speed	7-speed	7-speed	7-speed	4-speed	4-speed	4-speed
Type of Shift Lever	Revo-Shifter	Rapidfire-L	Push Button Shifter	Revo-Shifter	Rapidfire-L	Push Button Shifter
Optical Gear Display	Dial-Type	Dial-Type	Go-round	Dial-Type	Dial-Type	Go-round
Stainless Steel SL Inner Cable	○	○	○	○	○	○
Max. Number of Shifts with a Single Stroke	7	1	1	4	1	1
Brake Lever Integrated	○	—	—	○	—	—
Brake Lever Size	3 Finger	—	—	3 Finger	—	—
Left Hand Brake Lever	BL-IM45	—	—	BL-IM30	—	—
Cassette Joint	CJ-7S20 / CJ-7S40			CJ-7S20 / CJ-7S40 / CJ-4S30		

FRONT HUB & FREEHUBS

Model No.	Front Hub				Freehub
	HB-NX40	HB-IM40	HB-NX10	HB-IM30	FH-IM40
Over Lock-nut Dimension	100mm	100mm	100mm	100mm	130mm
Axle Length (Cap Nut)	140mm	140mm	140mm	140mm	180mm
Spoke Hole	36H	36H	36H	36H	36H
Spoke Size	#14	#14	#14	#14	#14
Parallax Hub	○	—	—	—	—
Brake Power Modulator	—	○	—	—	—
Inter M compatible	—	BR-IM41-F	—	BR-IM41-F	—

INTER-C CRANKSETS

Model No.	FC-NX70	FC-NX40
Peddalling Power Modulator	○	—
Integrated Chain Guard	○	○
Chain Ring Teeth	33T	
Chain Ring	Material	Steel
	Finish	Black
Crank Length	170mm	170mm
Crank Arm	Material	Aluminum
	Finish	Super Finishing
Chain Line	45mm	45mm
B.B.	BB-CT91	BB-CT91
Power Modulator Label	○	—

INTER-M BRAKES

Model No.	BR-IM41-F	BR-IM41-R	BR-IM31
	Front	Rear	Rear
Inter-7 Recommended	○	○	—
Inter-4 Recommended	—	—	○
Cooling Disk	With	○	○
	Without	—	○
Brake Lever Recommended	Right	—	SB-7S40, SB-7S40J
	Left	BL-IM40, BL-IM40J	—
Sealing Cap Finish	Chromica	Chromica	Chrome
Inner Cable Hooking Type	○	○	○

NEXUS JUNIOR

Model No.	SB-7S40-J	SB-4S31/SB-4S30J
Speed	7-speed	4-speed
Type of Shift Lever	Revo-Shifter	Revo-Shifter
Optical Gear Display	Dial-Type	Dial-Type
Stainless Steel SL Inner Cable	○	○
Max. Number of Shifts with a Single Stroke	7	4
Brake Lever Integrated	○	○
Brake Lever Size	2.5 Finger	2.5 Finger
Left Hand Brake Lever	BL-IM40-J	BL-IM30-J



The shoe and pedal system that enhances cycling comfort and improves performance.

SPD® stands for Shimano Pedaling Dynamics. It's an integrated shoe and pedal system that gives you the performance of a cleated cycling shoe plus the ability to walk safely and comfortably off the bike. The 1998 line-up includes the new high-performance SPD-R system as part of the Dura-Ace road racing group.

There's an SPD shoe and pedal combination for every riding style ranging from road and off-road racing to touring, sport cycling, and even BMX. Get into an SPD shoe and pedal system and see how much more comfortable it can be to go faster and farther with less energy.

These icons allow easy identification of each shoe's recommend use.



Off-Road Racing



Off-Road Cycling



Road Racing



Sport Racing



Sport Recreation

There's an SPD® shoe for every cycling style.



A high-performance cross-country competition shoe with a shank plate and X-O Skeleton wrap-around upper. Strong non-loosening strap and buckle closure.



SH-M150

A high-performance cross-country MTB shoe featuring super-rigid upper, and wider sole. Rubber guards protect foot at toe, heel, and side. High-security triple strap closure.



SH-D100

High-cut upper keeps foot warmer and seals out mud and water. Great for downhill racing, dual slalom competition, and cold weather riding.



SH-M080 New

MTB performance shoe features extra-long double straps. Split leather and nylon mesh upper. Extra-wide rubber sole incorporates raised sections that protect foot at toe, heel, and side.



New SH-M035

Polyurethane coated leather upper, strap and race closure, and high-grip tractor pattern rubber sole for great on-or off-bike.



New SH-M032

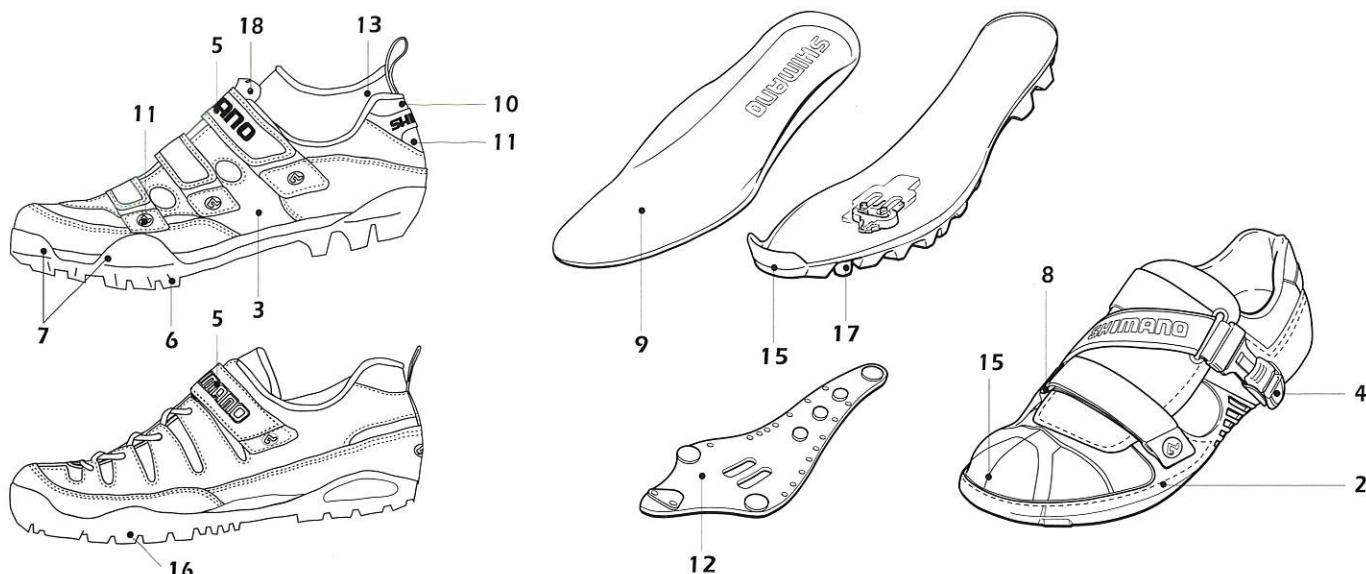
A great recreational SPD shoe featuring high-strength Cordura and split leather upper, new tractor pattern rubber sole, and classic lace closure.



SPD® MOUNTAIN BIKE SHOE SPECIFICATIONS

Model	Weight (pair-w/o cleats)	Compatible SPD Pedal	Upper	Closures	Inner Sole	Mid Sole	Outer Sole	Color	Size
SH-M300	736g (size 40)	PD-M747 PD-M636 PD-M535 PD-M323 PD-A525	X-O Skeleton molded elastomor, polyester mesh	buckle, extra-long strap	cup molded Cambrelle w/EVA backing	X-O Skeleton fiberglass-reinforced nylon	race tread pattern	yellow	37 to 47 in half size, 48
SH-M150	891g (size 40)		polyurethane coated split leather, PVC, neoprene ankle sealing panels	triple extra-long strap	cup molded Cambrelle w/EVA backing	fiberglass-reinforced nylon	hard rubber w/block tread pattern	black	36,37-47 in half size, 48,49
SH-M080	760g (size 40)		polyurethane coated split leather, Cordura, nylon cloth	double extra-long strap	cup molded Cambrelle w/EVA backing	fiberglass-reinforced nylon	hard rubber w/block tread pattern	black	36-49 in whole sizes
SH-M035	823g (size 40)		polyurethane coated leather lower panels, Cordura nylon, split leather w/reinforced stitching	extra-long strap, laces	Cambrelle w/EVA backing	super-tough nylon	rubber with new tractor thread	brown/black	36-48 in whole size
SH-M032	737g (size 40)		Cordura nylon, split leather, PVC	laces	Cambrelle w/EVA backing	super tough nylon	rubber with new tractor tread pattern	blue/black/cool gray	36-48 in whole sizes
SH-D100	940g (size 41)		Polyurethane coated split leather, Hytrel plastic, neoprene	double extra-long straps	cup molded Cambrelle w/EVA backing	fiberglass-reinforced nylon	Non-snag tread pattern	red	36 to 48 in whole size

NOTE: See page 48/49 for more information on the SH-MX80 and SH-MX70 shoes.



SPD® MOUNTAIN BIKE SHOE FEATURES

Feature	Benefit	SH-M300	SH-M150	SH-M080	SH-M035	SH-M032	SH-D100
1. SPD sole patch	Use as a cleated or non-cleated shoe. Sole patch removes easily for SPD cleat mounting.	●	●	●	●	●	●
2. Wrap around upper construction	New smooth one-piece wrap around upper construction for increased comfort and a better fit.	●					
3. Polyurethane coated split leather upper	High-strength upper panels of polyurethane-coated split leather maintain shape when wet.		●	●			●
4. Buckle Closure	New adjustable buckle-type closure tightens fast to assure a secure non-loosening fit.	●					
5. Strap closure	Extra-long straps provide a snug, foot-hugging fit. Extension on strap offers flexibility to have longer or shorter strap with extra security.		●	●	●		●
6. Hard rubber sole with new block tread pattern	Hard rubber disperses pedaling loads. New block tread pattern improves grip and walking stability.		●	●			
7. Three rubber guards	Rubber guards on toe, heel, and side protect foot from impacts.		●	●			
8. Alloy strap rings	Alloy strap rings reduce weight and eliminate corrosion.	●					
9. Cup molded inner sole	Provides a natural cradle for the foot and a smoother transition between sole and upper.	●	●	●			●
10. Natural fit heel	Anatomically designed heel panels and reinforcing strap help support heel and prevent heel lift.	●	●				●
11. Strap / heel reflectors	Safety. Helps cyclist to be seen at night.	●	●	●	heel	heel	heel
12. Shank Plate	Shank plate in the midsole provides a hard pedaling platform yet flexes for comfortable walking. Special insert reinforces the pedal contact area while shank tip is flexible rubber to enhance walking comfort.	●					
13. Neoprene ankle sealing	Neoprene ankle panels seal out mud and water.		●				●
14. Nylon-fiberglass mid-sole	Also, each mid sole's rigidity is designed to match intended use of shoe.		●	●	●	●	●
15. Hard toe block	Protects against front impacts to the foot.	●	●	●			
16. Hard rubber tractor sole	Stylish low-profile hard rubber sole enhances walking comfort.				●	●	
17. Spike mounting	Attaching spikes to outer sole increases traction in mud, sand, and loose dirt.	●	●				
18. Padded tongue	Padding on under surface of tongue enhances fit and comfort.		●	●	●	●	

NOTE: Cleats are packaged with pedals only. All of the shoes shown on this page are pre-drilled for Shimano clipless and SPD cleats.



SH-R211 New

The ultimate SPD road shoe with double-laminated triple strap closure and full carbon fiber sole. New 3-dimensional sole compatible with standard or new SPD-R cleat system.



New SH-R090

A lightweight performance shoe great for fitness and sport cycling as well as touring. Dual strap closure.



SH-R111

High-performance sport-racing shoe with triple strap closure and fiber-grass-reinforced outer sole.



New SH-R071

A lightweight performance shoe with nylon mesh and coated split leather upper. Convenient Z-strap closure.

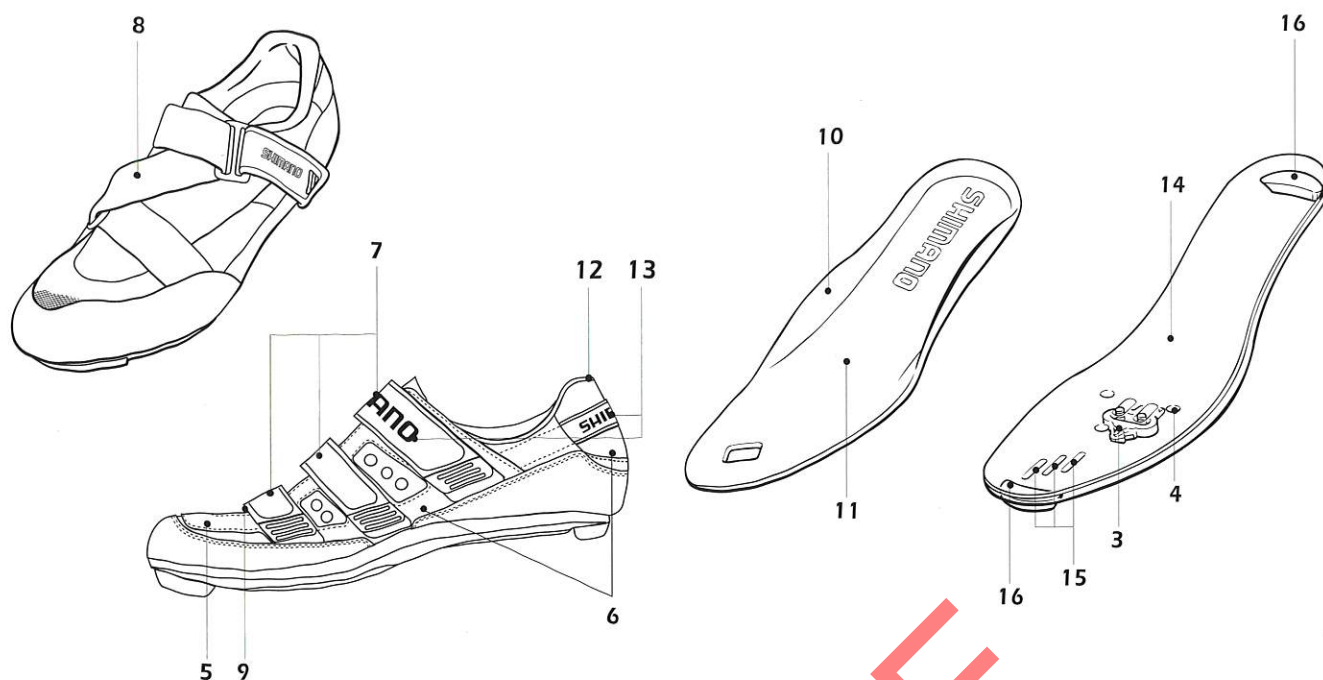
**SPD® shoes for road racing,
performance cycling, and fast touring.**

SPD® ROAD RACING & LIGHTWEIGHT PERFORMANCE SHOE SPECIFICATIONS

Model	Weight (pair-w/o cleats)	Compatible SPD Pedal	Upper	Closures	Inner Sole	Mid Sole	Outer Sole	Color	Size
SH-R211	575g (size 42)	PD-7700 PD-7410 PD-6500	nylon mesh, synthetic leather	triple extra- long straps (double laminated)	cup molded Cambrelle w/EVA backing	Texon	Carbon graphite (with toe & heel PU pad)	silver	39-47 in half sizes, 48
SH-R111	760g (size 44)	PD-7410 PD-6500	plastic resin Polyurethane coated split leather, nylon mesh	triple extra- long straps	cup molded Cambrelle w/EVA backing	fiberglass- reinforced nylon	fiberglass reinforced nylon	black/ red	36, 37-47 in half sizes, 48
SH-R090	640g (size 40)	PD-7410 PD-6500	nylon mesh, Polyurethane coated split leather	double straps	Cambrelle w/EVA backing	fiberglass- reinforced nylon	fiberglass reinforced nylon	black	36-48 in whole sizes
SH-R071	700g (size 43)	PD-7410 PD-6500	nylon mesh, Polyurethane coated split leather	criss-cross Z-strap	Cambrelle w/EVA backing	fiberglass- reinforced nylon	fiberglass reinforced nylon	black/ blue	36-48 in whole sizes

NOTE: SH-R211 is pre-drilled for mounting SPD-R and SPD cleats.
SH-R111, SH-R090 and SH-R071 are pre-drilled for mounting
Shimano clipless cleats and Look®-type cleats as well as SPD cleats.

Look® is a registered trade mark of Look S.A.



SPD® ROAD RACING SHOE FEATURES

Feature	Benefit	SH-R211	SH-R111	SH-R090	SH-071
1. New SPD-R/SPD compatibility	New SPD cleat mounting system improves road pedaling efficiency.	●			
2. Concave-contour carbon outer sole	3-dimensional concave-contour outer sole reduces weight, helps stabilize foot, and increases pedaling efficiency.	●			
3. Adjustable SPD cleat mount	15mm fore-aft and 5mm lateral positioning of SPD cleat position.	●	●	●	●
4. SPD/Shimano clipless pedal (Look type) compatibility	Pre-drilled to mount your choice of SPD or Look cleats.		●	●	●
5. Nylon mesh & polyurethane coated split leather upper panels	Nylon mesh breathes for ventilation. Polyurethane coated split leather panels resist stretching and keep their shape.		●	●	●
6. Plastic resin upper panels	Improves rigidity without sacrificing a comfortable fit.		●		
7. Triple strap closures	Extra-long triple straps help shoe conform better to the shape of the foot.	●	●		
8. Criss-cross Z-strap closure	Criss-cross straps provide 4 closure points with one strap.				●
9. Alloy strap rings	Alloy strap rings reduce weight and prevent corrosion.	●			
10. Cup molded inner sole	Cupped sole cradles the foot to provide a more comfortable fit.	●	●		
11. Cambrelle & EVA inner sole	EVA cushions and soft Cambrelle absorbs moisture to help keep foot dry.			●	●
12. Natural fit heel	Anatomic design holds heel better to reduce squirm and increase pedaling efficiency.	●	●	●	●
13. Strap & heel reflectors	Increased safety – makes cyclist more visible at night.	●	●	●	●
14. Nylon-fiberglass outer sole	Also, each mid sole's rigidity is designed to match intended use of shoe.		●	●	●
15. Air vents	Air vents on front sole help keep feet dry and fresh.	●	●	●	●
16. Polyurethane cleat protectors	Hard polyurethane cleat protectors prevent cleat from being damaged when walking.	●	●	●	●

NOTE: Cleat are packaged only with pedals.

A casual cycling shoe with a road racing style.



SH-A070

Great for fitness riding, touring, "spinning" classes, or just cycling around town.

SPD®-compatible sandal.



SH-SD60 New

The cool comfort of a sandal with SPD pedaling efficiency.



SPD® SPORT SHOE SPECIFICATIONS

Model	Weight (pair-w/o cleats)	Compatible SPD Pedal	Upper	Closures	Inner Sole	Mid Sole	Outer Sole	Color	Size
SH-A070	700g (size 42)	PD-M747 PD-M636 PD-M535 PD-M323 PD-A525	nylon mesh, polyurethane coated split leather, PVC	criss-cross Z-strap	Cambrelle, EVA backing	fiberglass reinforced nylon	rubber	gray	36 to 48 in whole sizes
SH-SD60	691g (size 40)		plastic resin (polyurethane), Neoprene, synthetic leather	double strap closure	polyurethane	fiberglass reinforced nylon	rubber	brown/light brown	37-38, 39-40, 41-42, 43-44, 45-46, 47-48 (6 sizes)

SPD® cleat application table

The table below shows the recommended cleats for each SPD pedal. Cleats listed under "usable cleat" can be substituted for the recommended cleat, but with certain restrictions as listed.

Pedal	PD-7410/PD-6500		PD-A525/PD-M323		PD-M747/PD-M636 PD-M535	
	recommended cleat	usable cleat	recommended cleat	usable cleat	recommended cleat	usable cleat
SH-M300/SH-M150 SH-M080/SH-M035/ SH-M032/SH-D100 SH-MX80/SH-MX70			SM-SH51 SM-SH55	SM-SH71*	SM-SH51	SM-SH55 SM-SH70* SM-SH71*
SH-R211/SH-R111 SH-R090/SH-R071	SM-SH70 SM-SH71					
SH-A070/SH-SD60			SM-SH51 SM-SH55	SM-SH71*	SM-SH51	SM-SH55 SM-SH70* SM-SH71*

*SM-SH70/71 road cleats can be used with non-road SPD shoes but without cleat protector pontoons.

SPD® pedal & cleat sets:

1. PD-7410 and PD-6500 pedal packages include both SM-SH70 and SM-SH71 cleat sets.
2. SM-SH51 cleat set is included with PD-M747, PD-M636, PD-M535, PD-M323 and PD-A525 pedal packages.

SPD® SPORT SHOE FEATURES

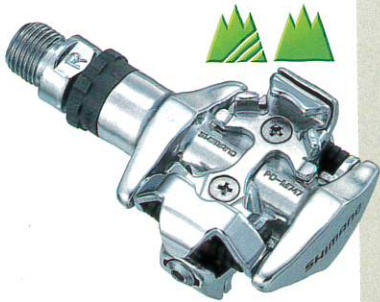
Feature	Benefit	SH-A070	SH-SD60
1. SPD sole patch	Use as a cleated or non-cleated shoe. Sole patch removes easily for SPD cleat mounting.	●	●
2. Nylon mesh, polyurethane coated split leather, PVC upper	Breathable nylon mesh helps ventilate foot. Polyurethane coated split leather and PVC are durable and resistant to stretching and water.	●	
3. Plastic resin (polyurethane), Neoprene, and synthetic leather upper	Upper materials are resistant to water and stretching.		●
4. Criss-cross Z-strap closure	Multiple closure points from a convenient single strap.	●	
5. Double strap closure	Two straps are convenient to use and provide a foot hugging fit.		●
6. Reflectorized panels	Increases safety by making cyclist easier to see at night.	●	●
7. Cambrelle & EVA inner sole	Cambrelle & EVA help wick away moisture while providing a soft cushion for the foot.	●	
8. Polyurethane inner sole	Provides lightweight stiffness.		●
9. Fiberglass reinforced nylon mid-sole	Also, each mid sole's rigidity is designed to match intended use of the shoe.	●	●
10. Sleek rubber sole	Smooth rubber road-type sole provides for comfortable walking.	●	
11. Rubber sole	Good traction and comfortable walking.		●

ARCHIVE

USA and Europe size comparison chart

US	4	5	5 1/2	6 1/2	7	8	8 1/2
European	36	37	38	39	40	41	42
US	9	10	11	11 1/2	12	13	
European	43	44	45	46	47	48	

Shimano SPD® Pedals



PD-M747

Off-Road Racing Pedal

SPD system / chrome-moly spindle / lightweight compact body / precision cartridge bearings / easy step-in / dual front and rear cleat retention adjustment / mud-resistant cleat plate / weight: 393g (pair).



PD-M636

Off-Road Racing Pedal

SPD system / chrome-moly spindle / cup and cone bearings / easy step-in / dual SPD pop-up bindings / front & rear retention adjustment / weight: 639g (pair)

See page 49 for more information.



PD-M535

Off-Road Sport-Performance Pedal

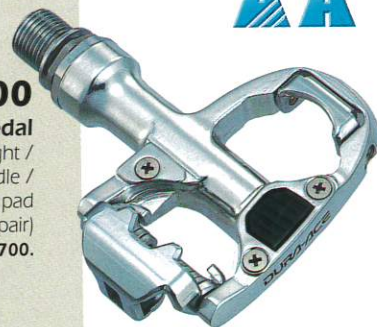
SPD system / chrome-moly spindle / lightweight compact body / traditional cup and cone bearings / easy step-in / mud-resistant cleat plate / dual front and rear cleat retention adjustment / weight: 410g (pair)



PD-M323

Multi-Purpose Pedal

SPD and standard pedal surface / usable with non-SPD shoes / adjustable cleat tension / weight: 520g (pair) (SPD cleats not included with PD-M323 pedals.)

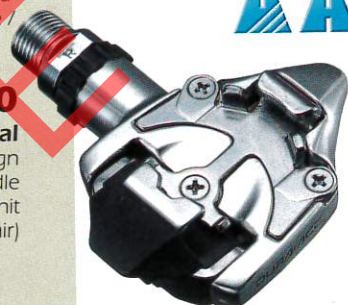


New PD-7700

New SPD-R Road Racing Pedal

SPD-R cleat / low-profile design / light weight / high-strength chrome-moly spindle / ball and needle bearings / adjustable rubber stabilizer pad / weight: 298g (pair)

See page 58 for more information on the PD-7700.



PD-7410

Road Racing Pedal

compact low-profile design / high-grade chrome-moly spindle / precision sealed cartridge bearing unit / weight: 313g (pair)



PD-6500

Road Racing Sport-Competition Pedal

compact low-profile design chrome-moly spindle / sealed cartridge bearing unit adjustable cleat tension / weight: 348g (pair)



PD-A525

Sport Pedal

SPD system / chrome-moly spindle / sealed cartridge bearings / cleat retention indicator / available in silver or white-violet / weight: 390g (pair)

Footwear Accessories and Replacement Parts



SM-SH51

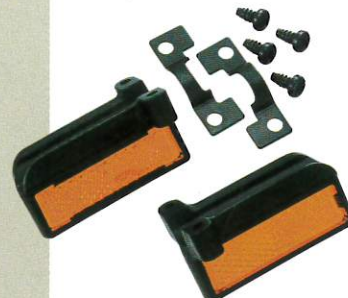
SPD Cleat Sets

SM-SH51 for single direction release, and for "Easy step-in" feature when used with PD-M747, PD-M636 and PD-M535.

SM-PD51

Reflector Set

For use with PD-7410 and PD-6500 pedals.



SM-SH55

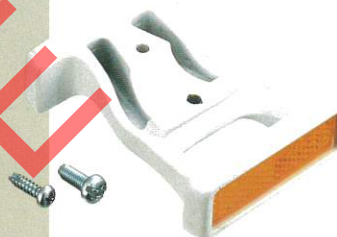
SPD Cleat Sets

SM-SH55 for multi-directional release.

SM-PD30

Reflector Set

For PD-A525 pedals.



SM-SH80/SM-SH81/SM-SH82

SPD-R Cleat Sets

New SPD-R road racing cleat sets for use with SH-R211 shoe. Side pontoons included.

- SM-SH80 for fixed binding.
- SM-SH81 self aligning (6° of swing)
- SM-SH82 self aligning (10° of swing)

SM-PD21

Reflector Set

For PD-M747 and PD-M535 pedals.



SM-PD20

Reflector Set

For PD-M525 pedals.



SM-SH70/SM-SH71

SPD Cleat Sets

SPD road shoe cleat sets for R-series shoes. SM-SH70 is fixed retention type; SM-SH71 is rotational retention type.

Shoe Insoles

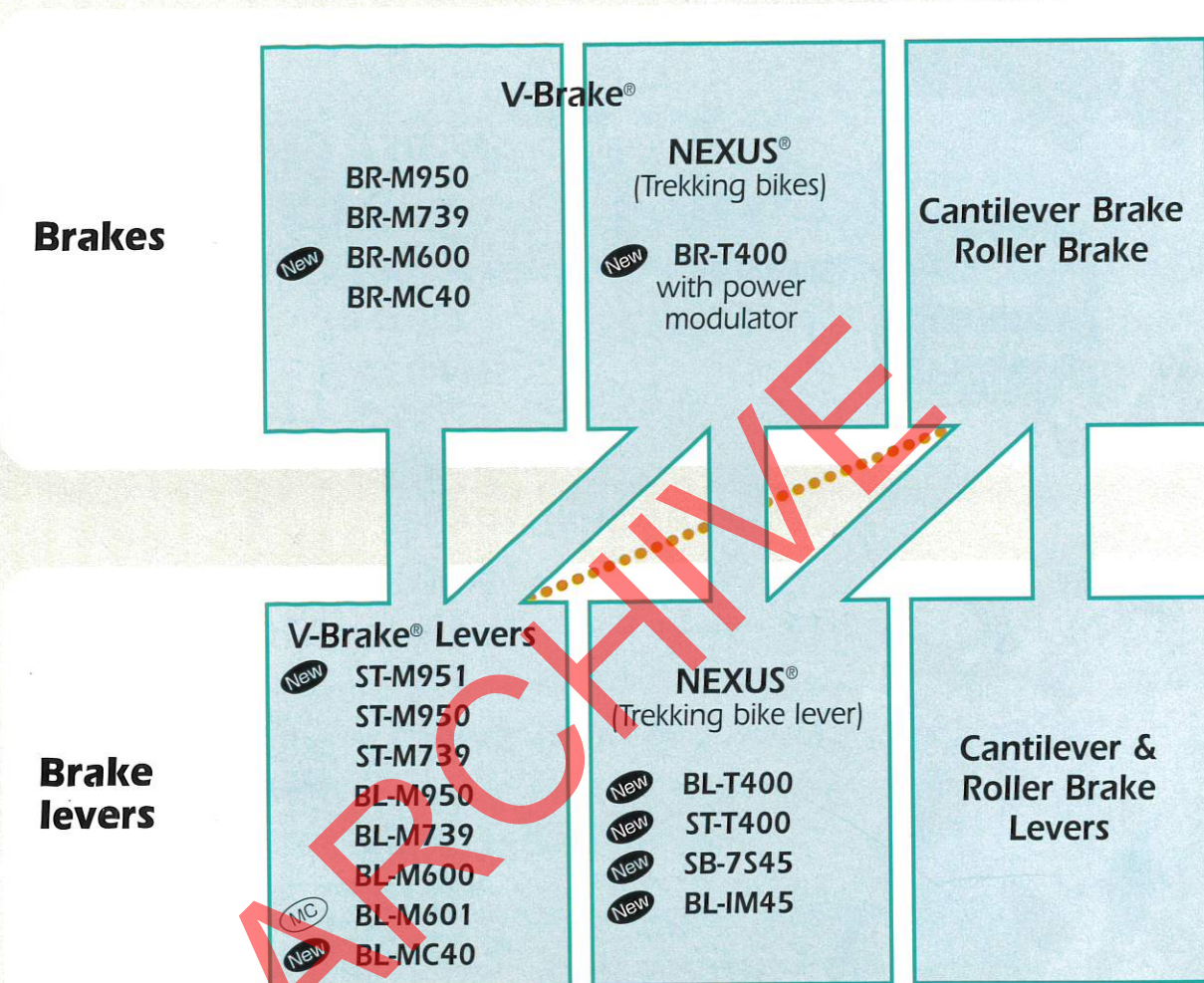
Available in sizes to fit all Shimano shoes.



Spikes

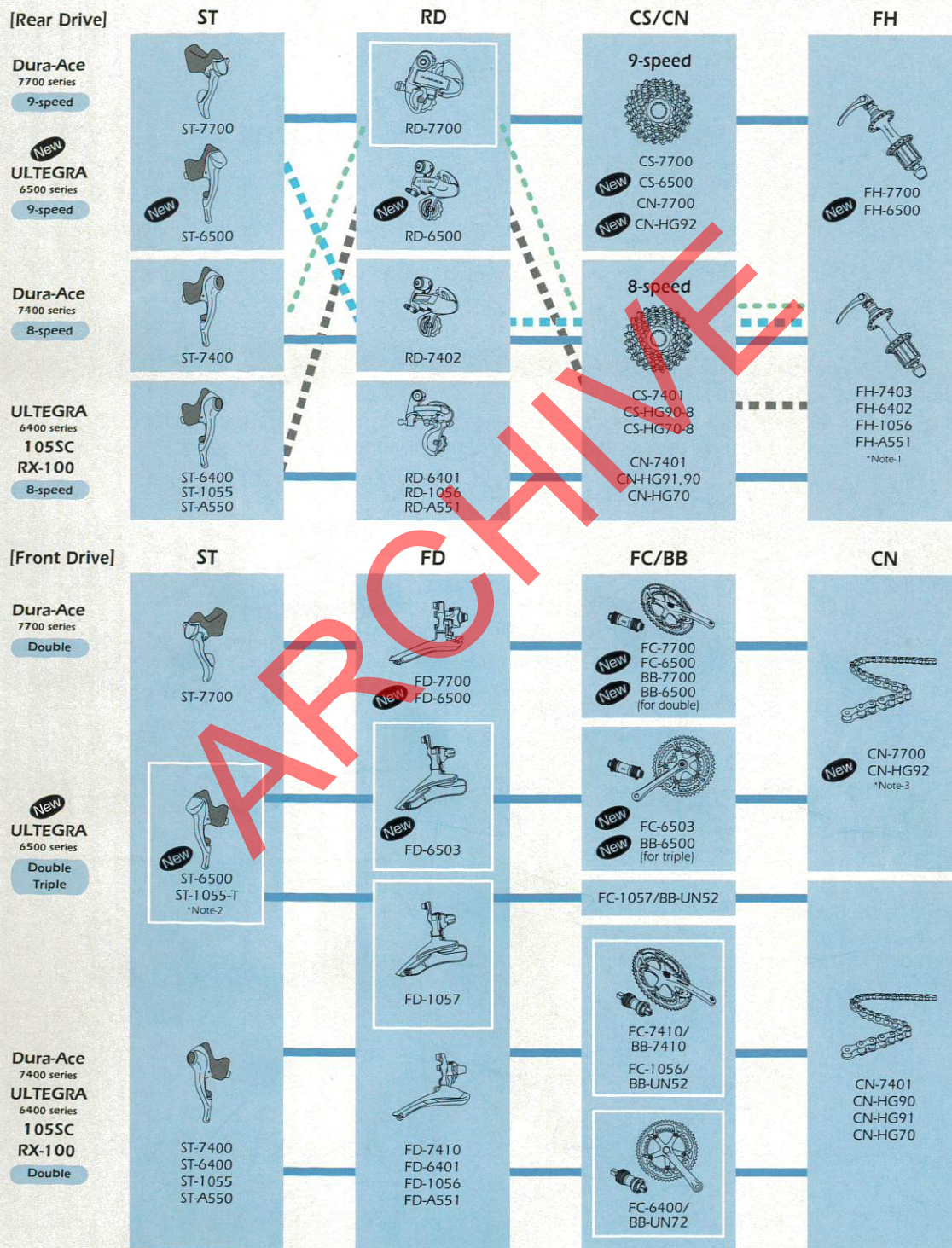
Removable sole spikes for SH-M300 and SH-M150 shoes.

Interchangeability Between Brake Systems



Shimano now makes V-Brakes, cantilever brakes, and roller brake systems which offer a certain degree of interchangeability between the various components. However, mixing certain components will result in poor braking performance such as insufficient braking power, overly strong braking response, or an insufficient lever stroke. Since poor braking performance can be dangerous to the cyclist, if you are mixing brake components, please study the diagram carefully to make sure that you are using an approved combination.

Interchangeability Between new Ultegra®, Dura-Ace® and conventional components



*Note 1: Not compatible with 11T top sprockets.

*Note 2: Left side ST-6500 Dual Control Lever can be used with both double (FC-6500) and triple (FC-6503) cranksets.

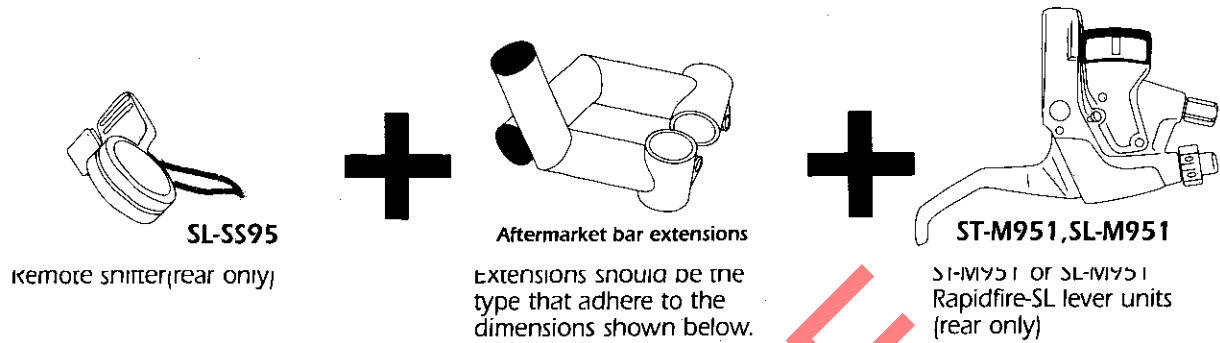
*Note 3: Super-narrow CN-7700 or CN-HG92 chain must be used with FC-6500, FC-6503, and FC-7700 cranksets.

Dura-Ace down tube (SL-7700) and bar end (SL-B577) shifters can be used for the Ultegra group.

Rapidfire® remote

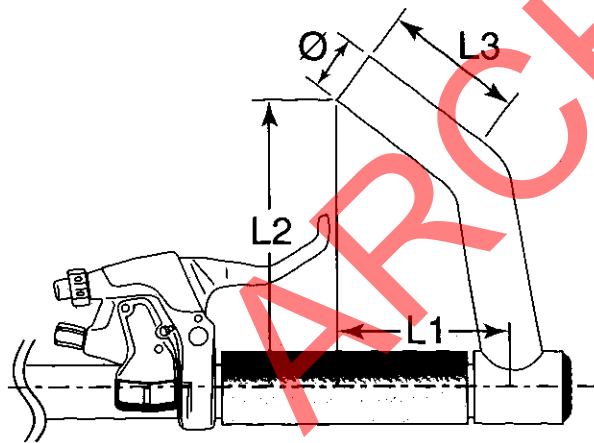
Rapidfire-remote components

In 1998, Shimano will offer the Rapidfire-remote system for the XTR component group. The Rapidfire-remote system uses an extra remote shift lever which allows the cyclist to shift gears when gripping handle bar extensions. The Rapidfire-remote system consists of the components shown below.



Specifications For Mounting

The remote shifter can be mounted to many aftermarket bar extensions that have a straight section at the end. When using the remote shifter, make sure that the bar extensions adhere to the dimensions shown below.



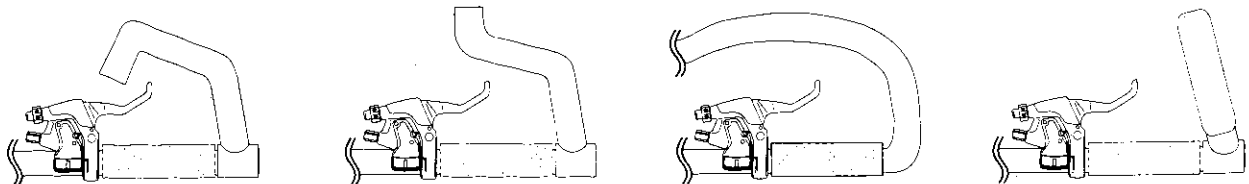
*Dimension "L1"
 $90\text{mm} \leq "L1" \leq 130\text{mm}$

*Dimension "L2"
 $100\text{mm} \leq "L2" \leq 160\text{mm}$

*Required straight section "L3"
 $"L3" \geq 25\text{ mm}$

*Pipe diameter "Ø"
 $\phi 22.2\text{ mm to } \phi 22.6\text{ mm}$

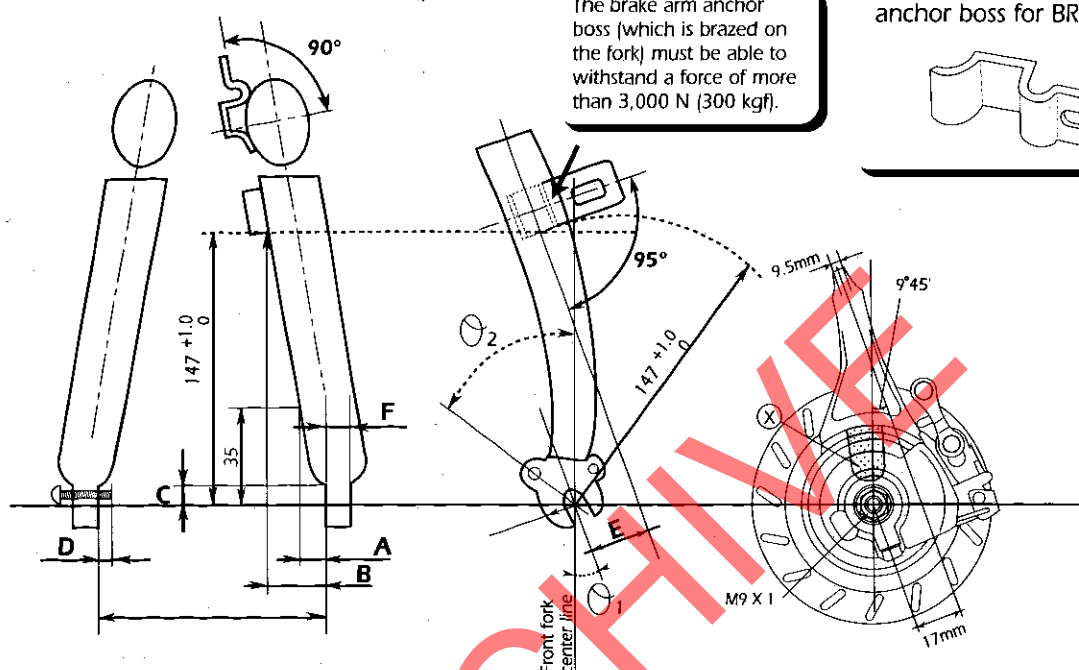
As shown below, bar extensions that have special shapes or non-round cross sections cannot be used with the remote shifters.



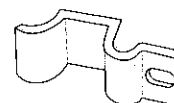
Forks Used with Hub Roller Brakes

Fork Dimensions

The hub roller brakes were designed to basically the same dimensions as those for the conventional hub brakes, but there are certain points which must be observed. The diagrams below show the recommended fork dimensions.



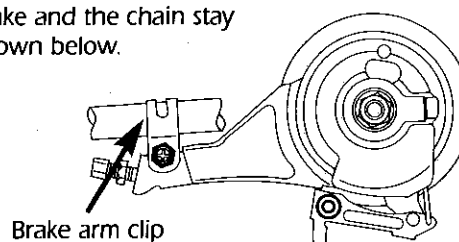
The brazed-on brake arm anchor boss for BR-IM50-F



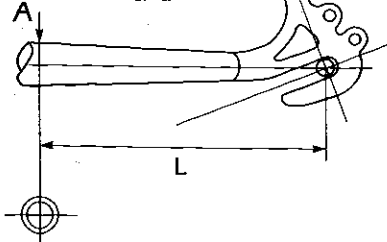
Chainstay dimensions for securing the rear brake arm clip

The positions of the rear brake arm clip for the Inter-M Brake and the chain stay sizes which are compatible with the brake arm clip are shown below.

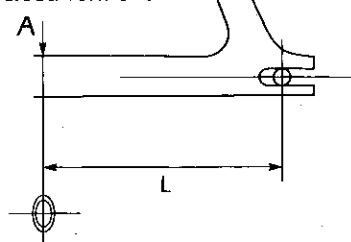
	L
BR-IM41-R	98 mm
BR-IM31-R	111 mm
BR-IM50-R	98 mm



Standard fork end



Reversed fork end



The following are the available sizes for the brake arm clip at position A (at the position 98 mm for BR-IM50-R, BR-IM41-R / 111 mm for BR-IM31-R from the center of the rear hub)

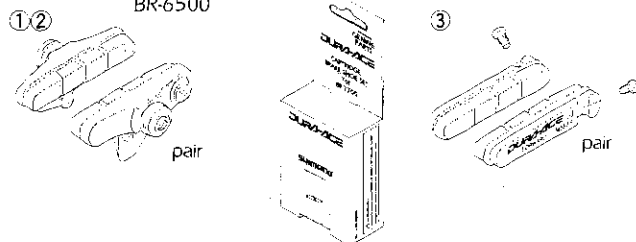
Ø15mm, Ø5/8inch, Ø11/16inch, Ø3/4inch

Shimano Original Equipment Brake Shoes

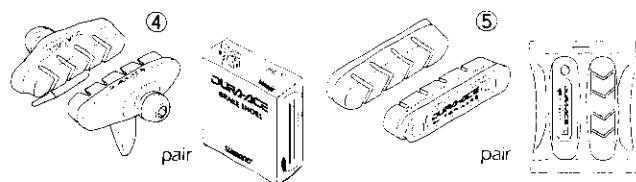
Always use Shimano brake pads to assure top performance from your Shimano brake system.

Shoes for Road Brakes

①②③ Fits : BR-7700 / BR-6500



④⑤ Fits : BR-7403



⑥ Fits : BR-6403 / BR-1055 / BR-A550



⑦ Fits : BR-1055 / BR-A550



⑧ Fits : BR-1055 / BR-A550 / BR-A410



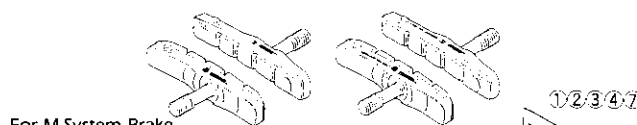
⑨ Fits : BR-A500 / BR-A410 / BR-A350 / BR-A250



	PART NO.	DESCRIPTION
1	8FA 9801	BR-7700 Cartridge-Type Brake Shoe Set (pair)
2	83H 9801	BR-6500 Cartridge-Type Brake Shoe Set (pair)
3	8FA 9802	BR-7700 BR-6500 Brake Shoe Block & Fixing Screw (pair)
4	84B 9801	BR-7403 Cartridge-Type Brake Shoe Set (pair)
5	84B 9802	BR-7403 Brake Shoe Block (pair)
6	83G 9801	BR-6403 Brake Shoe Set (5 pairs)
7	82A 9901	BR-1050 Brake Shoe Set (5 pairs)
8	8BC 9810	M50/T Brake Shoe Set (10 pairs)
9	81G 9810	BR-A250 Brake Shoes (10 pairs)

Shoe for MTB Brakes (V-Brake)

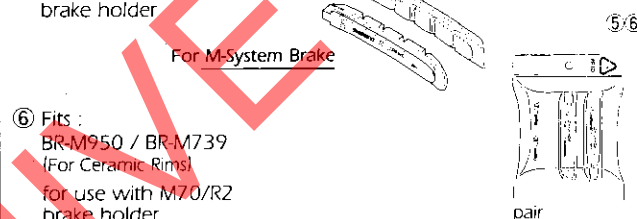
①② Fits : BR-M950 / BR-M739



For M-System Brake

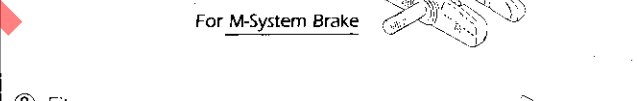
③④ Fits : BR-M950 / BR-M739 (For Ceramic Rims)

⑤ Fits : BR-M950 / BR-M739 for use with M70/R2 brake holder

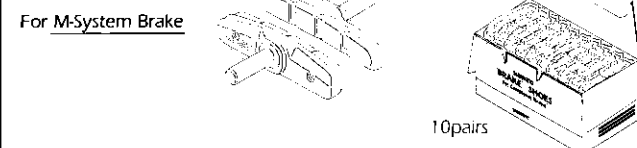


⑥ Fits : BR-M950 / BR-M739 (For Ceramic Rims) for use with M70/R2 brake holder

⑦ Fits : BR-M600 / BR-M600-MX



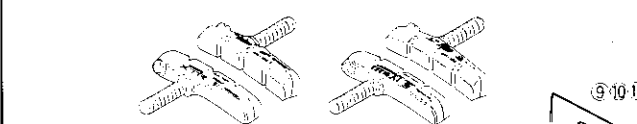
⑧ Fits : BR-MC16 / BR-M280



* V-Brake pad can be used right down to the edge of the pad holder.

Shoe for MTB Brakes (Cantilever Brake)

⑨ Fits : BR-M900-C / BR-M900



For M-System Brake

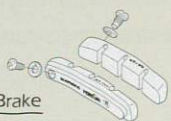
⑩ Fits : BR-M900-C / BR-M900 BR-M737 / BR-M565-E (For Ceramic Rims)



For M-System Brake

- ⑫ Fits :
BR-M900-C / BR-M900
BR-M737 / BR-M565-E
for use with M70/R
brake holder

For M-System Brake



⑫⑬

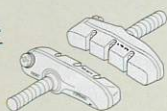
- ⑬ Fits :
BR-M900-C / BR-M900
BR-M737 / BR-M565-E
(For Ceramic Rims)
for use with M70/R
brake holder



2pairs

- ⑭ Fits :
BR-M565 / BR-M565-E
BR-MC33 / BR-MC33-E

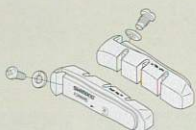
For M-System Brake



2pair

- ⑮ Fits :
for use with M65/T
brake holder

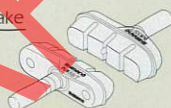
For M-System Brake



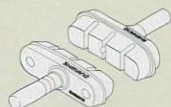
2pair

- ⑯ Fits :
BR-M290 / BR-M290-E
BR-CT90 / BR-CT90-E
BR-CT50 / BR-CT51
BR-CT20 / BR-CT21
BR-TY22 / BR-TY23
BR-TY20 / BR-TY21
BR-MJ05 / BR-MJ05-E
BR-MJ10

For M-System Brake



- ⑰ Fits :
BR-CT90 / BR-CT90-E
BR-CT91 / BR-CT50
BR-CT51 / BR-CT20
BR-CT21 / BR-TY22
BR-TY23 / BR-TY20
BR-TY21 / BR-MJ05
BR-MJ05-E / BR-MJ10

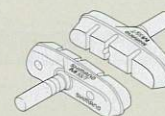


⑮⑯⑰

10pairs

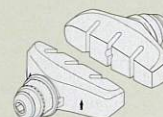


- ⑱ Fits :
BR-M560 / BR-M561
BR-MC32 / BR-MC32-E
BR-MC30-CH / MC31-CH
BR-MC30 / MC31
BR-MC12 / BR-MC12-E
BR-MC10 / BR-MC11
BR-MC15 / BR-M290
BR-M290-E / BR-CT50
BR-CT51 / BR-TY22
BR-TY23



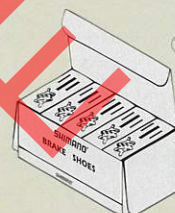
For M-System Brake

- ⑲ Fits :
BR-M550 / BR-M454
BR-M450 / BR-M350
BR-M351 / BR-M250

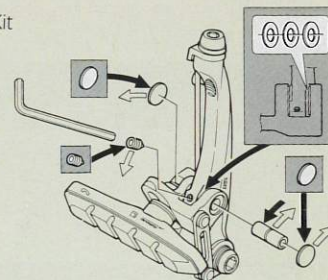


⑱⑲

5pairs



- ⑳ V-Brake Tune-up Kit

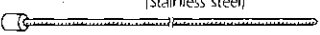
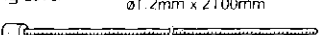
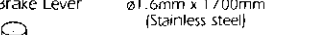
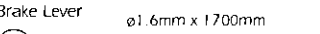
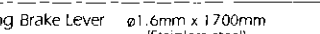
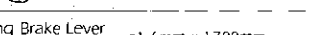


	PART NO.	DESCRIPTION
1	8AB 9801	M70/R2 BR-M950 Brake Shoe Set (pair)
2	8AA 9801	M70/R2 BR-M739 Brake Shoe Set (pair)
3	8AA 9803	M70/R2 BR-M950 Brake Shoe Set (pair) for Ceramic Rims
4	8AA 9810	M70/R2 BR-M739 Brake Shoe Set (pair) for Ceramic Rims
5	8AA 9802	M70/R2 BR-M950 / M739 Brake Shoe Block & Fixing Pin (pair) for use with M70/R2 brake holder
6	8AA 9804	M70/R2 BR-M950 / M739 Brake Shoe Block & Fixing Pin (pair) for Ceramic Rims for use with M70/R2 brake holder
7	8BM 9810	M70/T2 BR-M600 Brake Shoe Set (pair)
8	8CF 9810	M70/T2 BR-MC16 Brake Shoe Set (10 pairs)
9	83P 9810	M70/R BR-M900-C Brake Shoe Set (4 pcs.)
10	83X 9801	M70/R BR-M737 Brake Shoe Set (4 pcs.)
11	8BG 9810	M70/R Brake Shoe Set (4 pcs.) for Ceramic Rims
12	83X 9802	M70/R Brake Shoe Block & Fixing Screw (2 pairs) for use with M70/R brake holder
13	83X 9807	M70/R Brake Shoe Block & Fixing Screw (2 pairs) for Ceramic Rims for use with M70/R brake holder
14	8BA 9801	M65/T Brake Shoe Set (4 pcs.)
15	8BA 9802	M65/T Brake Shoe Block & Fixing Pin (2 pairs) for use with M65/T brake holder
16	81X 9810	M55/T Brake Shoe Set (10 pairs)
17	8GK 9810	BR-CT91 Brake Shoe Set (10 pairs)
18	84F 9810	M65/T Brake Shoe Set (5 pairs)
19	81C 9802	BR-M450 Brake Shoe Set (5 pairs)
20	8AA 98110	V-Brake Tune-up Kit

Shimano Original Cables & Cable Casings

We strongly recommend the use of the Shimano products shown on these pages in order to maintain top performance of IG drivetrains, Advanced Light Action mechanisms, Dual SIS, and M-System brakes.

Inner Cable File Box

PART NO.	DESCRIPTION	PCS. PER BOX
600 9851	For Shifting Lever  $\phi 1.2\text{mm} \times 2000\text{mm}$ (Stainless steel)	100
600 9852	For Shifting Lever  $\phi 1.2\text{mm} \times 2100\text{mm}$	100
800 9855	For ATB Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$ (Stainless steel)	100
800 9852	For ATB Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$	100
800 9856	For Racing Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$ (Stainless steel)	100
800 9853	For Racing Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$	100

Die-Extruded & Coated Inner Cable

PART NO.	DESCRIPTION
600 9860	$\phi 1.2\text{mm} \times 2100\text{mm}$ (stainless steel)

Inner Cable Cap

PART NO.	DESCRIPTION	QTY.
620 9803	Inner Cable Cap ($\phi 1.2\text{mm}$)	100
620 9804	Inner Cable Cap ($\phi 1.6\text{mm}$)	100

Sealed Cap with Tongue & Rubber Shield

PART NO.	DESCRIPTION	QTY.
6AM 9808	Sealed Cap with Tongue & Rubber Shield	3 pieces
6YO 9801	Transparent Cap Kit	for 1 Bike

M-System Brake Outer Casing File Box

PART NO.	DESCRIPTION
80Y 0021	$\phi 5\text{mm} \times 30\text{m}$ /Red (#107)
80Y 0021-2	$\phi 5\text{mm} \times 30\text{m}$ /Pink (#127)
80Y 0022	$\phi 5\text{mm} \times 30\text{m}$ /Blue (#207)
80Y 0022-1	$\phi 5\text{mm} \times 30\text{m}$ /Transparent Blue (#217)
80Y 0022-4	$\phi 5\text{mm} \times 30\text{m}$ /Pastel Green (#247)
80Y 0024	$\phi 5\text{mm} \times 30\text{m}$ /Yellow (#407)
80Y 0024-1	$\phi 5\text{mm} \times 30\text{m}$ /Transparent Yellow (#417)
80Y 0025	$\phi 5\text{mm} \times 30\text{m}$ /White (#507)
80Y 0025-1	$\phi 5\text{mm} \times 30\text{m}$ /Transparent Silver (#517)
80Y 0025-2	$\phi 5\text{mm} \times 30\text{m}$ /Silver (#527)
80Y 0025-3	$\phi 5\text{mm} \times 30\text{m}$ /Metallic Silver (#537)
80Y 0026	$\phi 5\text{mm} \times 30\text{m}$ /Black (#607)
80Y 0026-3	$\phi 5\text{mm} \times 30\text{m}$ /High Tech Gray (#637)
80Y 0026-4	$\phi 5\text{mm} \times 30\text{m}$ /Gray (#647)

Use for 1.6mm diameter brake inner cables.

SIS-SP40 Shift Outer Casing

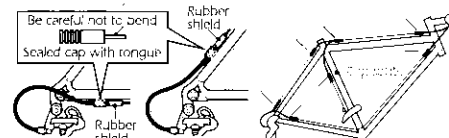
PART NO.	COLOR
622 9810	$\phi 4\text{mm} \times 10\text{m}$ /Black (#607)
622 9811	$\phi 4\text{mm} \times 10\text{m}$ /High Tech Gray (#637)

Outer Casing Cap

PART NO.	DESCRIPTION	QTY.
872 9810	Outer Cap For BR-M950, BR-M739/Silver	1
872 9811	Outer Cap For BR-M950, BR-M739/Black	1
60E 0001	Sealed Outer Cap ($\phi 6\text{mm}$)	1
60B 9801	Outer Caps ($\phi 6\text{mm}$)	100
622 9003	SIS-SP40 Sealed Outer Cap ($\phi 4\text{mm}$)	1
622 9801	SIS-SP40 Sealed Outer Caps ($\phi 6\text{mm}$)	100
62A 9801	SIS-SP40 Outer Caps ($\phi 6\text{mm}$)	100
621 9001	SIS-SP40 Sealed Outer Cap ALUMINUM ($\phi 6\text{mm}$)	1

Note: regarding the sealed cap with tongue and rubber shield

The sealed cap with tongue and the rubber shield should be installed to the outer casing stopper of the frame.



Shimano Original Tools

Cotterless Crank Extractor TL-FC10

Code No.
130 0901

Three Spanners Set TL-FC30

For removing and installing bottom brackets, headsets, and pedals.

Code No.
130 9001

Cone Adjusting Tool Set TL-PD63

For SPD Pedal.
(PD-M636, M535)

Code No.
460 9863

Chainwheel / Bottom Bracket Installation Tool TL-UN96

For FC-M950 / BB-M950,
FC-M739, M569, MC40

Code No.
130 9809

Chainwheel Installation Tool

TL-UN75

FC-M739, FC-M569, FC-MC40
chainwheel installation tool for use
with TL-UN96

Code No.
130 0906-7



Bottom Bracket Installation Tool

TL-UN74-S

For BB-7700, BB-6500, BB-7410,
BB-UN91 / 90, BB-UN72 / 71 / 70,
BB-UN72E, BB-UN52 / 51 / 50,
BB-UN52E, BB-CS21 / 20, BB-CS11 / 10,
BB-LP30 / 26 / 25 / 20 BB-LP26E
and BB-CT91 / 90

Code No.
130 0907-3



Bottom Bracket Installation Tool (Mounts to ratcheting socket wrench handle.)

TL-UN65

For removing and installing bottom brackets.

Code No.
130 0907-4



Lock Ring Tool for HG/IG Sprockets

TL-HG16



Code No.
120 0919

Lock Ring Tool for HG/IG Sprockets (Mounts to ratcheting socket wrench handle.)

TL-HG10

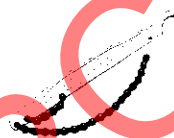
Code No.
120 0917



Sprocket Holding Tool (Holds sprockets when removing lock rings.)

TL-SR20

Code No.
130 0915



Cable Cutter

TL-CT10

Use to cut outer casings, cables,
and pinch end caps.

Code No.
098 0001



Multiple Freewheel Removal Tool

TL-FW30

For MF-7400 / 6208 / Z102 / Z015 /
1600 / HG20 / HG22 / HG37 / YO06

Code No.
120 0905



Chain Connecting Tools

TL-CN22

For IG/HG/UG Chains

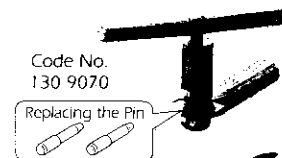
Code No.
130 9060

Chain Connecting Tools

TL-CN31

For IG/HG/UG Chains
2 spare pins included in grip.

Code No.
130 9070



Hub Cone Wrenches

TL-HS10

13/14mm, 2 wrenches

Code No.
230 9001



Hub Cone Wrenches

TL-HS20

15/17mm

Code No.
320 9001



Peg Spanner

TL-FC20

Code No.
130 0913



Shimano Recommended Service Parts

Shift Inner Cables w/inner end cap

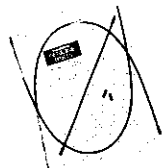
1.2mm diameter, 2,100mm, 10-pack



Code No.600 9810

SIS Outer Casing Set ø4mm

BLACK
2 x 600mm, 280mm



Code No.600 9820

Mud Flap

For use with all top-swing front derailleur



Code No.5CA 9802

Rear Derailleur Pulley Sets (10 pairs)



Code No.563 9810

Internal Hub Grease

100g Tube Type



Code No.041 2030

Roller Brake Grease

100g Tube Type



Code No.041 2040

Dura-Ace Grease

50g can



Code No.041 1000



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Riteway Central	St. Louis, MO	800-366-3966
Riteway East	Buffalo, NY	800-487-2453
Riteway West	Santa Ana, CA	800-869-9866
Riteway North	Sheboygan, WI	800-558-7787
Trek	CA/NJ/WI	800-879-8735
United Bicycle Parts	Ashland, OR	800-482-1984

CANADA

Cycles Lambert	QC	800-463-4452
NORCO Products	BC	800-663-8916
NORCO Products	ON	800-263-2344

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Fax: 800-206-0010 spare parts, footwear, pedal orders, 24hrs.

In Canada:

Phone 800-361-6215 Fax 800-619-9067



Shimano Limited Warranty

Shimano American Corporation and Shimano Canada Ltd. ("Shimano") warrants to the original retail purchaser in the United States or Canada that the Shimano product for which they received this warranty is free from defects in material and workmanship for a period of one year from the date of original retail purchase.

Limits of the Warranty

Shimano's sole obligation under this warranty is to repair or replace the product, at Shimano's option.

Limitations of Implied Warranties

The duration of any implied warranty or condition, of merchantability, fitness for a particular purpose, or otherwise, on this product shall be limited to the duration of the express warranty set forth above. In no event shall Shimano be liable for any loss, inconvenience or damage, whether direct, incidental, consequential or otherwise, resulting from breach of any express or implied warranty or condition, of merchantability, fitness for a particular purpose, or otherwise with respect to this product, except as set forth herein, some states do not allow limitation on how long an implied warranty lasts and some states do not allow the exclusions or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you.

To obtain service under this warranty, you must send your Shimano product, together with the retail seller's original bill, your charge or credit receipt, or other satisfactory proof of the date of purchase of the product in the United States or Canada to Shimano American Corporation, One Shimano Drive P.O. Box 19615 Irvine, CA 92713-9615. Any postage, insurance or shipping costs incurred in sending your Shimano product for service are your responsibility.

This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

Warranty Explanation

This warranty in no way replaces or is an extension of a complete bicycle manufacturer's warranty. Retailers and wholesale outlets for Shimano products are not authorized to modify this warranty in any way.

It is the consumer's responsibility to regularly examine the product to determine the need for normal service or replacement. This warranty does **not** cover the following:

1. Shimano products that have been modified, neglected or poorly maintained, used in competition or for commercial purposes, misused or abused or involved in accidents.
2. Damage occurring during shipment of the products (such claims must be presented directly to the carrier).
3. Damage to products resulting from improper assembly or repair.
4. Damage resulting from causes other than defects in materials and workmanship, including but not limited to, lack of technical skill, competence, or experience of the user.
5. Damage or deterioration to the surface finish, aesthetics or appearance of the product.
6. The labor required to remove and/or re-fit and re-adjust the product within the bicycle assembly.
7. Normal wear to the product.

Shimano American Corporation
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Irvine, CA. 92713-9615

For countries other than the United States or Canada please contact your distributor or agent.

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