English (U)



# '94 SHIMANO

## BICYCLE SYSTEM COMPONENTS

SHIMANO

## Message From Shimano...

We are trying to refine the bicycle in a way that makes it appeal to more people. Our component development work is aimed at making the bicycle easier to ride and control. We want to dispel the myth that a derailleur-equipped bicycle with hand brakes requires special skills to ride safely and competently.

SIS, Rapidfire Plus levers, SLR/M System brakes, HG sprockets and other refined components have already done much to show the public that today's modern lightweight multi-speed bicycle can be easier and much more enjoyable to ride than the heavy one-speed types that were predominant just a few years ago.
Just because someone doesn't want to spend a lot of money on a bicycle doesn't mean that person shouldn't be able to enjoy the latest cycling technology. That's why you can find the complete range of advanced Shimano functions on almost every component group, from the pro-level Dura-Ace and XTR racing components down to the new MJ Series developed especially for youth bicycles.

We believe that every new function we develop should be made available to as wide a range of cyclists as possible. We continually refine, simplify, and improve these mechanisms so they can be integrated into components used on bicycles in every segment of the market.



New features for 1994 include Advanced Light Action, Optical Gear Display, and HyperDrive-C. Advanced Light Action provides a lighter and more precise shifting feeling. The Optical Gear Display on MTB lever sets offers the rider a clear readout of the current gear position, something veteran cyclists, even racers appreciate. HyperDrive-C is a new compact chainwheel and rear sprocket system that reduces weight and mass while actually increasing gear range.

Also new for 1994 is the STX mountain bike component group. STX gives a higher sense of style and quality to mid-priced mountain bikes. Available in a standard or Special Edition version which features a beautiful Chromica plating finish, STX was developed to make the mountain bike a stylish performance vehicle adaptable to a wide range of lifestyles. STX responds to the consumer's demand for style, quality, value and performance.

The Ride Light concept, introduced in 1993, is a design philosophy which stresses the total feeling of lightness in the way the Shimano-equipped bicycle looks, feels, and rides. The purpose of Ride Light is to tell the consumer that today's modern multi-speed bicycle makes cycling easier and more fun than ever before. Ride it! It's new, it's light, it's fun!

At Shimano, we hope to make every bicycle, regardless of price, easier and more fun to ride for everybody. Through these efforts we will introduce more people to the joys of cycling. The result will be a cleaner environment, a friendlier society and a better planet for us all.

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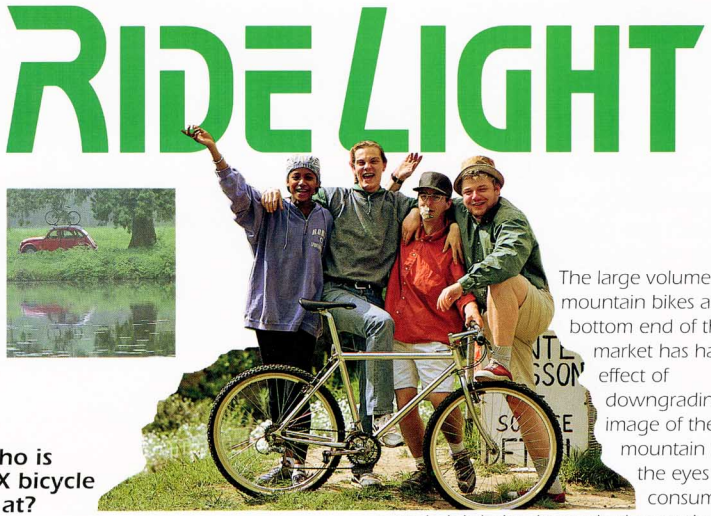

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# STX and Ride Light for 1994

The Ride Light promotion for 1994 is aimed at expanding the mid-range segment of the mountain bike market. The Ride Light theme is being presented primarily through the new STX components and will stress these four points.

1. **The STX bicycle features light-effort controls that are easy to operate**
2. **It feels nimble and precise to ride**
3. **It presents an appearance of quality and light weight**
4. **It is a durable lightweight machine.**

The new STX component group is being priced in the middle of the market to appeal to a wide range of consumers who demand different things from a bicycle. The STX-equipped bicycle can be thought of as a personal recreational vehicle that is adaptable to the owner's individuality and unique lifestyle. It can satisfy a wide range of demands for quality, performance, value, and style . We see that STX will stimulate the market for mid-level mountain bikes.




## Just who is the STX bicycle aimed at?

The STX bicycle is being targeted at a wide range of people who are looking for a quality, high-performance bike at a reasonable cost. The appeal of the STX bicycle lies in the fact that it is an extremely high-value product offering stylish appearance, quality, and advanced component functions. This allows it to fulfill the individual demands of a wide range of consumers. The STX bicycle is positioned in the middle level of the MTB market, a relatively thin area bracketed by high-performance machines above and entry-level cruiser-type mountain bikes below.

The large volume of mountain bikes at the bottom end of the market has had the effect of downgrading the image of the mountain bike in the eyes of some consumers. As a result, it is being increasingly perceived as a relatively cheap street cruiser-type bike offering little real value. Value-conscious consumers, those looking for a quality MTB at a reasonable price, are often forced to choose between a very expensive MTB, or one that really doesn't meet their expectations of quality and value. A high quality yet reasonably priced mountain bike can help fill out the market by appealing to consumers who want value, quality and style without paying more than their budgets allow. We think the STX-equipped mountain bike can help create a larger and more balanced mountain bike market.



## Just what is product appeal?

Recreation is becoming an increasingly important part of the modern lifestyle. People have more leisure time on their hands, and leisure-use products are appearing in greater numbers. So the demand for quality in these products continues to increase. More than ever, today's consumers are coming to recognize the importance of quality and value. They are extremely well informed and no longer impressed merely by a brand name. Less concerned with image, they are looking for products made from quality materials, products that provide good value for the money spent.



## Just what kind of bicycle appeals to this consumer?

If a recreational product is to satisfy the target consumer, it must offer value in terms of amusement. That is, it must simply be fun to use. But it must also offer value as a possession that satisfies a desire for quality, performance, and functionality.

The mountain bike originally evolved as a recreational tool. It was a new type of bike that offered great utility due to its comfortable ride, ruggedness, and ability to go on or off the road. It was a go-anywhere bike that was fun to ride. After years of booming sales, however, the quality mountain bike is assuming a narrower role. It is increasingly viewed as a competition-oriented machine or a bicycle intended solely for hard off-road riding.

Certainly today's high-performance mountain bike offers high quality and functionality. We feel, however, that the high-end MTB is assuming an increasingly narrow competitive orientation, a role which will not help us to realize the sales potential waiting to be tapped in the middle market range. The bicycle targeted toward this area must offer outstanding appearance, quality and value at a reasonable price.

## Shimano STX

The mountain bike for the middle range of the market must project a sense of fun, freedom and excitement. These are the qualities which represent the real "soul" of the mountain bike. We developed the STX components in an effort to recapture the original intent and spirit of the mountain bike. The STX bike is being targeted at a wider range of consumers by appealing to everybody's sense of fun, freedom, and recreation.

# New components for '94



**Deore XT**
Completely redone for 1994, Deore XT offers more performance than ever for off-road racing or heavy-duty trail riding. Advanced Light Action design gives Rapidfire shifting a lighter and more precise feeling. New Rapidfire Plus levers feature easy-to-read Optical Gear Display and modulated Servo-Wave action. New HyperDrive-C gear train features compact 42-32-22 chainwheels and 11-28 8-speed Hyperglide sprocket cluster to reduce weight and mass with no sacrifice in wide-range gearing. Cartridge-type headset totally shuts out water, mud, and dust for extended service life. Super-strong Parallax front hub offers an optional 11mm alloy axle along with the standard 9mm steel type. Also available are replaceable M-System cartridge-type brake pads.



**Deore LX**
Completely redesigned in 1993, the Deore LX group is now available with many options. These include the ST-M564 Rapidfire Plus lever set featuring Advanced Light Action design and modulated Servo-Wave brake action. HyperDrive-C drive train uses compact lightweight 42-32-22 chainwheels and 11-28 7-speed rear sprocket cluster for less weight. The HB-M564 Parallax front hub utilizes a strengthened alloy body and beefed up 10mm steel axle. Crank available in new silver version.

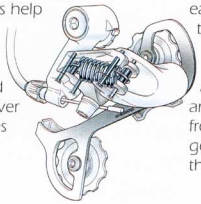


**STX**
STX is Shimano's all-new MTB component group for 1994 available in standard and Special Edition versions. STX is a sports/recreation component system offering more quality, style, and functionality in the middle-level MTB market. The Special Edition version features lustrous Chromica plating on the crank arms, derailleurs, cantilevers, brake levers and hubs. Advanced Light Action design makes shifting lighter and easier than ever. Optical Gear Display provides at-a-glance gear verification. Compact HyperDrive-C gear train uses 42-34-24 chainwheels and 11-28 rear sprocket cluster. Cartridge-type headset eliminates maintenance and prolongs service life. Special coated fasteners resists corrosion. Beefy Parallax front hub makes a stronger wheel.

# New functions for '94

### Advanced Light Action

Shimano has refined the SIS shifting system with Advanced Light Action. Redesigned SIS units in shift levers, a new coil spring design in the rear derailleur, and low friction pivot pins in both derailleurs help reduce shifting friction. The result is lighter effort shifting and a more precise lever feeling that makes SIS shifting easier than ever.



### Optical Gear Display

All new MTB component groups for 1994 feature the Optical Gear Display. The Optical Gear Display is integrated into the lever assembly and gives the cyclist an easy-to-read visual indication of the current gear. New cyclists will appreciate being able to conveniently verify their gear at a glance. Racing cyclists, fitness and sport riders will also benefit from being able to check their gear without twisting to look at the crank or rear sprockets.

### HyperDrive-C

The HyperDrive-C drive train features smaller 42-32-22 or 42-34-24 chainwheels and an 11-28 rear sprocket cluster to reduce weight and mass without any sacrifice in gear range. HyperDrive-C also allows a shorter chain to be used, saving even more weight. The smaller chainwheels and sprocket cluster integrate better into the overall form of the bicycle for a cleaner design.



### Alivio

New for 1994, Alivio is a great cost-performance value in a mountain bike component group. Available in standard and high-line versions, Alivio makes full use of all the newest Shimano functions. Advanced Light Action design makes SIS shifting a breeze. Large Optical Gear Display lets you verify your gear at a glance. Wide range HyperDrive-C drive train uses compact SG-X chainwheels and Hyperglide sprockets for less weight. High-line version features Rapidfire Plus lever set with numerical indicator, detachable chainrings, and Parallax hubs with rubber cup sealing.



### Altus C50

Altus C50 is the component group that delivers an unexpected level of performance and value for the entry-level mountain bike. Advanced Light Action system provides effortless shifting. Dual SIS for precise click-stop shifting at both rear and front derailleurs. Dial-type Optical Gear Display on right and left thumb shifters. Handsome crankset features black chain rings and luster finish arms.

### Tourney 30

The new Tourney 30 components bring advanced Shimano functions to a wide range of entry-level mountain bikes, street cruisers, and recreational bicycles. Advanced Light Action design provides a lighter and more precise shifting feeling. Dial-type optical gear displays on right and left shift levers give at-a-glance gear verification. M-System brakes deliver more dependable stopping power. Black chain rings and luster finish crank make Tourney 30 a standout in its class.

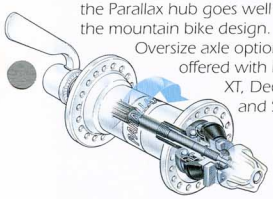


### MJ Youth Package

MJ reflects a new generation of Shimano components especially designed for children's bicycles. Never before has a youth component package delivered so much advanced performance and quality. Dual SIS with Advanced Light Action design makes shifting easier and more precise. Double or triple cranksets with available crank lengths from 150 to 160mm let MJ be customized for any bicycle type or size. Youth-sized anatomic Rapidfire shift levers mount to smaller 19.1mm handle bars and feature easy-to-read dial type Optical Gear Display indicators.

### Parallax Hubs

All new MTB groups for 1994 feature the new Parallax hub design that uses a larger diameter hub body for increased strength and rigidity. The beefier look of the Parallax hub goes well with the mountain bike design. Oversize axle options are offered with Deore XT, Deore LX, and STX.



### Cartridge Headsets

New cartridge headsets feature integrated, easily serviced cup and cone units that seal out dirt and water and last longer. Installation and adjustment is also easier than standard types.





### RX100

The RX100 sport-racing component group has been completely redone for 1994. Offering more advanced functions than ever, RX100 now gives you Shimano Total Integration with Dual Control Levers for hands-on-the-bars SIS shifting. And that's not all. Super low profile crank set, front SIS with SG-X chainrings, and 8-speed HG freehub make the RX100-equipped bike a great performance value for sport, fitness and recreational cycling.


SHIMANO
XTR
SP-M900
HB-M900
SQ-M900
BB-UN91
FH-M900
BR-M900-R
BR-M900-F
CS-M900
CN-7401
FD-M900
RD-M900
FD-M901
FC-M900-A
HP-M900
ST-M900
PD-M737

# XTR - simply the best MTB component group available today.

Tough...lightweight...advanced functions...and built for all the punishment that off-road competition can dish out. That's Shimano XTR. The latest in Shimano off-road component technology has been applied to make XTR the hottest MTB group available today. Advanced computer-aided design techniques have significantly reduced component weight without any compromise in strength. If you race, or demand the best there is, there's only one choice ... Shimano XTR.



**DUAL SIS**

Precise click-stop SIS shifting for both rear and front derailleurs.

**SLR PLUS** SHIMANO LINEAR RESPONSE

Friction-free action and servo-wave system provide smooth modulated braking power at the touch of a finger.

**HG** HYPERGLIDE

8-speed HG cassette sprockets feature cutouts and ramps for instant SIS shifting. Alloy Spider Arm increases strength and reduces weight.

**SHIMANO HYPERDRIVE**

Rigid offset cold forged crank arms, super-stiff chainwheels, and 8-speed HG spider cassette sprockets deliver high-efficiency power transfer.

**THE SHIMANO FREEHUB**

Wider bearing placement and cold forged hub body make a stronger and lighter rear wheel.

**SPD** SHIMANO PEDALING DYNAMICS

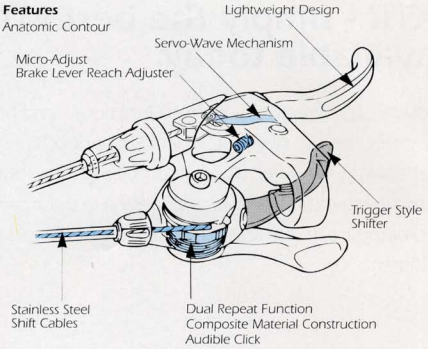
Shimano Pedaling Dynamics. SPD shoes click into the SPD pedals for pedaling stability and unsurpassed power transfer efficiency.

Rapidfire Plus Shift Lever Set

## ST-M900 (servo-wave/2-finger lever)

| | |
|---|---|
| **Weight** | 411g (pair) |
| **Compatibility** | Shimano Total Integration<br>Shimano HyperDrive<br>Dual SIS (8-rear, 3-front)<br>SLR (Shimano Linear Response) Plus |
| **Clamp Dia** | 22.2 mm |
| **Material & Finish** | Aluminum/Paint (bracket)<br>Forged Aluminum/Anodized (lever) |
| **Note** | Use with SLR outer casing and SIS-SP shift outer casing for best performance.<br>Avoid using handlebar grips more than 5mm thick. |

**Features**
Anatomic Contour

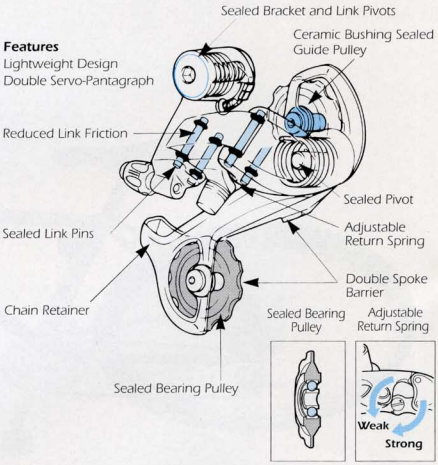



Rear Derailleur

## RD-M900 (medium cage)

| | |
|---|---|
| **Weight** | 230g |
| **Compatibility** | Shimano Total Integration<br>8-speed SIS |
| **Capacity** | Max. Sprocket 32T<br>Min. Sprocket 12T<br>F/Difference 22T or less<br>Total Capacity 33T |
| **Material & Finish** | Aluminum/Anodized |

**Features**
Lightweight Design
Double Servo-Pantagraph

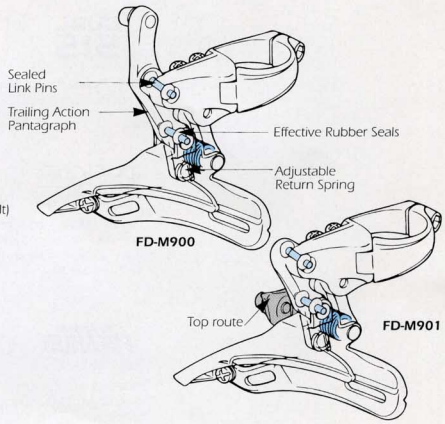



Front Derailleur

## FD-M900 (bottom route)
## FD-M901 (top route)

| | |
|---|---|
| **Weight** | 118g |
| **Compatibility** | Shimano Total Integration<br>Dual SIS<br>Shimano HyperDrive<br>Narrow Chain |
| **Capacity** | 26T (round) |
| **Clamp Dia** | 28.0-28.6/31.8/34.9mm (band mount)<br>31.8 mm (EC type) |
| **Material & Finish** | Aluminum/Anodized (F&R bands, R&L links)<br>Steel/Chrome Plated (chain guide, chain guide bolt) |

**Features**

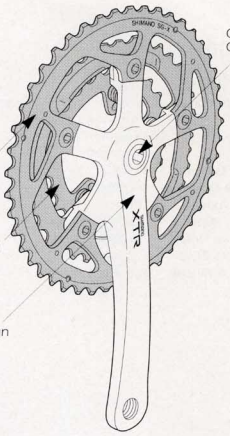


Front Chainwheel

## FC-M900-A (SG-X gear triple / low plofile type)

**Weight** 680g (46-36-26T /175 mm)
**Compatibility** Shimano Total Integration
Shimano HyperDrive
Dual SIS
Narrow Chain
**Gearing** 48-36-26T / 46-36-26T (round SG)
**Crank Arm Lengths** 165/170/172.5/175/180mm
**Bottom Brackets** BB-UN91
**Material & Finish** Cold Forged Aluminum/
Titanium Color Anodized (chainrings)
Aluminum/Anodized (crank arms)

**Features**




Sealed Cartridge Bottom Bracket

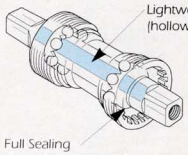
## BB-UN91

**Weight** 255g
**Compatibility** Shimano HyperDrive
Easy Assemble Design

**Specifications**

| | | |
|---|---|---|
| Chain Line | 47.5mm | 50mm |
| Spindle Length | 107mm | 113mm |
| Shell Width | 68(BC) 70(M36) 73(BC) | 68(BC) 70(M36) 73(BC) |
| Spindle Marking | MM107 | LL113 |

**Features**
Extended Service Life
Maintenance Free

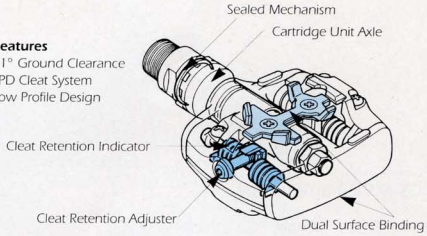



SPD Pedal

## PD-M737

**Weight** 450g (pair)
**Axle Thread** BC 9/16" x 20T.P.I.
**Material & Finish** Aluminum/Black (pedal body)
Cr-Mo Steel (axle)

**Features**
31° Ground Clearance
SPD Cleat System
Low Profile Design

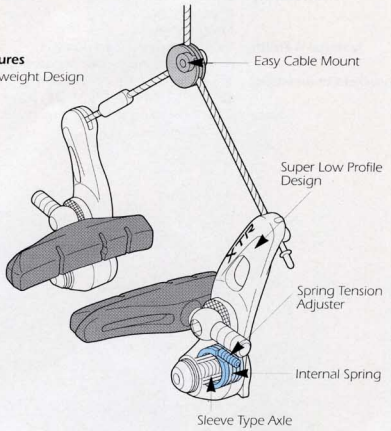



Cantilever Brake

## BR-M900-F/R

**Weight** 340g (F&R set)
**Compatibility** Shimano Total Integration
SLR (Shimano Linear Response) Plus
**Material & Finish** Cold Forged Aluminum/Titanium Color Anodized
**Note** Use BR-M900 cantilevers with
ST-M900 lever set and SLR outer casing.

**Features**
Lightweight Design

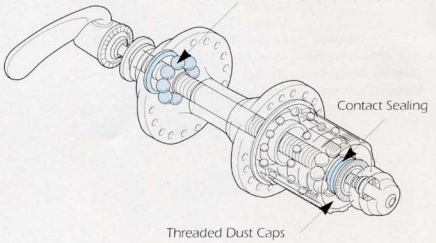


Freehub

## FH-M900 (8-speed)

| | |
|---|---|
| **Weight** | 454g (w/QR) |
| **Compatibility** | Shimano Total Integration<br>8-speed HG<br>Spider Arm Sprockets<br>HG Cassette |
| **Over Locknut** | 135mm |
| **Axle Length** | 146mm |
| **Axle Dia** | 10mm |
| **Mount** | Quick Release |
| **Spoke Holes** | 28/32/36 |
| **Hole P.C.D.** | 45mm |
| **Material & Finish** | Aluminum/Titanium Color Anodized (hub shell) |

**Features**
Spider Arm Boss Included
Lightweight Design
6.55mm Rim Offset
Uni-Balance System
One-Pieced Forged Hub Body

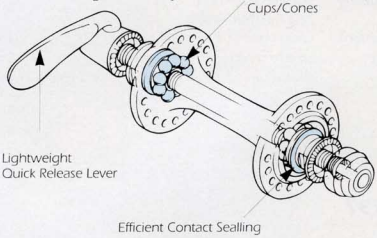



Front Hub

## HB-M900-F

| | |
|---|---|
| **Weight** | 214g (w/QR) |
| **Over Locknut** | 100mm |
| **Axle Length** | 108mm |
| **Axle Thread** | 9mm |
| **Mount** | Quick Release |
| **Spoke Holes** | 28/32/36 |
| **Hole P.C.D.** | 38mm |
| **Material & Finish** | Aluminum/Titanium Color Anodized (hub shell) |

**Features**
Lightweight Design
One-Pieced Forged Hub Body
Stainless Steel Ball Bearings
Precision Machined (Polished)
Cups/Cones

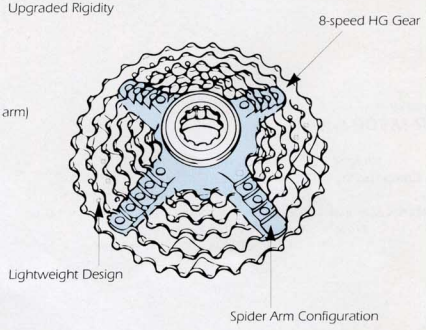



Cassette Sprockets

## CS-M900-8 (8-speed HG)

| | |
|---|---|
| **Weight** | 332g (P-group & spacers) |
| **Compatibility** | Shimano Total Integration<br>8-speed HG<br>Narrow Chain |
| **Material & Finish** | Steel/Champagne Gold (sprockets)<br>Aluminum/Titanium Color Anodized (spider arm) |
| **Sprocket Combinations** | **P** 12 14 16 18 21 24 28 32T<br>**Q** 12 13 14 16 18 21 24 28T |
| **Note** | CS-M900-8 sprockets must be used with FH-M900 freehub. |

**Features**
Improved Gear Precision
Upgraded Rigidity

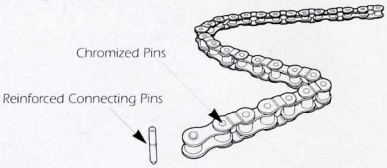


HG Chain

## CN-7401

**Compatibility** Shimano Total Integration
**Size** 1/2" x 3/32"
**Material & Finish** Steel/Nickel Finish (roller links, pin links)
Chromized Pins

**Features**
Narrow HG Chain
Bushingless Design

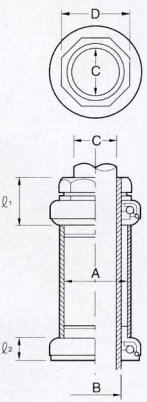



Head Set

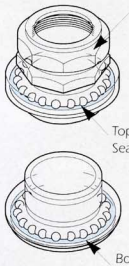
## HP-M900 (English/Italian, JIS, French, ISO)
## HP-M901 (1-1/8")
## HP-M902 (1-1/4")

**Weight** 119g (HP-M900)
136g (HP-M901)
167g (HP-M902)
**Type** Off-Road
**Material & Finish** Aluminum/Titanium Color Anodized (locknut, cups)
**Variation & Dimensions**

| Type | HP-M900 | HP-M901 | HP-M902 |
|---|---|---|---|
| Thread | BC1"x24T.P.I. | BC1-1/8"x26T.P.I. | BC1-1/4"x26T.P.I. |
| A | 30.2/30.0mm (JIS) | 34.0mm | 37.0mm |
| B | 26.4/27.0mm (JIS) | 30.0mm | 33.0mm |
| C | 22.3mm | 25.5mm | 28.7mm |
| D | 32.0mm | 36.0mm | 40.0mm |
| ℓ1 | 22.8mm | 22.8mm | 27.3mm |
| ℓ2 | 11.5mm | 11.5mm | 13.0mm |




**Features** Lightweight Design

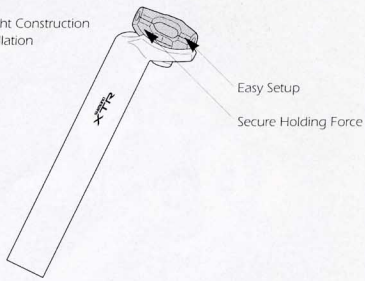



Seat Post

## SP-M900

**Weight** 270g (330mm)
**Pillar Diameter** 26.6/26.8/27.0/27.2mm
**Lengths** 280/330/360mm
(360mm length in 27.2mm diameter only)
**Material** Cr-Mo Steel (tubing)

**Features**
Lightweight Construction
Easy Installation

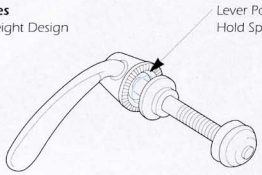


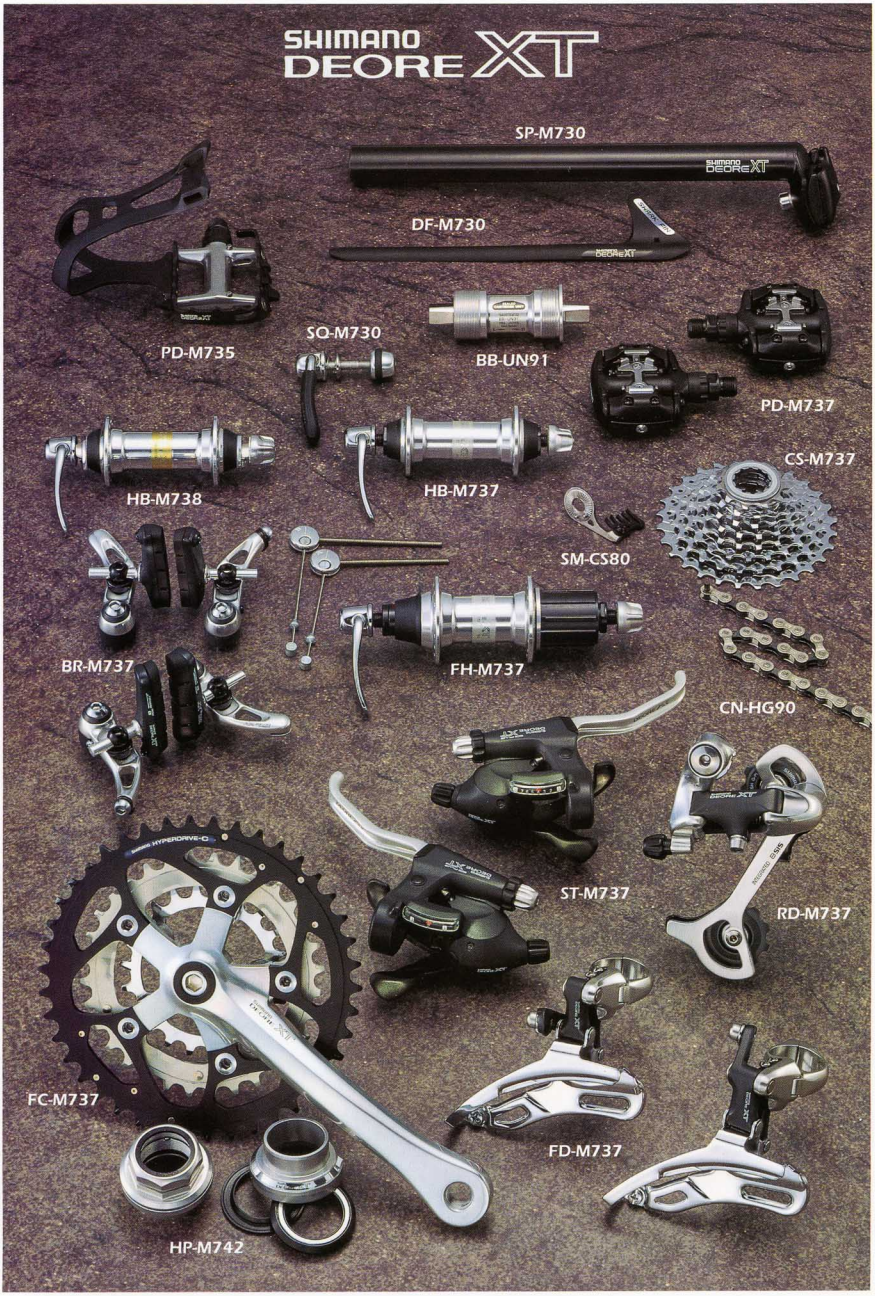

Seat Post Quick Release

## SQ-M900

**Weight** 66g
**Adjusting Range** 36-43mm / 26-33mm
**Shaft Dia** 6mm / 8mm
**Material** Steel/Chrome Plated

**Features**
Lightweight Design




SHIMANO DEORE XT
SP-M730
DF-M730
PD-M735
SQ-M730
BB-UN91
PD-M737
HB-M738
HB-M737
CS-M737
SM-CS80
BR-M737
FH-M737
CN-HG90
ST-M737
RD-M737
FC-M737
FD-M737
HP-M742

Completely redone for 1994, Deore XT offers more performance than ever for the off-road racer or performance enthusiast. New features include cartridge head set, Parallax hubs, and Optical Gear Display. Deore XT is still the one to beat.

### HyperDrive-C Cassette Sprockets

CS-M737-8 HG-C rear sprocket cluster features alloy Spider Arm and 11-28T gears for reduced weight and mass without any sacrifice in wide-range gearing. Compact 42-32-22 HyperDrive-C crank provides more ground clearance too.



### Parallax Hubs

HB-M738 front hub features a large diameter hub body that increases strength and rigidity and enhances the rugged mountain bike look. Heavy-duty alloy 11mm axle available.



### Rapidfire Plus with OGD

ST-M737 Rapidfire Plus shift levers now feature Optical Gear Display for at-a-glance gear verification.





**ADVANCED LIGHT ACTION**

Advanced Light Action system features new mechanisms in the shift levers, rear derailleur, and front derailleur for a lighter and more precise shifting action.

**PARALLAX HUB**

Rear freehub and front hub feature oversize body diameter for increased strength and rigidity.

**CORROSION RESISTANT NUTS & BOLTS**

All component hardware is plated and coated with a special corrosion retardant to resist rust and discoloration.

**DUAL SIS**

Smooth error-free SIS shifting at both the rear and front derailleurs.

**HG**
HYPERGLIDE

Fast-shifting 8-speed HG sprockets in a compact 11-28T cassette cluster. Alloy Spider Arm reduces weight and increases strength.

**SPD**
SHIMANO PEDALING DYNAMICS

Shimano Pedaling Dynamics shoe and pedal system provide a stable and more energy efficient pedaling platform.

**SHIMANO HYPERDRIVE-C**

Compact crank uses 42-32-22 chainwheels for less weight and more ground clearance. No reduction in gear range.

**SHIMANO M SYSTEM**

Replaceable cartridge-type brake pads use a special formulation for all-weather SLR braking performance.

### Tools to upgrade consumers from Deore XT to XTR

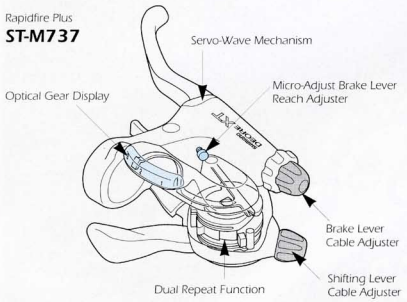
XTR offers the following features not found in the Deore XT group...

- Cold forged high-grade aluminum alloy for strength and light weight.
- More effective high sealing mechanisms.
- High-friction brake pad composition.
- Precision bearings in the form of mirror-finish balls and races in headset, hubs, and bottom bracket
- Tighter tolerances in all moving parts
- Specifically designed to provide maximum strength and durability at minimum weight for professional-level off-road racing applications

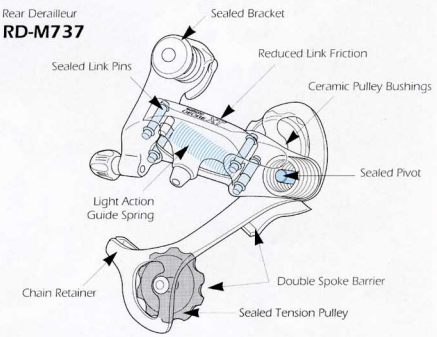
| Model No. | Specifications | Features | Material / Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-M737-SGS**<br>(super long cage)<br>**RD-M737-GS**<br>(middle cage) | Compatibility: Shimano Total Integration, Advanced Light Action, 8-speed SIS<br>Max. Sprocket: 32T<br>Min. Sprocket: 11T<br>F/Difference: 20T or less<br>Total Capacity: 38T (SGS), 33T (GS)<br>Weight: 235g (SGS) | Low Profile Design<br>Light Action Guide Spring<br>Sealed Ceramic Pulley Bushing<br>Corrosion Resistant Nuts and Bolts<br>Double Servo-Pantagraph<br>Centeron Guide Pulley<br>Double Spoke Barrier<br>B-Tension Adjust Bolt<br>Sealed Mechanism<br>Chain Retainer | Bracket Body: Aluminum/Painted<br>Plate Body: Aluminum/Painted<br>Right Link: Aluminum/Painted<br>Left Link: Aluminum/Painted<br>Right Plate: Aluminum/Anodized<br>Left Plate: Steel (SGS), Aluminum (GS) | Narrow chain only. |
| Front Derailleur<br>**FD-M737** | Compatibility: Shimano Total Integration, Advanced Light Action, Shimano HyperDrive-C, Dual SIS, Narrow Chain<br>Top-Low Max. Capacity: 22T<br>Top-Middle Min. Capacity: 10T<br>Top Gear Teeth: 44T/42T only<br>Clamp Dia.: 28.0-28.6mm, 31.8mm/34.9mm<br>Weight: 133g (bottom route type) | Light Action Link Bushing<br>Wider Link<br>Rigid Chainguide<br>Corrosion Resistant Nuts and Bolts<br>Adjustable Return Spring<br>Trailing Action Pantagraph<br>Pro-Set Gauge & Block | F/Band: Aluminum/Polished<br>R/Band: Aluminum/Polished<br>Right Link: Aluminum/Painted<br>Chainguide: Steel/Chrome Plated | Top route type available<br>Blazed-on type available<br>Set chainstay angle 66° to 69° |
| Rapidfire Plus Lever Set<br>**ST-M737**<br>(servo-wave/2-finger lever) | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS (8-rear, 3-front), M-System Brakes<br>Clamp Dia.: 22.2mm<br>Weight: 385g (pair) | Optical Gear Display Above-Bar Sliding Type<br>Servo-Wave Mechanism<br>Micro-Adjust Brake Lever Reach Adjuster<br>Shifting Lever Digital Cable Adjuster<br>Anatomic Contour<br>Dual Repeat Function<br>Corrosion Resistant Nuts and Bolts | Bracket: Aluminum/Painted<br>Brake Lever: Aluminum/ Clear Coated<br>Shifting Lever Cable: Stainless Steel | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP sealed outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides.<br>Handle bar grip thickness should be less than 5mm. |
| Cantilever Brake<br>**BR-M737** | Compatibility: Shimano Total Integration, M-System Brakes<br>Weight: 364g (F&R set), 10g (unit link) | Cartridge Brake Shoe (Super M70)<br>Unit Link Dynamic Type (Special Type)<br>Corrosion Resistant Nuts and Bolts<br>Sleeve Type Axle<br>Easy Access Fixing Bolt<br>Low Profile Design | Aluminum/Anodized | Use with Rapidfire Plus or M-System brake lever and M-System outer casing. |
| Front Chainwheel<br>**FC-M737**<br>(SG-X gear triple/ low profile type) | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, Dual SIS, Narrow Chain<br>Gearing: 42-32-22T, 44-32-22T (option)<br>Bolt Circle Dia.: 94mm (top/middle), 58mm (inner)<br>Crank Length: 165/170/175/180mm<br>Weight: 694g (42-32-22T/175mm) | Low Profile Design<br>Shimano SG-X Gear<br>Cap-Less Crank Arm<br>Corrosion Resistant Nuts and Bolts | Crank: Aluminum/Anodized<br>Chainring: Aluminum/Anodized (top, middle), Steel/Chrome Plated (low) | Bolt-on chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-UN91**<br>**BB-UN71** | Chain Line: 47.5mm, 50.0mm<br>Spindle Length: 107mm, 113mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: MM107, LL113<br>Weight: 272g (BB-UN71, 107mm) | Lightweight Design<br>Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | | Shell Width / Thread:<br>68 / BC1.37<br>70 / M36<br>73 / BC1.37 |
| Freehub<br>**FH-M737** | Compatibility: Shimano Total Integration, 8-speed HG, Spider Arm Sprockets, HG-C Cassette<br>Over Locknut: 135mm<br>Axle Length: 146mm<br>Axle Dia.: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Mount: Quick Release<br>Weight: 475g | Parallax Hub<br>Smoother Rotation<br>11T Gear Compatible<br>Contact Type Double Sealed<br>Uni-Balance System<br>One-Pieced Forged Hub Body | Aluminum/Anodized | |
| Front Hub<br>**HB-M738-R**<br>(round face end washer type)<br>**HB-M738-S**<br>(squared-off face end washer type)<br>**HB-M737** | Over Locknut: 100mm<br>Axle Length: 108mm<br>Axle Dia: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release<br>Weight: 240g (HB-M738), 228g (HB-M737) | Parallax Hub<br>Smoother Rotation<br>Contact Type Double Sealed<br>Strong Aluminum Axle<br>(HB-M738/option)<br>One-Pieced Forged Hub Body | Aluminum/Anodized | The HB-M738 has a high-strength 11-mm diameter axle with 9mm ends in order to allow the hub to fit in standard fork ends. Specify the round washer version (HB-M738-R) for fork ends with minimal radial clearance on the inner surface. Otherwise, specify the square washer version (HB-M738-S). |
| Cassette Sprocket<br>**CS-M737-8**<br>(8-speed HG) | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, 8-speed HG, HG-C Cassette, Narrow Chain<br>Weight: 256g (R-group & spacers) | Spider Arm Configuration<br>Improved Gear Precision<br>11T Top Gear<br>Upgraded Rigidity<br>Lightweight Design | Sprocket: Steel/Chrome Plated<br>Spider Arm: Aluminum | Sprocket Combination:<br>**R** 11 12 14 16 18 21 24 28T |
| Mud Scraper<br>**SM-CS80** | For the following MTB cassette sprockets:<br>CS-M900-8 **P** 12 14 16 18 21 24 28 32T<br>CS-M900-8 **Q** 12 13 14 16 18 21 24 28T<br>CS-M737-8 **R** 11 12 14 16 18 21 24 28T | Prevents mud buildup and thrown chains. | Steel & Resin | Select scraper according to sprocket cluster. |
| HG Chain<br>**CN-HG91**<br>**CN-HG90** | Compatibility: Shimano Total Integration<br>Size: 1/2" x 3/32"<br>Weight: 335g (114 links) | Narrow HG Chain<br>Chromoxed Pins<br>Bushingless Design<br>Reinforced Connecting Pins | **CN-HG91** Steel/Gray Finish (roller links), Steel/Silver Finish (pin links)<br>**CN-HG90** Steel/Brack Finish (roller links), Steel/Silver Finish (pin links) | |
| SPD Pedal<br>**PD-M737** | Compatibility: SPD Cleat System<br>Mounting Thread: BC9/16"x20T P.1<br>Weight: 450g (pair) | 31° Ground Clearance<br>Dual Surface Binding<br>Cartridge Axle<br>Cleat Retention Indicator<br>Cleat Retention Adjuster<br>Low Profile Design<br>Sealed Mechanism | Body: Aluminum/Black Finish<br>Axle: Cr-Mo Steel | |

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Pedal<br>**PD-M735**<br>**PD-M730** | Pedal Thread BC 9/16" x 20T.P.I<br>Weight 295g (PD-M735, pair)<br>412g (PD-M730, pair) | 32° Ground Clearance (PD-M735)<br>26° Ground Clearance (PD-M730)<br>Super Low Profile Design (PD-M735)<br>Low Profile Design (PD-M730)<br>Parallelogram Form<br>Contact Sealing<br>Stainless Steel Grip Pins<br>Toe Clip/Reflector Mount | Body Aluminum<br>Plate Aluminum/Anodized<br>Axle Cr-Mo Steel<br>Toe Clip Resin | |
| Seat Post<br>**SP-M730** | Diameter 26.4/26.6/26.8/27.0/27.2mm<br>Length 280/330/360mm<br>Weight 296g (330mm) | Lightweight Design<br>Extra Length | Cr-Mo Tubing | 360mm length in 27.2mm diameter only |
| Seat Post quick Release<br>**SQ-M730** | QR Length 36-43mm/26-33mm<br>Shaft Dia. 6/8mm<br>Weight 75g | Position Set Spring | Steel/Chrome Plated | |
| Chain Deflector<br>**DF-M730** | Weight 9g | Aerodynamic Style<br>Prevents chain from jamming between tire and chainstay. | Resin | |
| Cartridge Head Set<br>**HP-M740**<br>(English/Italian, JIS, ISO)<br>**HP-M741** (1-1/8")<br>**HP-M742** (1-1/4") | Stack Height 37.6mm<br>(HP-M740, HP-M741)<br>39.9mm (HP-M742)<br>Weight 115g (HP-M740)<br>127g (HP-M741)<br>143g (HP-M742) | Cartridge Type Bearing<br>Sealed Mechanism | Lock Nut Aluminum/Anodized<br>Upper Housing Aluminum/Anodized<br>Lower Housing Aluminum/Anodized<br>Ball Race Steel | |

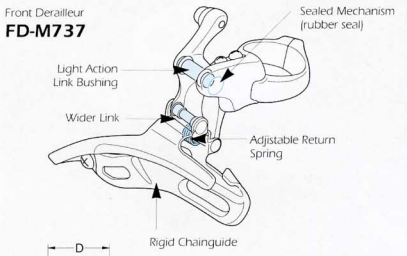
Rapidfire Plus
**ST-M737**



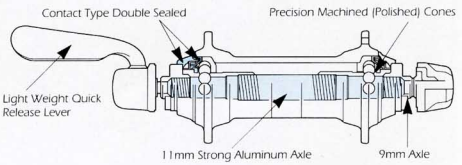

Rear Derailleur
**RD-M737**

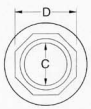



Front Derailleur
**FD-M737**

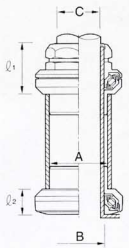



Front Hub
**HB-M738**



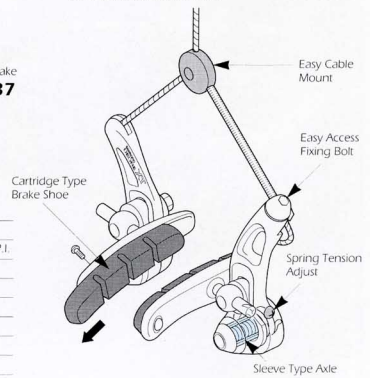

Cartridge Head Set
**HP-M740**
**HP-M741**
**HP-M742**

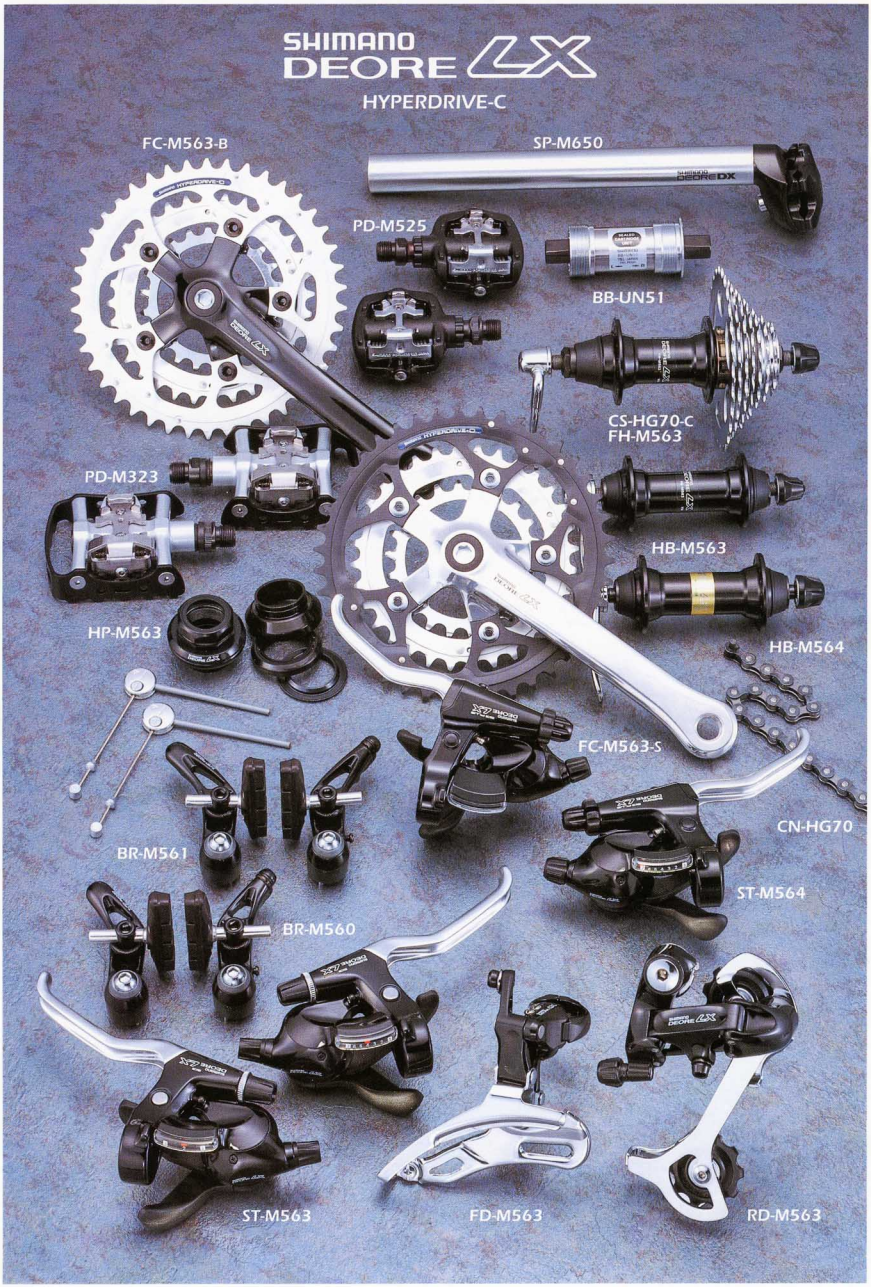



**Variation & Dimentions**

| Model No. | HP-M740 | HP-M741 | HP-M742 |
|---|---|---|---|
| Thread | BC1"x24T.P.I. | BC1-1/8"x26T.P.I. | BC1-1/4"x26T.P.I. |
| A | 30.2 mm/30.0mm(JIS) | 34.0 mm | 37.0 mm |
| B | 26.4 mm/27.0mm(JIS) | 30.0 mm | 33.0 mm |
| C | 22.3 mm | 25.5 mm | 28.7 mm |
| D | 32.0 mm | 36.0 mm | 40.0 mm |
| ℓ1 | 24.1mm | 24.1 mm | 26.4 mm |
| ℓ2 | 13.5mm | 13.5 mm | 13.5 mm |

Cantilever Brake
**BR-M737**




SHIMANO
DEORE LX
HYPERDRIVE-C
FC-M563-B
SP-M650
PD-M525
BB-UN51
CS-HG70-C
FH-M563
PD-M323
HB-M563
HP-M563
HB-M564
FC-M563-S
CN-HG70
BR-M561
ST-M564
BR-M560
ST-M563
FD-M563
RD-M563

New for 1994 is the Deore LX group in a HyperDrive-C version. Deore LX HD-C features compact 42-32-22 SG-X chainwheels on the standard black crank or a new polished silver version. Rapidfire Plus shift levers with Optical Gear Display, black-finish Parallax front hub and rear freehub, and cartridge-type headset. This group delivers outstanding quality and performance for off-road enthusiasts, entry-level MTB racers, or anybody who appreciates a high-performance mountain bike.

### HyperDrive-C

HyperDrive-C system uses a more compact 42-32-22 crankset for reduced weight and more ground clearance. Crank arms are available in both silver and black finish versions.



### Optical Gear Display

ST-M564 and ST-M563 lever unit uses the new Optical Gear Display for instant verification of derailleur position.



### Cartridge Headset

HP-M563 and oversize HP-M564 cartridge-type headsets are available. Cartridge headset features integrated easily serviced bearing and cone units that shut out dirt, mud, and water. Simplified design offers greater durability and easier installation and adjustment.





**ADVANCED LIGHT ACTION**

Advanced Light Action system provides a lighter, easier, and more precise shift feeling.

**PARALLAX HUB**

Parallax design front hub use oversize body diameter for increased strength and rigidity.

**CORROSION RESISTANT NUTS & BOLTS**

Small parts used in the components are plated and special-coated to resist corrosion and discoloration.

**DUAL SIS**

7-speed SIS shifting in the rear, and triple chainwheel SIS shifting in the front. It's all SIS.

**HG** HYPERGLIDE

Compact 7-speed 11-28 cassette sprocket cluster features Pearl Brite finish.

**SPD** SHIMANO PEDALING DYNAMICS

Shimano Pedaling Dynamics for clipless pedaling efficiency and off-bike walkability. PD-M525 pedal uses dual surface binding. PD-M323 pedal offers the flexibility of a cleat retention mechanism on one side and normal pedal cage on the other.

**SHIMANO HYPERDRIVE-C**

Compact 42-32-22 chainwheels are lighter and provide more ground clearance.

**SHIMANO M SYSTEM**

Super M-65 (long-type) M-System brake pads use a special compound to provide dependable stopping performance in any environment. Servo-Wave lever set

### Tools to upgrade consumers from Deore LX to Deore XT

Deore XT offers the following features not found in the Deore LX group...

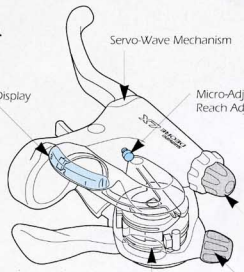
- 8-speed Spider Arm cassette boss on rear freehub is stronger and lighter than normal freehub.
- Heavy duty oversize 11mm alloy axle on HB-M738 front hub
- Standard servo-wave type brake levers (optional on LX)
- Wider crank arm length selection for competition applications (XT available in 165/170/175/180mm lengths, LX available in 170/175mm lengths)
- Replaceable cartridge-type brake pads
- 70mm Super M70 brake pads are 5mm longer than Super M65 type used with LX

## Shimano Deore LX (HyperDrive-C)

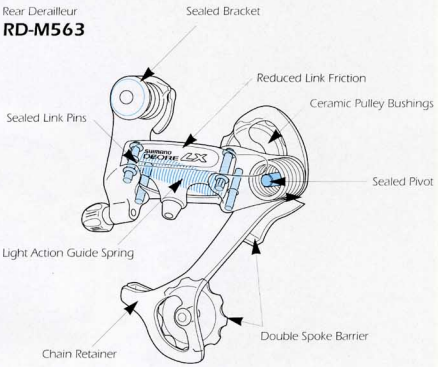
| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-M563**<br>(super long cage) | Compatibility: Shimano Total Integration, Advanced Light Action, 7-speed SIS<br>Max. Sprocket: 32T<br>Min. Sprocket: 11T<br>F/Difference: 20T or less<br>Total Capacity: 38T<br>Weight: 285g | Low Profile Design<br>Light Action Guide Spring<br>Sealed Ceramic Pulley Bushing<br>Corrosion Resistant Nuts and Bolts<br>Double Servo-Pantagraph<br>Centeron Guide Pulley<br>Double Spoke Barrier<br>B-Tension Adjust Bolt<br>Sealed Mechanism<br>Chain Retainer | Bracket Body: Aluminum/Painted<br>Plate Body: Aluminum/Painted<br>Right Link: Aluminum/Painted<br>Left Link: Steel/Painted<br>Plate: Steel/Chrome Plated | |
| Front Derailleur<br>**FD-M563** | Compatibility: Shimano Total Integration, Advanced Light Action, Shimano HyperDrive-C, Dual SIS, Narrow Chain<br>Top-Low Max. Capacity: 22T<br>Top-Middle Min. Capacity: 10T<br>Top Gear Teeth: 42T/44T only<br>Clamp Dia.: 28.0-28.6mm/31.8mm/34.9mm<br>Weight: 132g (bottom route type) | Light Action Link Bushing<br>Wider Link<br>Rigid Chain Guide<br>Corrosion Resistant Nuts & Bolts<br>Trailing Action Pantagraph<br>Pro-Set Gauge & Block | F/Band: Aluminum/Painted<br>R/Band: Aluminum/Painted<br>Right Link: Aluminum/Painted<br>Chain Guide: Steel/Chrome Plated | Top route type available.<br>Set chainstay, angle 66° to 69° |
| Rapidfire Plus Lever Set<br>**ST-M564**<br>(servo-wave/2-finger lever)<br>**ST-M563**<br>(2.5-finger lever) | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS (7-rear, 3-front), M-System Brakes<br>Clamp Dia.: 22.2mm<br>Weight: 384g (ST-M564, pair)<br>378g (ST-M563, pair) | Optical Gear Display Above-Bar<br>Sliding Type<br>Servo-Wave Mechanism (ST-M564)<br>Micro-Adjust Brake Lever Reach Adjuster<br>Shifting Lever Digital Cable Adjuster<br>Anatomic Contour<br>Dual Repeat Function<br>Corrosion Resistant Nuts and Bolts | Bracket: Aluminum/Painted<br>Lever: Aluminum/Anodized | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides.<br>Handle bar grip thickness should be less than 5mm. |
| Cantilever Brake<br>**BR-M560** (M-size)<br>**BR-M561** (L-size) | Compatibility: Shimano Total Integration, M-System Brakes<br>Weight: 358g (BR-M560/F&R set)<br>10g (unit link) | Super M65 Type Brake Shoe<br>Unit Link Dynamic Type<br>Corrosion Resistant Nuts and Bolts<br>Sleeve Type Axle<br>Easy Access Fixing Bolt<br>Low Profile Design | Aluminum/Painted | Use with Rapidfire Plus or M-System brake lever and M-System outer casing. |
| Front Chainwheel<br>**FC-M563-S**<br>(silver crank/SG-X gear triple/ low profile type)<br>**FC-M563-B**<br>(black crank/SG-X gear triple/ low profile type) | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, Dual SIS, Narrow Chain<br>Gearing: 42-32-22T<br>Bolt Circle Dia.: 94mm (top/middle), 58mm (inner)<br>Crank Length: 170/175mm<br>Weight: 681g (FC-M563-B/42-32-22T/170mm) | Low Profile Design<br>Shimano SG-X Gear<br>Cap-Less Crank Arm<br>Corrosion Resistant Nuts and Bolts | **FC-M563-S**<br>Crank: Aluminum/Polished<br>Chainring: Aluminum/ Black Anodized (top) Aluminum/ White Anodized (middle) Steel/ Chrome Plated (low)<br>**FC-M563-B**<br>Crank: Aluminum/ Black Paint<br>Chainring: Aluminum/White Anodized (top, middle) Steel/Chrome Plated (low) | Bolt-on chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-UN51** | Chain Line / Spindle Length / Shell Width / Spindle Marking<br>47.5mm / 107mm / 68, 70 / MM107<br>50.0mm / 113mm / 68, 70, 73 / LL113<br>Weight: 316g (113mm) | Lightweight Design<br>Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | | Shell Width / Thread<br>68 / BC1.37<br>70 / M36<br>73 / BC1.37 |
| Freehub<br>**FH-M563** | Compatibility: Shimano Total Integration, 7-speed HG, HG-C Cassette<br>Over Locknut: 130/135mm<br>Axle Length: 141/146mm<br>Axle Dia.: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Mount: Quick Release<br>Weight: 444g | Parallax Hub<br>Smoother Rotation<br>11T Gear Compatible<br>Contact Type Double Sealed<br>Uni-Balance System<br>One-Pieced Forged Hub Body | Aluminum/Black Anodized | |
| Front Hub<br>**HB-M564**<br>**HB-M563** | Axle Length: 108mm<br>Mount: Quick Release<br>Axle Dia.: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Over Locknut: 100mm<br>Weight: 243g (HB-M564)<br>228g (HB-M563) | Parallax Hub<br>Smoother Rotation<br>Contact Type Double Sealed<br>Strong Steel Axle (HB-M564/option)<br>One-Pieced Forged Hub Body | Aluminum/Black Anodized | HB-M564 offers increased strength though a 10mm diameter axle. Axle ends are 9mm so it will still fit in standard 9mm fork ends. |
| Cassette Sprocket<br>**CS-HG70-C**<br>(7-speed HG)<br>**CS-HG50-C**<br>(7-speed HG) | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, 7-speed HG, HG-C Cassette, Narrow Chain<br>Weight: 297g (CS-HG50-C/ac-group & spacers) | 11T Top Gear | **CS-HG70-C**: Steel/Pearl Bright Finish<br>**CS-HG50-C**: Steel/Brown Finish (pearl bright low) | Sprocket Combination<br>ac: 11 13 15 18 21 24 28 |
| HG Chain<br>**CN-HG70** | Compatibility: Shimano Total Integration<br>Size: 1/2" × 3/32"<br>Weight: 335g (114 links) | Narrow HG Chain<br>Chromized Pins<br>Bushingless Design<br>Reinforced Connecting Pins | Roller Links: Steel/Gray Finish<br>Pin Links: Steel/Black Finish | |
| SPD Pedal<br>**PD-M525** | Compatibility: SPD Cleat System<br>Mounting Thread: BC9/16" × 20T.P.I.<br>Weight: 478g (pair) | 31° Ground Clearance<br>Dual Surface Binding<br>Cleat Retention Adjuster<br>Cleat Retention Indicator<br>Sealed Mechanism | Body: Aluminum/Black Finish<br>Axle: Cr-Mo Steel | |

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| SPD Compatible Pedal<br>**PD-M323** | Compatibility SPD Cleat System<br>Mounting Thread BC9/16" x 20T.P.I.<br>Weight 570g (pair) | One Sided SPD Binding<br>Cleat Retention Adjuster<br>Cleat Retention Indicator<br>Sealed Mechanism | Body Aluminum/Polished<br>Plate Steel/Paint<br>Axle Cr-Mo Steel | One side for SPD cleats, one side for cleatless shoes |
| Seat Post<br>**SP-M650** | Piller Dia 26.6, 26.8, 27.0, 27.2mm<br>Lenigth 280, 330, 360mm<br>Weight 325g (360mm) | High Strength Design<br>Light Weigt<br>Extra Length | Tubing Cr-Mo Steel/Pearl Bright | 360mm length in 27.2mm diameter only |
| Cartridge Head Set<br>**HP-M563**<br>(English/Italian, JIS, ISO)<br>**HP-M564** (1-1/8") | Stack Height 37.6mm<br>Weight 147g (HP-M563) | Cartridge Type Bearing<br>Sealed Mechanism | Lock Nut Aluminum/Anodized<br>Upper Housing Aluminum/Anodized<br>Lower Housing Steel/Chrome Plated<br>Ball Race Steel | |

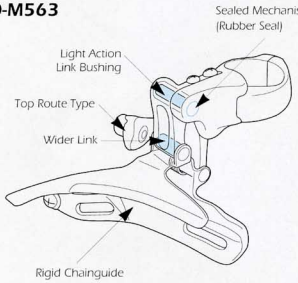
Rapidfire Plus
**ST-M564**



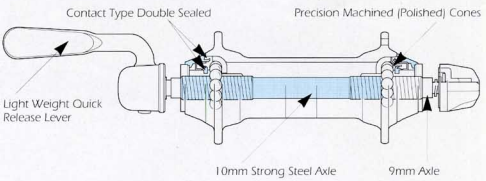

Rear Derailleur
**RD-M563**

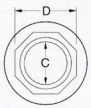


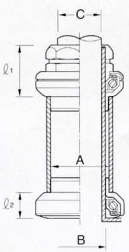

Front Derailleur
**FD-M563**




Front Hub
**HB-M564**



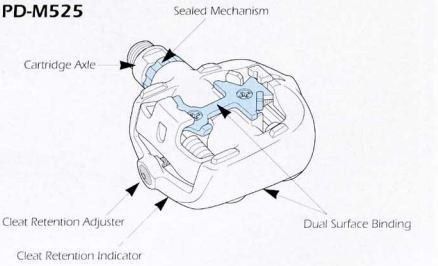




Cartridge Head Set
**HP-M563**
**HP-M564**

**Variation & Dimentions**

| Model No. | HP-M563 | HP-M564 |
|---|---|---|
| Thread | BC1"×24T.P.I. | BC1-1/8"×26T.P.I. |
| A | 30.2 mm/30.0mm(JIS) | 34.0 mm |
| B | 26.4 mm/27.0mm(JIS) | 30.0 mm |
| C | 22.3 mm | 25.5 mm |
| D | 32.0 mm | 36.0 mm |
| L1 | 24.1mm | 24.1 mm |
| L2 | 13.5mm | 13.5 mm |

SPD Pedal
**PD-M525**




SHIMANO
DEORE LX
PD-M550
HB-M560-F
FH-M560
BB-UN51
CS-HG70
HP-R500
FC-M560
ST-M560
RD-M560-SGS
RD-M560-GS
FD-M561
FD-M560

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-M560-SGS**<br>(super long cage)<br>**RD-M560-GS**<br>(long cage) | Compatibility: Shimano Total Integration, 7-speed SIS<br>Max. Sprocket: 32T (SGS)/30T (GS)<br>Min. Sprocket: 12T<br>F/Difference: 20T or less<br>Total Capacity: 38T (SGS)/36T (GS)<br>Weight: 304g (SGS) | Adjustable Return Spring<br>Rigid Guide Pulley Bushing<br>Reduced Link Friction<br>Sealed Bracket Axle<br>Sealed Pivot<br>Sealed Link Pin<br>Double Servo-Pantagraph<br>Double Spoke Barrier<br>Centeron Guide Pulley<br>Lightweight Design<br>B-Tention Adjust Bolt<br>Chain Retainer | Bracket Body: Aluminum/Painted<br>Plate Body: Aluminum/Painted<br>Right Link: Aluminum/Painted<br>Left Link: Steel/Black Finish | |
| Front Derailleur<br>**FD-M560**<br>(bottom route)<br>**FD-M561**<br>(top route) | Compatibility: Shimano Total Integration, Dual SIS, Narrow Chain<br>Capacity: 26T (round)<br>Clamp Dia.: 28.0-28.6mm/31.8mm/34.9mm<br>Weight: 121g (φ31.8/bottom route type) | Sealed Link Pins<br>Trailing Action Pantagraph<br>Pro-Set Gauge & Block | F/Band: Aluminum/Painted<br>R/Band: Aluminum/Painted<br>Right Link: Aluminum/Painted<br>Chain Guide: Steel/Chrome Plated | |
| Rapidfire Plus Lever Set<br>**ST-M560**<br>(2.5-finger lever) | Compatibility: Shimano Total Integration, Dual SIS (7-rear, 3-front), M-System Brakes<br>Clamp Dia.: 22.2mm<br>Weight: 387g (pair) | Dual Repeat Function<br>Micro-Adjust Brake Lever Reach Adjuster<br>Brake Lever Cable Adjuster<br>Audible Click Front Shifting<br>Trigger Style Shifter<br>Lightweight Design | Bracket: Aluminum/Painted<br>Lever: Aluminum/High Luster | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP sealed outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides.<br>Handle bar grip thickness should be less than 5mm. |
| Front Chainwheel<br>**FC-M560**<br>(SG-X gear triple/low profile type) | Compatibility: Shimano Total Integration, Shimano Hyper Drive, Dual SIS, Narrow Chain<br>Gearing: 46-36-26T<br>Bolt Circle Dia.: 110mm (top/middle), 74mm (inner)<br>Crank Length: 170/175mm<br>Weight: 701g (170mm) | Low Profile Design<br>Shimano SG-X Gear<br>Cap-Less Crank Arm | Crank: Aluminum/Painted<br>Chainring: Aluminum/Anodized | Bolt-on Chainring guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-UN51** | Weight: 316g (113mm) | Lightweight Design<br>Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | | |

| Chain Line | Spindle Length | Shell Width | Spindle Marking |
|---|---|---|---|
| 47.5mm | 113mm | 68, 70, 73 | LL113 |
| 50.0mm | 118mm | 68, 70, 73 | XL118 |

| Shell Width | Thread |
|---|---|
| 68 | BC1.37 |
| 70 | M36 |
| 73 | BC1.37 |

| | | | |
|---|---|---|---|
| Freehub<br>**FH-M560** | Compatibility: Shimano Total Integration, 7-speed HG, HG/UG Cassette<br>Over Locknut: 130/135mm<br>Axle Length: 141/146mm<br>Axle Dia.: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Mount: Quick Release<br>Weight: 431g (w/QR) | Contact Sealing<br>Uni-Balance System<br>One-Pieced Forged Hub Body | Aluminum/Anodized | |
| Front Hub<br>**HB-M560-F** | Over Locknut: 100mm<br>Axle Length: 108mm (QR type), 142mm (nut type)<br>Axle Dia.: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release<br>Weight: 221g (w/QR) | Contact Sealing<br>One-Pieced Forged Hub Body | Aluminum/Anodized | |
| Cassette Sprocket<br>**CS-HG70**<br>(7-speed HG)<br>**CS-HG50**<br>(7-speed HG) | Compatibility: Shimano Total Integration, 7-speed HG, Narrow Chain<br>Weight: 309g (CS-HG70/E-group & spacers) | | **CS-HG70**: Steel/Silver Finish<br>**CS-HG50**: Steel/Brown Finish (silver finish low) | Sprocket Combinations:<br>**E** 12 14 16 18 21 24 28T<br>**F** 14 16 18 21 24 28 32T<br>**G** 13 15 17 20 23 26 30T<br>**M** 13 15 17 19 21 24 28T |
| Pedal<br>**PD-M550** | Mounting Thread: BC9/16" x 20T P.I.<br>Weight: 326g (pair) | 30° Ground Clearance<br>Super Low Profile Design<br>Parallelogram Form<br>Sealed Mechanism<br>Toe Clip/Reflector Mounts | Body: Resin<br>Plate: Steel<br>Axle: Cr-Mo Steel<br>Toe Clip: Resin | |
| Head Set<br>**HP-R500**<br>**HP-R501** (1-1/8") | Upper Stack: 22.0mm<br>Lower Stack: 11.5mm<br>Weight: 121g (HP-R500)<br>Variations | Sealed Mechanism | Locknut: Steel/Pearl Bright<br>Upper Cup: Steel<br>Lower Cup: Resin/Steel<br>Colors: White/Silver/Black (HP-R500), Black (HP-R501) | |

| Model | Type | Thread | Race Diameter | |
|---|---|---|---|---|
| | | | Upper | Lower |
| HP-R500 | English/Italian | BC1" x 24T P.I. | 30.2mm | 26.4mm |
| | JIS | BC1" x 24T P.I. | 30.0mm | 27.0mm |
| | French | M25 x P1.0 | 30.2mm | 26.4mm |
| HP-R501 | 1-1/8" | BC1-1/8" x 26T P.I. | 34.0mm | 30.0mm |


SHIMANO STX
Special Edition
CS-HG60-C
FH-MC30-CH
HB-MC30-CH
FC-MC31-CH
BB-UN51
CN-HG70
PD-M323
ST-MC30-CH
HP-MC30
BR-MC30-CH
FD-MC31-CH
RD-MC31-CH

STX is the stylish new mountain bike component group offering all the latest Shimano functions including a more easily serviceable cartridge-type headset. For real off-road riding, trekking, touring, or just cruising around town, STX offers a high level of quality, performance, and appearance. The Special Edition group features lustrous Chromica plating on crank arms, derailleurs, hubs, brake levers and cantilevers. Standard STX features natural silver buffed finish. Both versions respond to the demands of just about everybody from first-time cyclists to veteran riders.

**HyperDrive-C**
Compact HyperDrive-C chainwheels (42-34-24) and cassette sprocket cluster (11-28) are lighter and more compact than conventional types. SG-X chain rings provide crisp SIS shifting in front, HG-C sprockets do the same in back.



**Optical Gear Display**
ST-MC30-CH lever set features a large OGD indicator positioned under the handle bar. It provides at-a-glance verification of derailleur position from the normal riding position.



**Chromica Plating**
Special Edition features Chromica plating on crank arms, derailleurs, hubs, brake levers and cantilevers. Lustrous Chromica finish protects, beautifies, and makes STX the best looking group in its class.



**ADVANCED LIGHT ACTION**
Advanced Light Action system provides a lighter, easier, and more precise shift feeling.

**PARALLAX HUB**
Parallax design rear freehub and front hub use oversize hub body for increased strength and rigidity.

**CORROSION RESISTANT NUTS & BOLTS**
Small parts used with the components are plated and special-coated to resist corrosion and discoloration.

**DUAL SIS**
Crisp error-free 7-speed shifting in the rear, fast and precise triple chainwheel shifting in the front. It's all SIS.

**HG** HYPERGLIDE
Compact 7-speed 11-28 cassette sprocket cluster features Chromica finish

**SPD** SHIMANO PEDALING DYNAMICS
Shimano Pedaling Dynamics for clipless pedaling efficiency and off-bike walkability. PD-M323 pedal offers SPD cleat retention mechanism on one side and standard pedal cage on the other.

**SHIMANO HYPERDRIVE-C**
Compact 42-34-24 chainwheels are lighter and provide more ground clearance.

**SHIMANO M SYSTEM**
Special friction compound Super M-65 brake pads provide dependable stopping performance in any environment.

**Tools to upgrade consumers from STX to Deore LX**

Deore LX offers the following features not found in the STX group...

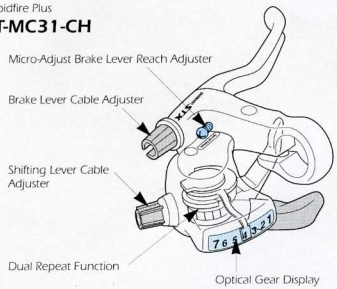
- Top-mounted LX Optical Gear Display (designed for easy viewing when pedaling out of the saddle)
- Internal sleeve pivots in cantilevers for a smoother braking action in all environments.
- ST-M564 servo-wave Rapidfire Plus lever set available
- Double hub seals provide better bearing protection
- Smoother rotation from polished bearing races
- Aluminum alloy large and middle chainrings

# Shimano STX Special Edition

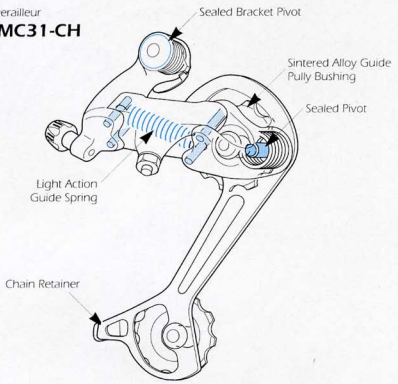
| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-MC31-CH-SGS**<br>(super long cage)<br>**RD-MC31-CH-GS**<br>(long cage) | Compatibility: Shimano Total Integration, Advanced Light Action, 7-speed SIS<br>Max. Sprocket: 32T (SGS), 28T (GS)<br>Min. Sprocket: 11T (SGS/GS)<br>Front Difference: 20T or less (SGS), 18T or less (GS)<br>Total Capacity: 38T (SGS), 35T (GS)<br>Weight: 266g (SGS) | Low Profile Design<br>Light Action Guide Spring<br>Corrosion Resistant Nuts and Bolts<br>Sintered Alloy Guide Pulley Bushing<br>Double Servo-Pantagraph<br>Centeron Guide Pulley<br>Double Spoke Barrier<br>Sealed Mechanism<br>B-tension Adjust Bolt<br>Chain Retainer | Bracket Body: Aluminum/Polished<br>Plate Body: Aluminum/Polished<br>Right Link: Steel/Chromica Finish<br>Left Link: Steel/Painted<br>Plate: Steel/Chromica Finish | |
| Front Derailleur<br>**FD-MC31-CH** | Compatibility: Shimano Total Integration, Advanced Light Action, Shimano HyperDrive-C, Dual SIS, Narrow Chain<br>Top-Low Max. Capacity: 22T<br>Top-Middle Min. Capacity: 8T<br>Top Gear Teeth: 42T only<br>Clamp Dia.: 28.0-28.6mm/31.8mm/34.9mm<br>Weight: 127g (bottom route type) | Light Action Link Bushing<br>Wider Link<br>Rigid chainguide<br>Corrosion Resistant Nuts and Bolts<br>Pro-Set Gauge & Block<br>Trailing Action Pantagraph | F/Band: Steel/Chromica Finish<br>R/Band: Aluminum/Polished<br>Right Link: Aluminum/Polished<br>Chainguide: Steel/Chromica Finish | Top route type available<br>Set chainstay angle 66° to 69° |
| Rapidfire Plus Lever Set<br>**ST-MC30-CH**<br>(2.5-finger lever) | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS (7-rear, 3-front), M-System Brakes<br>Clamp Dia.: 22.2mm<br>Weight: 385g (pair) | Optical Gear Display Below-Bar Sliding Type<br>Micro-Adjust Brake Lever Reach Adjuster<br>Brake Lever Cable Adjuster<br>Shifting Lever Digital Cable Adjuster<br>Dual Repeat Function<br>Corrosion Resistant Nuts and Bolts | Bracket: Aluminum/Painted<br>Brake Lever: Aluminum/Chromica Finish | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides.<br>Handle bar grip thickness should be less than 5mm. |
| Cantilever Brake<br>**BR-MC30-CH**<br>(M-size)<br>**BR-MC31-CH**<br>(L-size) | Compatibility: Shimano Total Integration, M-System Brakes<br>Weight: 338g (BR-MC30-CH/F&R set), 10g (unit link) | Super M65 Type Brake Shoe<br>Unit Link Dynamic Type<br>Corrosion Resistant Nuts and Bolts<br>Easy Access Fixing Bolt<br>Low Profile Design | Aluminum/Chromica Finish | Use with Rapidfire Plus or M-System brake lever and M-System outer casing. |
| Front Chainwheel<br>**FC-MC31-CH**<br>(SG-X gear triple/low profile type) | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, Dual SIS, Narrow Chain<br>Gearing: 42-34-24T<br>Bolt Circle: 95mm (top/middle), 58mm (inner)<br>Crank Length: 170/175mm<br>Weight: 780g (170mm) | Low Profile Design<br>Shimano SG-X Gear<br>Cap-Less Crank Arm<br>Corrosion Resistant Nuts and Bolts | Crank: Aluminum/Chromica Finish<br>Chainring: Aluminum/Black Anodized (top), Steel/Pearl Bright (middle, low) | Bolt-on chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-UN51** | Chain Line: 47.5mm, 50.0mm<br>Spindle Length: 110.5mm, 113mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: MM110, LL113<br>Weight: 316g (113mm) | Lightweight Design<br>Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | | Shell Width / Thread:<br>68 / BC1.37<br>70 / M36<br>73 / BC1.37 |
| Freehub<br>**FH-MC30-CH** | Compatibility: Shimano Total Integration, 7-speed HG, HG-C Cassette<br>Over Locknut: 130mm, 135mm<br>Axle Length: Quick Release 141mm, 146mm; Nut 180mm, 185mm<br>Axle Dia.: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Weight: 449g | Parallax Hub<br>Smoother Rotation<br>11T Gear Compatible<br>Contact Sealing<br>Uni-Balance System<br>One-Pieced Forged Hub Body | Aluminum/Chromica Finish | |
| Front Hub<br>**HB-MC31-CH**<br>**HB-MC30-CH** | Over Locknut: 100mm<br>Axle Length: 108mm (QR), 140mm (Nut)<br>Axle Dia.: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release (HB-MC31-CH), Quick Release/Nut (HB-MC30-CH)<br>Weight: 234g (HB-MC30-CH) | Parallax Hub<br>Smoother Rotation<br>Contact Sealing<br>Strong Steel Axle (HB-MC31-CH/option)<br>One-Pieced Forged Hub Body | Aluminum/Chromica Finish | HB-MC31-CH is quick release type only.<br>HB-MC31-CH offers increased strength through a 10mm diameter axle. Axle ends are 9mm so it will still fit in standard 9mm fork ends. |
| Cassette Sprocket<br>**CS-HG60-C**<br>(7-speed HG) | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, 7-speed HG, HG-C Cassette, Narrow Chain<br>Weight: 301g (ac-group & spacers) | 11T Top Gear | Steel/Chromica Finish | Sprocket Combination<br>**ac** 11 13 15 18 21 24 28 |
| HG Chain<br>**CN-HG70** | Compatibility: Shimano Total Integration<br>Size: 1/2" x 3/32"<br>Weight: 335g (114 links) | Narrow HG Chain<br>Chromized Pins<br>Bushingless Design<br>Reinforced Connecting Pins | Roller Links: Steel/Gray Finish<br>Pin Links: Steel/Black Finish | |
| SPD Compatible Pedal<br>**PD-M323** | Compatibility: SPD Cleat System<br>Mounting Thread: BC9/16" x 20T.P.I.<br>Weight: 520g (pair) | One Sided SPD Binding<br>Cleat Retention Adjuster<br>Cleat Retention Indicator<br>Sealed Mechanism | Body: Aluminum/Polished<br>Plate: Steel/Paint<br>Axle: Cr-Mo Steel | One side for SPD cleats, one side for cleatless shoes. |

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Pedal<br>**PD-M550** | Mounting Thread 9/16" x 20T P.I.<br>Weight 326g (pair) | 30° Ground Clearance<br>Super Low Profile Design<br>Parallelogram Form<br>Sealed Mechanism<br>Toe Clip/Reflector Mounts | Body Resin<br>Plate Steel<br>Axle Cr-Mo Steel<br>Toe Clip Resin | |
| Chain Deflector<br>**DF-M730** | Weight 9g | Aerodynamic Style<br>Prevents chain from jamming between tire and chainstay | Resin | |
| Cartridge Head Set<br>**HP-MC30**<br>(English/Italian, JIS, ISO)<br>**HP-MC31** (1-1/8") | Stack Height 37.6mm | Cartridge Type Bearing<br>Sealed Mechanism | Locknut Steel/Chromica Finish<br>Upper Housing Steel/Chromica Finish & Resin<br>Lower Housing Steel/Chromica Finish<br>Ball Race Steel | |

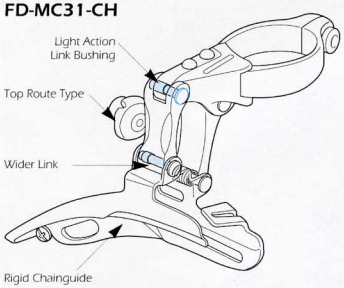
Rapidfire Plus
**ST-MC31-CH**



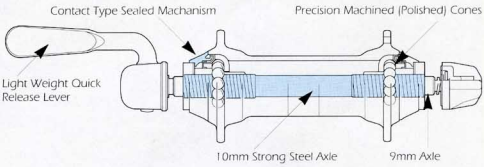

Rear Derailleur
**RD-MC31-CH**



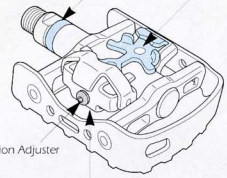

Front Derailleur
**FD-MC31-CH**



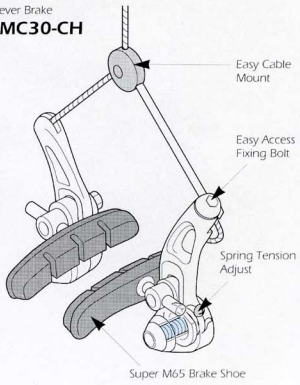

Front Hub
**HB-MC31-CH**

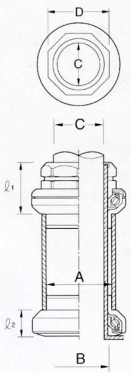



SPD Compatible Pedal
**PD-M323**




Cantilever Brake
**BR-MC30-CH**

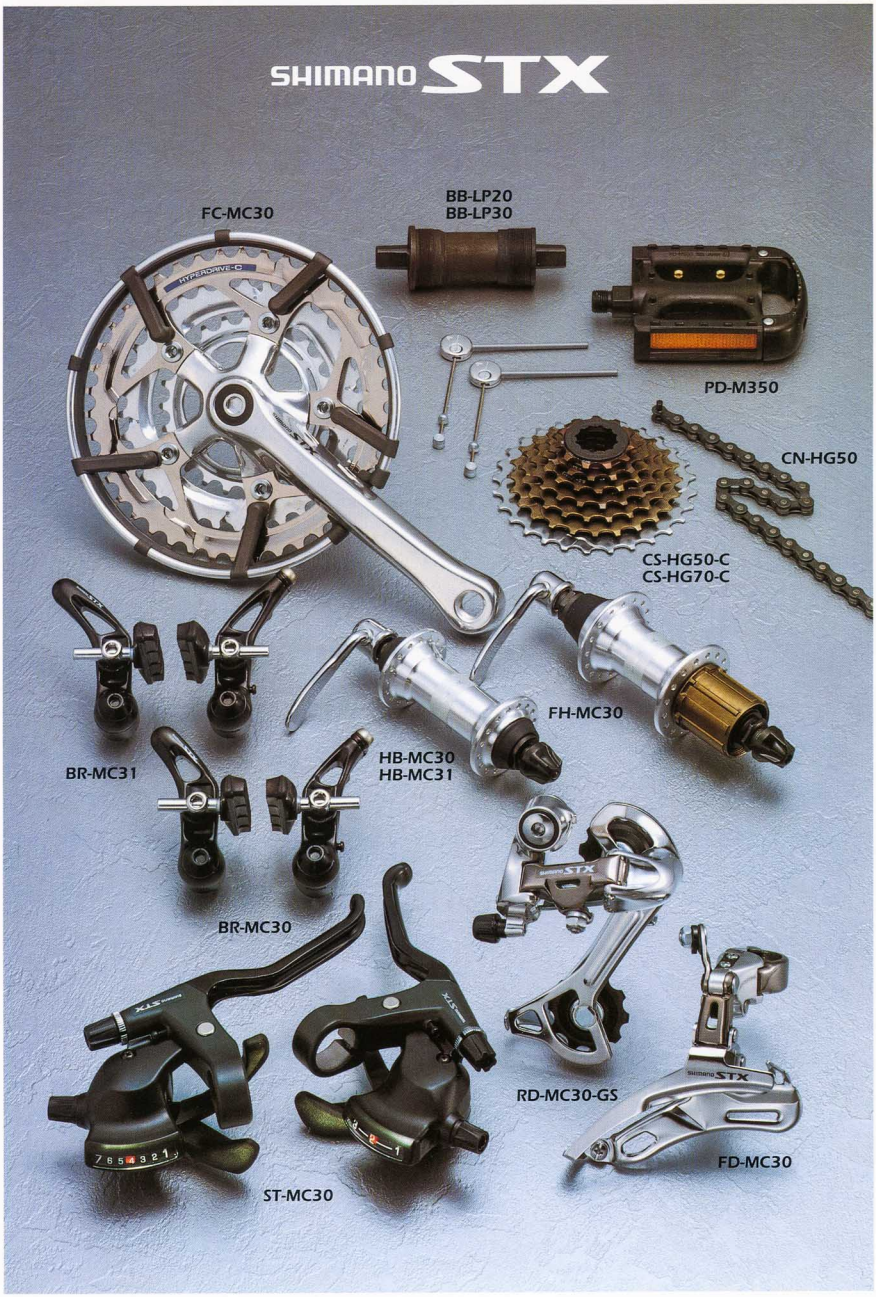



Cartridge Head Set
**HP-MC30**
**HP-MC31**

**Variation & Dimentions**

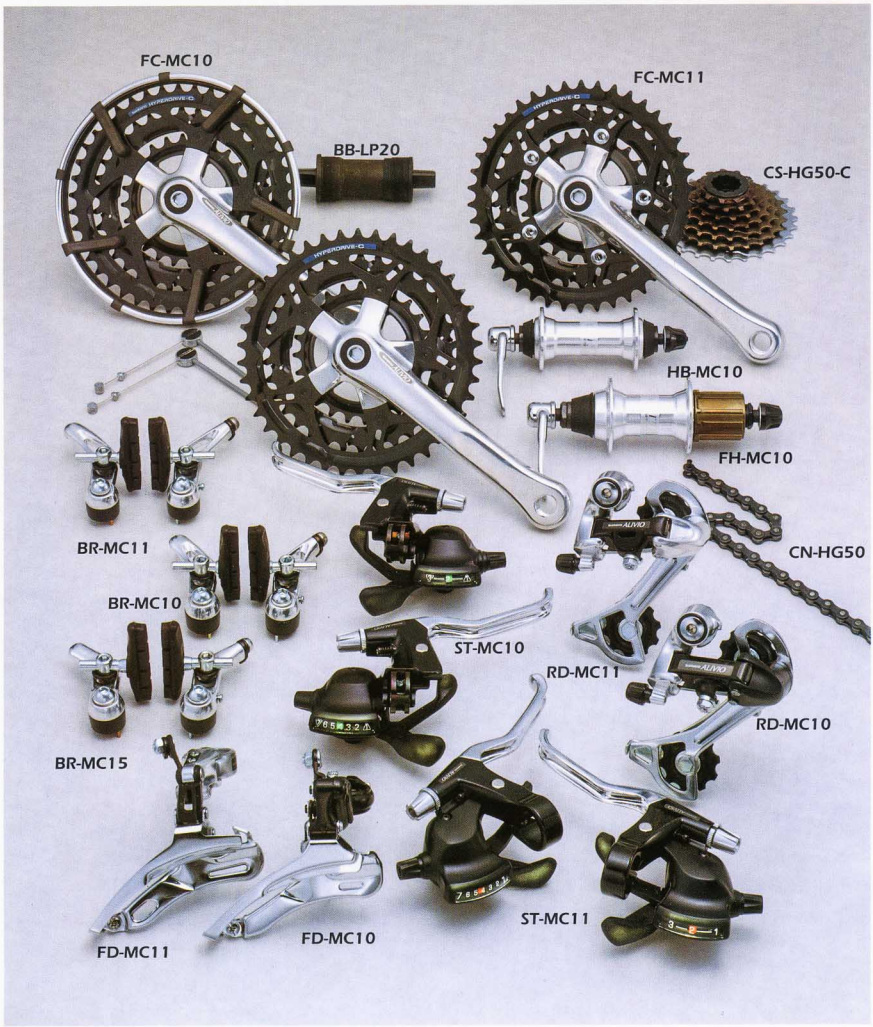
| Model No. | HP-MC30 | HP-MC31 |
|---|---|---|
| Thread | BC1"x24T.P.I. | BC1-1/8"x26T.P.I. |
| A | 30.2 mm/30.0mm(JIS) | 34.0 mm |
| B | 26.4 mm/27.0mm(JIS) | 30.0 mm |
| C | 22.3 mm | 25.5 mm |
| D | 32.0 mm | 36.0 mm |
| l1 | 24.1mm | 24.1 mm |
| l2 | 13.5mm | 13.5 mm |


SHIMANO STX
FC-MC30
BB-LP20
BB-LP30
PD-M350
CN-HG50
CS-HG50-C
CS-HG70-C
FH-MC30
HB-MC30
HB-MC31
BR-MC31
BR-MC30
RD-MC30-GS
FD-MC30
ST-MC30

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-MC30**<br>(long cage) | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>7-speed SIS<br>Max. Sprocket: 28T<br>Min. Sprocket: 11T<br>F/Difference: 18T or less<br>Total Capacity: 35T<br>Weight: 266g | Low Profile Design<br>Light Action Guide Spring<br>Sintered Alloy Guide Pulley Bushing<br>Double Servo-Pantagraph<br>Centeron Guide Pulley<br>Double Spoke Barrier<br>Sealed Mechanism<br>B-tension Adjust Bolt<br>Chain Retainer | Bracket Body: Aluminum/Barrel Finish<br>Plate Body: Aluminum/Barrel Finish<br>Right Link: Steel/Chromica Finish<br>Left Link: Steel/Zinc Plated<br>Plate: Steel/Chrome Plated | |
| Front Derailleur<br>**FD-MC30** | Compatibility: Shimano Total Integration<br>Dual SIS<br>Advanced Light Action<br>Shimano HyperDrive-C<br>Narrow Chain<br>Top-Low Max. Capacity: 22T<br>Top-Middle Min. Capacity: 8T<br>Top Gear Teeth: 42T only<br>Clamp Dia.: 28.0-28.6/31.8mm<br>Weight: 127g (bottom route type) | Light Action Link Bushing<br>Wider Link<br>Rigid Chainguide<br>Pro-Set Gauge & Block<br>Trailing Action Pantagraph | F/Band: Steel/Chromica Finish<br>R/Band: Aluminum/Barrel Finish<br>Right Link: Steel/Chromica Finish<br>Chain Guide: Steel/Chrome Plated | Top route type available<br>Set Chainstay Angle from 63° to 69° |
| Rapidfire Plus Lever Set<br>**ST-MC30**<br>(2.5-finger lever) | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>Dual SIS (7-rear, 3-front)<br>M-System Brakes<br>Clamp Dia.: 22.2mm<br>Weight: 385g (pair) | Optical Gear Display Below-Bar Sliding Type<br>Micro-Adjust Brake Lever Reach Adjuster<br>Brake Lever Cable Adjuster<br>Shifting Lever Digital Cable Adjuster<br>Dual Repeat Function<br>Anatomic Contour | Bracket: Aluminum/Painted<br>Brake Lever: Aluminum/Anodized | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides.<br>Handle bar grip thickness should be less than 5mm. |
| Cantilever Brake<br>**BR-MC30** (M-size)<br>**BR-MC31** (L-size) | Compatibility: Shimano Total Integration<br>M-System Brakes<br>Weight: 338g<br>(BR-MC30-CH/F&R set)<br>10g (unit link) | Super M65 Type Brake Shoe<br>Unit Link Dynamic Type<br>Easy Access Fixing Bolt<br>Low Profile Design | Aluminum/Painted | Use with Rapidfire Plus or M-System brake lever and M-System outer casing. |
| Front Chainwheel<br>**FC-MC30**<br>(SG-X gear triple/<br>low profile type) | Compatibility: Shimano Total Integration<br>Shimano HyperDrive-C<br>Dual SIS<br>Narrow Chain<br>Gearing: 42-34-24T<br>Bolt Circle Dia.: 95mm (top/middle)<br>58mm (inner)<br>Crank Length: 170/175mm | Low Profile Design<br>Shimano SG-X Gear<br>Cap-Less Crank Arm | Crank - Chainring: Aluminum/Polished<br>Steel/Chromica Finish (top)<br>Steel/Pearl Bright (middle, low) | Bolt-on chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-LP30**<br>**BB-LP20** | Chain Line: 47.5mm / 50.0mm<br>Spindle Length: 110.5mm / 113mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: MM110 / LL113<br>Weight: 341g (BB-LP20, 113mm) | Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | **BB-LP30**: Steel/Pearl Bright Finish<br>**BB-LP20**: Steel/Black Finish | Shell Width: 68 / 70 / 73<br>Thread: BCI 37 / M36 / BCI 37 |
| Freehub<br>**FH-MC30** | Compatibility: Shimano Total Integration<br>7-speed HG<br>HG-C Cassette<br>Over Locknut: 130mm, 135mm<br>Axle Length: Quick Release: 141mm, 146mm; Nut: 180mm, 185mm<br>Axle Dia.: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Weight: 449g | Parallax Hub<br>Smoother Rotation<br>11T Gear Compatible<br>Contact Sealing<br>Uni-Balance System<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | |
| Front Hub<br>**HB-MC31**<br>**HB-MC30** | Over Locknut: 100mm<br>Axle Length: 108mm (Quick Release)<br>140mm (Nut)<br>Axle Dia.: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release (HB-MC31)<br>Quick Release/Nut (HB-MC30)<br>Weight: 234g (HB-MC30) | Parallax Hub<br>Smoother Rotation<br>Contact Sealing<br>Strong Steel Axle (HB-MC31/option)<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | HB-MC31 is quick Release type only.<br>HB-MC31 offers increased strength through a 10mm diameter axle. Axle ends are 9mm so it will still in standard 9mm fork ends. |
| Cassette Sprocket<br>**CS-HG70-C**<br>(7-speed HG)<br>**CS-HG50-C**<br>(7-speed HG) | Compatibility: Shimano Total Integration<br>Shimano HyperDrive-C<br>7-speed HG<br>HG-C Cassette<br>Narrow Chain<br>Weight: 299g<br>(CS-HG70-C/<br>ac-group & spacers) | 11T Top Gear | **CS-HG70-C**: Steel/Pearl Bright Finish<br>**CS-HG50-C**: Steel/Brown Finish<br>(pearl bright low) | Sprocket Combination<br>**ac**: 11 13 15 18 21 24 28 |
| HG Chain<br>**CN-HG50** | Compatibility: Shimano Total Integration<br>Size: 1/2" x 3/32"<br>Weight: 335g (114 links) | Narrow HG Chain<br>Chromized Pins<br>Bushingless Design<br>Reinforced Connecting Pins | Roller Links: Steel/Black Finish<br>Pin Links: Steel/Black Finish | |
| Pedal<br>**PD-M350** | MTB Type<br>Mounting Thread: 9/16" x 20T P.I.<br>Toe Clip: 2-Screw mount<br>Weight: 445g (pair) | 26° Ground Clearance<br>Low Profile Design<br>Sealed Mechanism<br>Toe Clip/Reflector Mounts | Body: Resin<br>Plate: Steel/Painted<br>Axle: Cr-Mo Steel | |

# SHIMANO *ALIVIO*

New for 1994, the Alivio group is available in two configurations, the standard group or high-line variation which features high-tech gray chainwheels and rubber cup sealing on the hubs. A great cost-performance value, Alivio delivers the full range of new Shimano functions for 1994 including Optical Gear Display and Parallax hubs. Alivio brings great value and performance to the economically priced entry-level mountain bike.



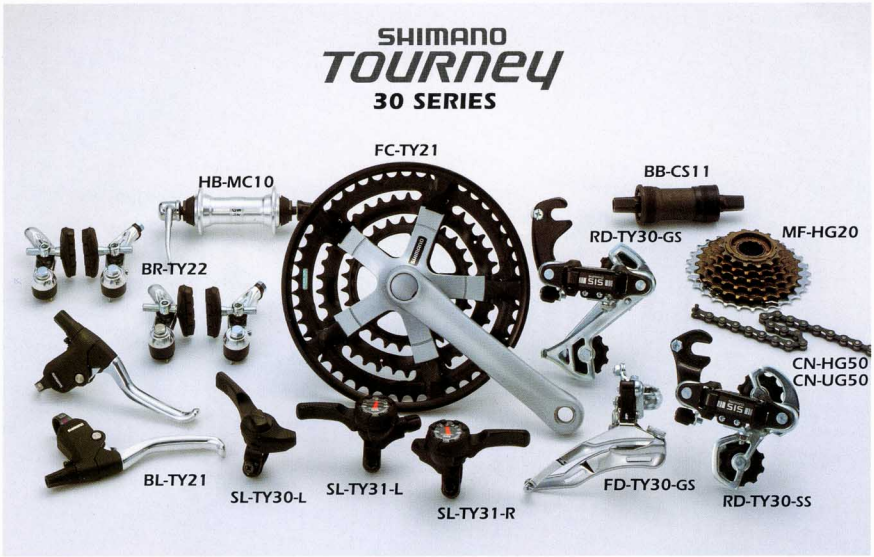
| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-MC11**<br>(long cage)<br>**RD-MC10**<br>(long cage) | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>7-speed SIS<br>Max. Sprocket: 28T<br>Min. Sprocket: 11T<br>F/Difference: 18T or less<br>Total Capacity: 35T<br>Weight: 261g (RD-MC10) | Low Profile Design<br>Light Action Guide Spring<br>Sintered Alloy Guide Pulley Bushing<br>Double Servo-Pantalograph<br>Centeron Guide Pulley<br>Double Spoke Barrier<br>Sealed Mechanism<br>B-tension Adjust Bolt<br>Chain Retainer | Bracket Body: Aluminum/Barrel Finish<br>Plate Body: Aluminum/Barrel Finish (RD-MC11)<br>Resin (RD-MC10)<br>Right Link: Steel/Painted<br>Left Link: Steel/Zinc Plated<br>Plate: Steel/Chrome Plated | |
| Front Derailleur<br>**FD-MC11**<br>**FD-MC10** | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>Dual SIS<br>Shimano HyperDrive-C<br>Narrow Chain<br>Top-Low Max. Capacity: 22T<br>Top-Middle Min. Capacity: 8T<br>Top Gear Teeth: 42T only<br>Clamp Dia.: 28.0-28.6/31.8mm (FD-MC11)<br>28.0-28.6mm (FD-MC10)<br>Weight: 163g (FD-MC10) | Light Action Mechanism<br>Wider Link<br>Rigid Chainguide<br>ProSet Guage & Block<br>Trailing Action Pantagraph | F/Band: Steel/Pearl Bright (FD-MC11)<br>Steel/Painted (FD-MC10)<br>R/Band: Aluminum/Barrel Finish (FD-MC11)<br>Steel/Painted (FD-MC10)<br>Right Link: Steel/Painted (FD-MC11)<br>Steel & Resin/Zinc Plated (FD-MC10)<br>Chainguide: Steel/Chrome Plated | Top route type available (FD-MC11 only)<br>Set chainstay angle 66° to 69° (FD-MC10)<br>FD-MC11 is available in 2 versions. One for use with 66° ~ 69° chainstay angles and one for 63° ~ 66° chainstay angles. |
| Rapidfire Plus Lever Set<br>**ST-MC11**<br>(2.5-finger lever)<br>Rapidfire L Lever Set<br>**ST-MC10**<br>(2.5-finger lever) | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>Dual SIS (7-rear, 3-front)<br>M-System Brakes<br>Clamp Dia.: 22.2mm<br>Weight: 416g (ST-MC10,pair) | Optical Gear Display Below-Bar<br>Sliding Type<br>Micro-Adjust Brake Lever Reach Adjuster<br>Brake Lever Cable Adjuster<br>Shifting Lever Digital Cable Adjuster<br>Dual Repeat Function<br>Anatomic Contour | Bracket: Aluminum/Painted<br>Brake Lever: Aluminum/Barrel Finish | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides. Handle bar grip thickness should be less than 5mm. |
| Cantilever Brake<br>**BR-MC10** (M-size)<br>**BR-MC11** (L-size)<br>**BR-MC15** (S-size) | Compatibility: Shimano Total Integration<br>M-System Brakes<br>Weight: 368g (BR-MC10/F&R set)<br>12g (unit link) | Super MC5 Type Brake Shoe (except BR-MC15)<br>Unit Link Dynamic Type<br>Easy Access Fixing Bolt<br>Low Profile Design | Aluminum/Barrel Finish | Use with Rapidfire Plus or M-System brake lever and M-System outer casing. |
| Front Chainwheel<br>**FC-MC11**<br>(SG-X gear triple/ low profile type)<br>**FC-MC10**<br>(SG-X gear triple/ low profile type) | Compatibility: Shimano Total Integration<br>Shimano HyperDrive-C<br>Dual SIS<br>Narrow Chain<br>Gearing: 42-34-24T<br>Bolt Circle Dia. (FC-MC11): 95mm (top/middle) 58mm (inner)<br>Crank Length: 170/175mm<br>Weight: 843g (FC-MC10,170mm) | Low Profile Design<br>Shimano SG-X Gear<br>Cap-Less Crank Arm | Crank: Aluminum/Polished<br>Chainring: Steel/Painted | Bolt-on chain guard type available. FC-MC10's chainrings are riveted. |
| Sealed Cartridge Bottom Bracket<br>**BB-LP30**<br>**BB-LP20** | Chain Line: 47.5mm / 50.0mm<br>Spindle Length: 110.5mm / 113mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: MM110 / LL113<br>Weight: 341g (BB-LP20, 113mm) | Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | **BB-LP30**<br>**BB-LP20**: Steel/Pearl Bright Finish, Steel/Black Finish | Shell Width: 68, 70, 73<br>Thread: BC1.37, M36, BC1.37 |
| Freehub<br>**FH-MC10** | Compatibility: Shimano Total Integration<br>7-speed HG<br>HG-C Cassette<br>Over Locknut: 130mm / 135mm<br>Axle Length: Quick Release: 141mm / 146mm; Nut: 180mm / 185mm<br>Axle Dia.: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Weight: 445g | Parallax Hub<br>11T Gear Compatible<br>Contact Sealing (option)<br>Uni-Balance System<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | |
| Front Hub<br>**HB-MC10** | Over Locknut: 100mm<br>Axle Length: 108mm (Quick Release) 140mm (Nut)<br>Axle Dia.: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release/Nut<br>Weight: 221g | Parallax Hub<br>Contact Sealing (option)<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | |
| Cassette Sprocket<br>**CS-HG70-C**<br>(7-speed HG)<br>**CS-HG50-C**<br>(7-speed HG) | Compatibility: Shimano Total Integration<br>Shimano HyperDrive-C<br>7-speed HG<br>HG-C Cassette<br>Narrow Chain<br>Weight: 299g<br>(CS-HG70-C/ ac-group & spacers) | 11T Top Gear | **CS-HG70-C**<br>**CS-HG50-C**: Steel/Pearl Bright Finish, Steel/Brown Finish (pearl bright low) | Sprocket Combination<br>**ac**: 11 13 15 18 21 24 28 |
| HG Chain<br>**CN-HG70**<br>**CN-HG50**<br>UG Chain<br>**CN-UG50** | Compatibility: Shimano Total Integration<br>Size: 1/2" x 3/32"<br>Weight: 335g<br>(CN-HG70/114 links) | Narrow HG Chain (CN-HG70/HG50)<br>Narrow UG Chain (CN-UG50)<br>Chromized Pins<br>Bushingless Design<br>Reinforced Connecting Pins (CN-HG70/HG50) | **CN-HG70**: Roller Links: Steel/Gray Finish; Pin Links: Steel/Black Finish<br>**CN-HG50**: Roller links: Steel/Black Finish; Pin links: Steel/Black Finish<br>**CN-UG50**: Roller links: Steel/Black Finish; Pin links: Steel/Black Finish | |
| Head Set<br>**HP-R500**<br>**HP-R501** (1-1/8") | Upper Stack: 22.0mm<br>Lower Stack: 11.5mm<br>Weight: 121g (HP-R500)<br>Variation:<br>Model: HP-R500 — Type: English/Italian, JIS, French; Thread: BC1" x 24T.P.I, BC1" x 24T.P.I, M25 x P1.0; Race Diameter Upper: 30.2mm, 30.0mm, 30.2mm; Lower: 26.4mm, 27.0mm, 26.4mm<br>HP-R501 — Type: 1-1/8"; Thread: BC1-1/8" x 26T.P.I; Race Diameter Upper: 34.0mm; Lower: 30.0mm | Sealed Mechanism | Locknut: Steel/Pearl Bright<br>Upper Cup: Steel<br>Lower Cup: Resin/Steel<br>Colors: White/Silver/Black (HP-R500)<br>Black (HP-R501) | |




| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-CT50**<br>(long cage) | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>6-speed SIS<br>Max. Sprocket: 28T<br>Min. Sprocket: 14T<br>R/Difference: 20T or less<br>Total Capacity: 34T<br>Weight: 339g | Light Action Guide Spring<br>Servo-Pantagraph<br>Double Spoke Barrier<br>Sealed Mechanism<br>Chain Retainer | Bracket Body: Steel/Painted<br>Plate Body: Steel/Painted<br>Right Link: Steel & Resin<br>Left Link: Steel/Painted<br>Plate: Steel/Zinc Plated | Direct dropout or hanger mount type available. |
| Front Derailleur<br>**FD-CT50** | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>Dual SIS<br>Narrow Chain<br>Top-Low Max. Capacity: 22T<br>Top-Middle-Min. Capacity: 10T<br>Top-Gear Teeth: 48T<br>Clamp Dia.: 28.0-28.6mm<br>Weight: 164g | Light Action Mechanism<br>Rigid Chainguide<br>Pro-Set Gauge & Block<br>Trapease Mechanism | F/Band: Steel/Painted<br>R/Band: Steel/Painted<br>Right Link: Steel/Painted & Resin<br>Chainguide: Steel/Chrome Plated | Set chainstay angle from 66° to 69°. |
| Rapidfire Uni-Lever<br>**ST-CT50** | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>Dual SIS (6-rear, 3-front)<br>Clamp Dia.: 22.2mm<br>Weight: 249g (pair) | Dual Repeat Function<br>Shifting Lever Digital Cable Adjuster | Bracket: Steel<br>Lever: Resin | For proper Dual SIS operation use with SIS outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides. |
| Shifting Lever<br>**SL-CT50** | Compatibility: Shimano Total Integration<br>Advanced Light Action<br>Dual SIS (6-rear, 3-front)<br>Clamp Dia.: 22.2mm | Optical Gear Display Rotating Type<br>Shifting Lever Digital Cable Adjuster | Bracket: Steel/Painted<br>Lever: Resin | For proper Dual SIS operation use with SIS outer casing and SM-SP16 or SM-SP15 shift cable guides. |
| Cantilever Brake<br>**BR-CT50** (M-size)<br>**BR-CT51** (L-size) | Compatibility: Shimano Total Integration<br>M-System Brakes<br>Weight: 366g (BR-CT50, F&R set)<br>12g (unit link) | Unit Link Alignment Type<br>Easy Access Fixing Bolt<br>Low Profile Design | Aluminum/Barrel Finish | Use with M-System brake lever and M-System outer casing. |
| Brake Lever<br>**BL-CT50**<br>(2.5 finger lever) | Compatibility: M-System Brakes<br>Clamp Dia.: 22.2mm | Cable Adjuster<br>Stroke Adjuster | Bracket: Steel & Resin<br>Lever: Aluminum/Barrel Finish | Use with M-System cantilever brake and M-System outer casing. |
| Front Chainwheel<br>**FC-CT50**<br>(SG-X gear triple) | Compatibility: Shimano Total Integration<br>Dual SIS<br>Narrow Chain<br>Gearing: 48-38-28T<br>Crank Length: 170mm<br>Weight: 940g | Shimano SG-X Gear | Crank: Aluminum/Painted<br>Chainring: Steel/Painted | Bolt-on chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-CS11** | Chain Line: 47.5mm<br>Spindle Length: 122.5mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: D-NL<br>Weight: 387g (122.5mm) | Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | Steel | Shell Width / Thread<br>68 / BC1.37<br>70 / M36<br>73 / BC1.37 |
| Multiple Freewheel<br>**MF-HG20** | Compatibility: Shimano Total Integration<br>6-speed HG<br>Narrow Chain<br>Weight: 460g (7 group & spacers) | HG Gear | Steel/Brown Finish<br>(silver finish low) | Sprocket Combination<br>X: 14 16 18 20 22 24T<br>Y: 14 16 18 21 24 28T |

Please see page 31 for additional specifications.

# SHIMANO TOURNEY 30 SERIES




| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-TY30-GS**<br>(long cage)<br>**RD-TY30-SS**<br>(short cage) | Compatibility: Shimano Total Integration, Advanced Light Action, 6-speed SIS<br>Max. Sprocket: 28T (GS, SS)<br>Min. Sprocket: 14T (GS) 12T (SS)<br>F/Difference: 20T or less (GS) 13T or less (SS)<br>Total Capacity: 34T (GS) 28T (SS) | Light Action Guide Spring<br>Servo-Pantagraph<br>Double Spoke Barrier<br>Sealed Mechanism | Bracket Body: Steel/Zinc Plated<br>Plate Body: Steel/Zinc Plated<br>Right Link: Steel & Resin<br>Left Link: Steel/Zinc Plated<br>Plate: Steel/Zinc Plated | Direct dropout or hanger mount type available. |
| Front Derailleur<br>**FD-TY30-GS** | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS, Narrow Chain<br>Top-Low Max. Capacity: 22T<br>Top-Middle Min. Capacity: 10T<br>Top-Gear Teeth: 48T<br>Clamp Dia: 28.0-28.6mm | Light Action Mchanism<br>Rigid Chainguide<br>Pro-Set Gauge & Block<br>Trapease Mechanism | F/Band: Steel/Zinc Plated<br>R/Band: Steel/Zinc Plated<br>Right Link: Steel & Resin/Zinc Plated<br>Chainguide: Steel/Chrome Plated | Set chainstay angle from 66° to 69° |
| Shifting Lever<br>**SL-TY31-R/L**<br>**SL-TY30-L** | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS (SL-TY31-R/L) 6-rear, 3-front)<br>Clamp Dia: 22.2mm | Optical Gear Display, Rotating Type (without SL-TY30-L)<br>Anatomical Form<br>Shifting Lever Digital Cable Adjuster (SL-TY31-L) | Bracket: Steel/Painted<br>Lever: Resin | For proper Dual SIS operation use with SIS outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides.<br>SL-TY30-L is friction type shifting lever for front derailleur. |
| Cantilever Brake<br>**BR-TY22** (M-size)<br>**BR-TY23** (L-size) | Compatibility: Shimano Total Integration, M-System Brakes | Unit-Link Alignment Type | Aluminum/Barrel Finish | Use with M-System brake lever and M-System outer casing. |
| Brake Lever<br>**BL-TY21**<br>(2.5 finger lever) | Compatibility: Shimano Total Integration, M-System Brakes | Cable Adjuster | Bracket: Steel & Resin<br>Lever: Aluminum/Barrel Finish | Use with M-System cantilever brakes and M-System outer casing. |
| Front Chainwheel<br>**FC-TY21**<br>(SG-X gear triple)<br>**FC-TY20**<br>(SG gear triple) | Compatibility: Shimano Total Integration, Dual SIS (FC-TY21), Narrow Chain<br>Crank Length: 170mm<br>Gearing: 48-38-28T<br>Crank Length: 170mm | Shimano SG-X Gear (FC-TY21)<br>Shimano SG Gear (FC-TY20) | Crank: Aluminum/Painted<br>Chainring: Steel | Chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-CS11** | Chain Line: 47.5mm<br>Spindle Length: 122.5mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: D-NIL<br>Weight: 387g (122.5mm) | Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | Steel | Shell Width: 68 — Thread: BC1.37<br>Shell Width: 70 — Thread: M36<br>Shell Width: 73 — Thread: BC1.37 |
| Multiple Freewheel<br>**MF-HG20** | Compatibility: Shimano Total Integration, 6-speed HG, Narrow Chain<br>Weight: 460g (Y-group & spacers) | HG Gear | Steel/Brown Finish (silver finish low) | Sprocket Combination<br>X: 14 16 18 20 22 24T<br>Y: 14 16 18 21 24 28T |

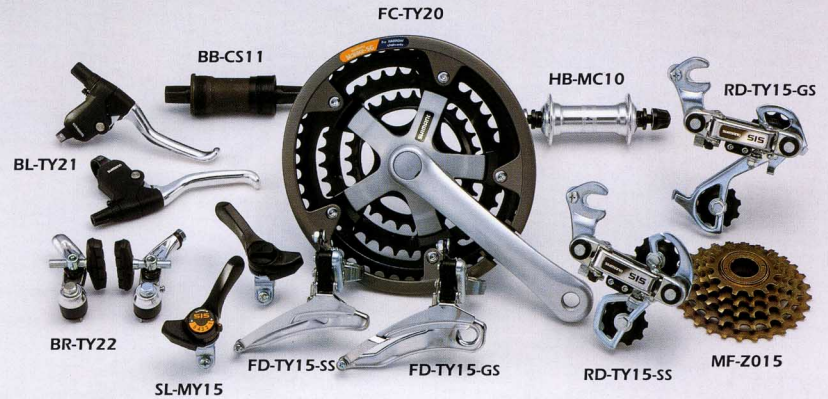
Please see page 31 for additional specifications.

# SHIMANO TOURNEY 20 SERIES




| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-TY20-GS**<br>(long cage)<br>**RD-TY20-SS**<br>(short cage) | Compatibility: 6-speed SIS<br>Max. Sprocket: 28T (SS/GS)<br>Min. Sprocket: 14T (SS GS)<br>F/D Difference: 20T or less (GS)<br>13T or less (SS)<br>Total Capacity: 34T (GS) 28T (SS)<br>Weight: 341g (GS), 317g (SS) | Servo-Pantagraph Mechanism<br>Double Spoke Barrier<br>Chain Retainer (GS) | Bracket Body: Steel/Zinc Plated<br>Plate Body: Steel/Zinc Plated<br>R/Link: Steel/Chrome Plated<br>L/Link: Steel/Zinc Plated | Direct dropout or hanger mount type available. |
| Front Derailleur<br>**FD-TY25-GS**<br>(long cage) | Compatibility: Narrow Chain<br>Capacity: 22T (Round SG)<br>20T (Biopace HP)<br>Clamp Dia: 28.0-28.6mm | Rigid Chain Guide<br>Trapeze Mechanism<br>Cable Stopper | F/Band: Steel/Zinc Plated<br>R/Band: Steel/Zinc Plated<br>R/Link: Steel/Painted & Resin<br>Chain Guide: Steel/Chrome Plated | |
| Shifting Lever<br>**SL-MY20** | Compatibility: 6-speed SIS<br>Clamp Dia: 22.2mm<br>Mount: Handle Bar | SIS/Friction Mode Switch<br>Anatomical Form | Band: Steel/Painted<br>Lever: High-Impact Resin | For proper SIS operation use with SIS outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides. |
| Cantilever Brake<br>**BR-TY22** (M-size)<br>**BR-TY23** (L-size) | Compatibility: Shimano Total Integration<br>M-System Brakes | Unit-Link Alignment Type | Aluminum/Barrel Finish | Use with M-System brake lever and M-System outer casing. |
| Brake Lever<br>**BL-TY21**<br>(2-5 finger lever) | Compatibility: Shimano Total Integration<br>M-System Brakes<br>Clamp Dia: 22.2mm | Cable Adjuster<br>Stroke Adjuster | Bracket: Steel & Resin<br>Lever: Aluminum/Barrel Finish | Use with M-System cantilever brakes and M-System outer casing. |
| Front Chainwheel<br>**FC-TY20**<br>(SG gear triple) | Compatibility: Narrow Chain<br>Crank Length: 170mm<br>Gearing: 48-38-28T (Biopace) | Shimano SG Gear | Crank: Aluminum/Painted<br>Chainring: Steel/Painted | Chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-CS11** | Chain Line: 47.5mm<br>Spindle Length: 122.5mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: D-NL<br>Weight: 387g (122.5mm) | Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | Steel | Shell Width: Thread<br>68: BCI 37<br>70: M36<br>73: BCI 37 |
| Front Hub<br>**HB-MC10** | Over Lockbolt: 100mm<br>Axle Length: 108mm (Quick Release)<br>140mm (Nut)<br>Axle Dia: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release/Nut<br>Weight: 221g | Parallax Hub<br>Smoother Rotation<br>Contact Sealing (option)<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | |
| Multiple Freewheel<br>**MF-HG20** | Compatibility: Shimano Total Integration<br>6-speed HG<br>Narrow Chain<br>Weight: 460g (6- group & spacers) | HG Gear | Steel/Brown Finish<br>(silver finish low) | Sprocket Combination<br>X: 14 16 18 20 22 24T<br>Y: 14 16 18 21 24 28T |

# SHIMANO TOURNEY
## 15 SERIES




| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-TY15-GS**<br>(long cage)<br>**RD-TY15-SS**<br>(short cage) | Compatibility: 5-speed SIS<br>Max. Sprocket: 28T (GS) 24-28T (SS)<br>Min. Sprocket: 14T (SS/GS)<br>F/Difference: 20T or less (GS) 13T or less (SS)<br>Total Capacity: 34T (GS) 28T (SS) | Servo-Pantagraph Mechanism<br>Double Spoke Barrier<br>Chain Retainer (GS) | Bracket Body: Steel/Zinc Plated<br>Plate Body: Steel/Zinc Plated<br>R/Link: Steel/Chrome Plated<br>L/Link: Steel/Zinc Plated | Hanger mount type only available. |
| Front Derailleur<br>**FD-TY15-GS**<br>(long cage)<br>**FD-TY15-SS**<br>(short cage) | Compatibility: Narrow Chain<br>Capacity: 14T (FD-TY15-SS) 20T (Bioface HP, FD-TY15-GS) 22T (round SG, FD-TY15-GS)<br>Clamp Dia: 28.0-28.6mm | Rigid Chain Guide<br>Trialpace Mechanism<br>Cable Stopper | F/Band: Steel/Zinc Plated<br>R/Band: Steel/Zinc Plated<br>R/Link: Steel/Paint & Resin<br>Chain Guide: Steel/Chrome Plated | |
| Shifting Lever<br>**SL-MY15** | Compatibility: 5-speed SIS<br>Clamp Dia: 22.2mm<br>Mount: Handle Bar | Anatomical Form<br>Gear Indicator (rear) | Bracket: Steel/Zinc Plated<br>Lever: High-Impact Resin | For proper SIS operation use with SIS outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides. |
| Cantilever Brake<br>**BR-TY22** (M-size)<br>**BR-TY23** (L-size) | Compatibility: Shimano Total Integration M-System Brakes | Unit-Link Alignment Type | Aluminum/Barrel Finish | Use with M-System brake lever and M-System outer casing. |
| Brake Lever<br>**BL-TY21**<br>(2.5 finger lever) | Compatibility: Shimano Total Integration M-System Brakes<br>Clamp Dia: 22.2mm | Cable Adjuster<br>Stroke Adjuster | Bracket: Steel & Resin<br>Lever: Aluminum/Barrel Finish | Use with M-System cantilever brakes and M-System outer casing. |
| Front Chainwheel<br>**FC-TY20**<br>(SG gear triple) | Compatibility: Narrow Chain<br>Crank Length: 170mm<br>Gearing: 46-38-28T (Bioface) | Shimano SG Gear | Crank: Aluminum/Painted<br>Chainring: Steel/Painted | Chain guard type available. |
| Sealed Cartridge Bottom Bracket<br>**BB-CS11** | Chain Line: 47.5mm<br>Spindle Length: 122.5mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: D-NL<br>Weight: 387g (122.5mm) | Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | Steel | Shell Width: 68, 70, 73<br>Thread: BC1.37, M36, BC1.37 |
| Front Hub<br>**HB-MC10** | Over Locknut: 100mm<br>Axle Length: 108mm (Quick Release) 114mm (Nut)<br>Axle Dia: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release/Nut<br>Weight: 221g | Parallax Hub<br>Smoother Rotation<br>Contact Sealing (option)<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | |
| Multiple Freewheel<br>**MF-Z015-5** | Compatibility: 5-speed HG For Narrow & Wide Chain (1/2"x 3/32") | Unglide Teeth | Steel/Brown Finish | Sprocket Combinations:<br>14-17-20-24-28T<br>14-17-19-21-24T |




*Designed especially for younger cyclists, the new MJ series brings Shimano quality and value to a wide range of children's bicycles that need shorter crank arms and smaller brake levers. There's no shortage of advanced functions either because MJ still gives you Parallax hubs, rear freehub, and dial-type Optical Gear Display on the Rapidfire L levers. Special Advanced Light Action shifting system was designed specifically for young cyclists in order to reduce shifting effort.*



ADVANCED LIGHT ACTION

SHIMANO M SYSTEM

DUAL SIS

PARALLAX HUB

SHIMANO HYPERDRIVE-C

HG HYPERGLIDE

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-MJ10-GS**<br>(long cage)<br>**RD-MJ10-SS**<br>(short cage) | Compatibility: Shimano Total Integration, Advanced Light Action, 6-speed SIS<br>Max. Sprocket: 28T (GS/SS)<br>Min. Sprocket: 12T (GS/SS)<br>F/Difference: 20T or less (GS), 13Tor less (SS)<br>Total Capacity: 34T (GS), 28T (SS)<br>Weight: 340g (GS) | Low Profile Design<br>Light Action Guide Spring<br>Servo-Pantagraph<br>Double Spoke Barrier<br>Sealed Mechanism<br>Chain Retainer (GS) | Bracket Body: Steel/Zinc Plated<br>Plate Body: Steel/Zinc Plated<br>Right Link: Steel & Resin<br>Left Link: Steel/Zinc Plated<br>Plate: Steel/Painted | |
| Front Derailleur<br>**FD-MJ10**<br>(for triple chainwheel) | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS, Shimano HyperDrive-C, Narrow Chain<br>Top-Low Max. Capacity: 18T<br>Top-Middle Min. Capacity: 8T<br>Top-Gear Teeth: 42T only<br>Clamp Dia: 28.0-28.6mm | Light Action Mechanism<br>Rigid Chainguide<br>Pro-Set Gauge & Block<br>Trailing Action Pantagraph<br>Trapese Mechanism | F/Band: Steel/Painted<br>R/Band: Steel/Painted<br>Right Link: Steel/Zinc Plated & Resin<br>Chain Guide: Steel/Chrome Plated | Set chainstay angle from 66° to 69° |
| Front Derailleur<br>**FD-MJ12**<br>(for double chainwheel) | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS, Shimano HyperDrive-C, Narrow Chain<br>Top-Low Max. Capacity: 14T<br>Top-Middle Min. Capacity: 10T<br>Top-Gear Teeth: 38T only<br>Clamp Dia: 28.0-28.6mm<br>Weight: 155g | Light Action Mechanism<br>Rigid Chainguide<br>Pro-Set Gauge & Block<br>Trapese Mechanism | F/Band: Steel/Painted<br>R/Band: Steel/Painted<br>Right Link: Steel/Zinc Plated & Resin<br>Chain Guide: Steel/Chrome Plated | Set chainstay angle from 68° to 73° |
| Rapidfire L Lever Set<br>**ST-MJ10-T**<br>(for triple front chainwheel)<br>**ST-MJ10-W**<br>(for double front chainwheel)<br>**ST-MJ10-R**<br>(for rear derailleur) | Compatibility: Shimano Total Integration, Advanced Light Action, Dual SIS (6-rear, 3 or 2-front), M-System Brakes<br>Clamp Dia: 19.1mm<br>Weight: 339g (ST-MJ10-T, pair) | Optical Gear Display Rotaly Type<br>Micro-Adjust Brake Lever Reach Adjuster<br>Shifting Lever Digital Cable Adjuster<br>Anatomical Contour | Bracket: Aluminum/Barrel Finish<br>Lever: Aluminum/Barrel Finish | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides. |
| Cantilever Brake<br>**BR-MJ10** | Compatibility: Shimano Total Integration, M-System Brakes<br>Weight: 374g (F & R set), 122g (unit link) | Unit Link Alignment type<br>Easy Access Fixing Bolt<br>Low Profile Design | Aluminum/Barrel Finish | Use with Rapidfire Plus or M-System brake lever and outer casing. |
| Brake Lever<br>**BL-MJ10** | Compatibility: Shimano Total Integration, M-System Brakes<br>Clamp Dia: 19.1mm | Cable Adjuster<br>Stroke Adjuster | Bracket: Aluminum/Painted<br>Lever: Aluminum/Barrel Finish | Use with M-System cantilever brakes and outer casing.<br>For 6-speed use with ST-MJ10 only. Left only. |
| Front Chainwheel<br>**FC-MJ10**<br>(SG-X gear triple)<br>**FC-MJ12**<br>(SG-X gear double) | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, Dual SIS, Narrow Chain<br>Chain Size: 1/2"× 3/32"<br>Gearing: 42-34-24T (FC-MJ10), 38-28T (FC-MJ12)<br>Crank Length: 150/160mm (FC-MJ10, FC-MJ12)<br>Pedal Thread: 9/16"X 20T.P.I.<br>Weight: 860g (FC-MJ10, 160mm) | Shimano SG-X Gear | **FC-MJ10**<br>Crank: Aluminum/Barrel Finish<br>Chainring: Steel/Painted<br>**FC-MJ12**<br>Crank: Aluminum/Barrel Finish<br>Chainring: Steel/Painted | Chain guard is standard equipment. |
| Sealed Cartridge Bottom Bracket<br>**BB-LP20** | Front Chainwheel / Chain Line / Spindle Length / Spindle Marking<br>FC-MJ10: 45.0mm / 110.5mm / MM110<br>FC-MJ12: 43.5mm / 110.5mm / MM110<br>Shell width: 68, 70 | Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | Steel/Black Finish | Shell Width / Thread<br>68 / BCI 37<br>70 / M36 |
| Freehub<br>**FH-MJ10** | Compatibility: Shimano Total Integration, 6-speed HG<br>Over Locknut: 126mm<br>Axle Length: 174mm<br>Axle Dia: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Mount: Nut<br>Weight: 409g | Parallax Hub<br>Uni-Balance System<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | |
| Front Hub<br>**HB-MJ10** | Over Locknut: 100mm<br>Axle Length: 140mm<br>Axle Dia: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Nut<br>Weight: 189g | Parallax Hub<br>One-Pieced Forged Hub Body | Aluminum/Machine Polished | |
| Cassette Sprocket<br>**CS-HG50-6** | Compatibility: Shimano Total Integration, Shimano HyperDrive-C, 6-speed HG, HG-C Cassette, Narrow Chain<br>Weight: 221g (ad-group & spacers) | | Steel/Brown Finish | Sprocket Combinations:<br>**ad** 12 14 16 18 21 24T |
| UG Chain<br>**CN-UG50** | Compatibility: Shimano Total Integration<br>Size: 1/2" × 3/32" | Narrow UG Chain | Roller links: Steel/Black Finish<br>Pin links: Steel/Black Finish | |



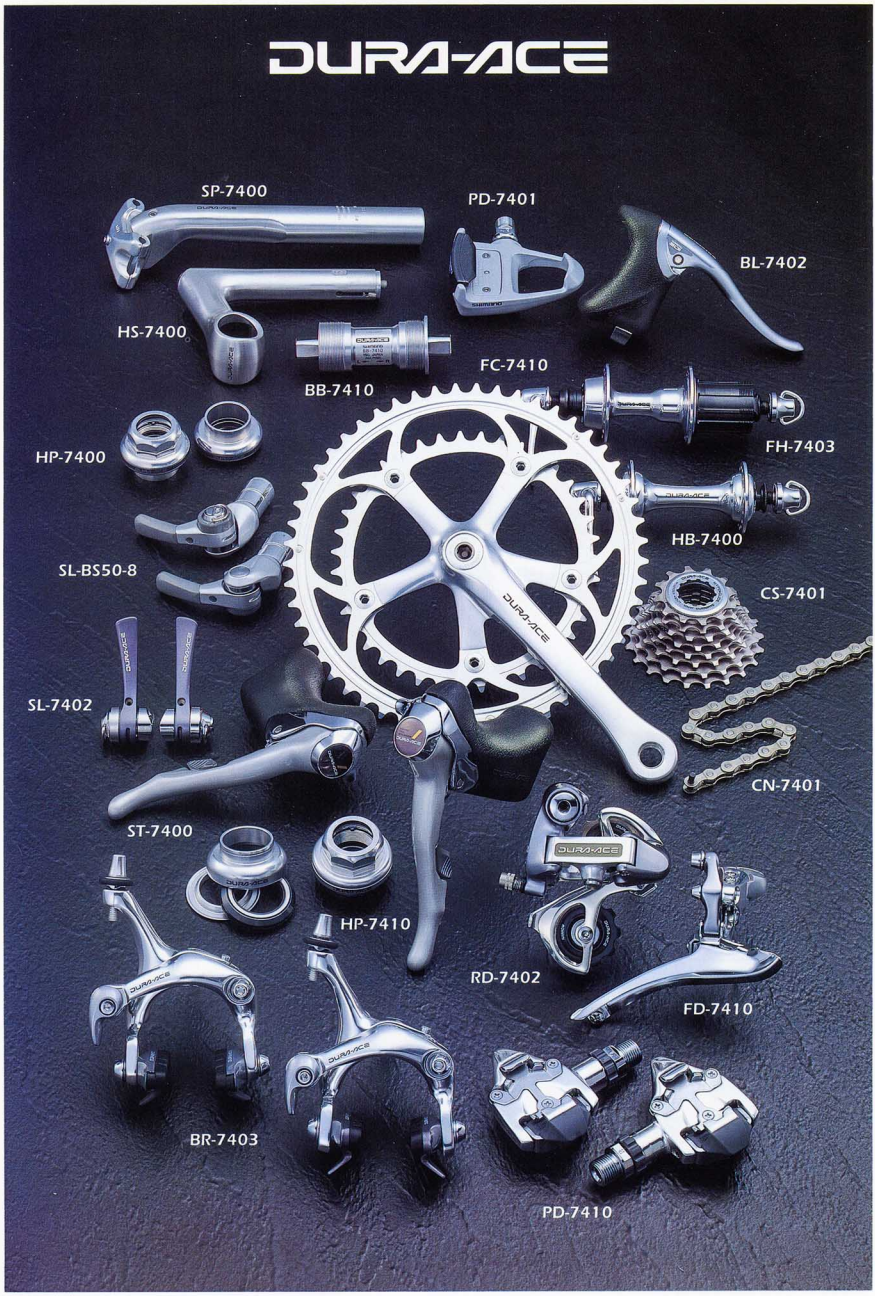

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-C700**<br>(long cage) | Compatibility 7-speed SIS<br>Max. Sprocket 27T<br>Min. Sprocket 11T<br>F/Difference 22T or less<br>Total Capacity 32T<br>Weight 250g | Adjustable Return Spring<br>Sintered Alloy Guide Pulley Bushing<br>Double Servo-Pantagraph<br>Centeron Guide Pulley<br>Double Spoke Barrier<br>Sealed Mechanism<br>B-tension Adjust Bolt<br>Chain Retainer | Bracket Body Aluminum/Paint<br>Plate Body Aluminum/Paint<br>Right Link Aluminum/Paint<br>Left Link Steel/Pearl Bright Finish | |
| Front Derailleur<br>**FD-C700**<br>(bottom route)<br>**FD-C701**<br>(top route) | Compatibility Shimano Hyper Drive-C<br>Dual SIS<br>Narrow Chain<br>Capacity 22T (round SG)<br>Clamp Dia 28.0mm-28.6mm<br>31.8mm/34.9mm<br>Weight 121g (FD-C700) | Rigid Chain Guide<br>New Trapease Mechanism<br>Pro-Set Guage & Block<br>Trailing Action Pantagraph | F/Band Aluminum/Paint<br>R/Band Aluminum/Paint<br>Right Link Aluminum/Paint<br>Chain Guide Steel/Chrome Plated | Set chainstay angle from 63 to 66° |
| Rapidfire Plus Lever Set<br>**ST-C070**<br>(2 5-finger lever) | Compatibility Dual SIS (7-rear, 3-front)<br>M-System Brakes<br>Clamp Dia 22.2mm<br>Weight 386g (pair) | Optical Gear Display Below-Bar Sliding Type<br>Dual Repeat Function<br>Digital Cable Adjuster<br>Light Action<br>Anatomical Form<br>Brake Lever Stroke Adjuster | Bracket Aluminum/Paint<br>Brake Lever Aluminum/Anodized | For proper M-System and Dual SIS operation use with M-system outer casing for brake lever and SIS-SP outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides. |
| Cantilever Brake<br>**BR-C700**<br>(S size)<br>**BR-C701**<br>(M size) | Compatibility M-System Brakes<br>Weight 336g (BR-C700 / F&R set)<br>10g (unit link) | Unit Link Dynamic Type<br>Rigid CAD Design<br>Sleeve Type Axle<br>Sealed Internal Spring<br>Easy Attach Cable<br>Spring Tension Adjust | Aluminum/Anodized | Use with Rapidfire or M-System brake lever and M-System outer casing. |
| Front Chainwheel<br>**FC-C700**<br>(SG-X gear triple/<br>low profile type)<br>**FC-C700-CG**<br>(SG-X gear triple/low profile type, w/chain guard) | Compatibility Shimano HyperDrive-C<br>Dual SIS<br>Narrow Chain<br>Crank Length 170mm/175mm<br>Gearing 42-32-20T<br>Bolt Circle 110/58mm<br>Weight 730g (170mm w/o chain guard) | Low Profile Design<br>Shimano SG-X Gear | Crank Aluminum/High Luster<br>Chainring Aluminum (top, middle)<br>Steel (low) | |
| Sealed Cartridge Bottom Bracket<br>**BB-UN71** | Chain Line: 45.0mm — Spindle Length: 113mm — Shell Width: 68, 70, 73 — Spindle Marking: LL113<br>Chain Line: 47.5mm — Spindle Length: 118mm — Shell Width: 68, 70, 73 — Spindle Marking: XL118<br>Weight 240g (113mm) | Lightweight Design<br>Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | | Shell Width: 68 — Thread: BC1.37<br>Shell Width: 70 — Thread: M36<br>Shell Width: 73 — Thread: BC1.37 |
| Free Hub<br>**FH-C070** | Compatibility 7-speed HG<br>HG Gears Only<br>Over Locknut 130mm<br>Axle Length 141mm<br>Axle Dia 10mm<br>Spoke Holes 36/32<br>Hole P.C.D. 45mm<br>Mount Quick Release<br>Weight 427g (Quick Release) | 11T Gear Compatible<br>Uni Balance Design<br>Contact Type Sealed Mechanism<br>One Piece Forged Hub Body | Aluminum/Anodized | |
| Front Hub<br>**HB-C700** | Over Locknut 100mm<br>Axle Length 108mm<br>Axle Dia 9mm<br>Spoke Holes 36/32<br>Hole P.C.D. 38mm<br>Mount Quick Release<br>Weight 228g | Contact Type Sealed Mechanism<br>One Piece Forged Hub Body | Aluminum/Anodized | |
| Cassette Sprockets<br>**CS-HG70-C** | Compatibility Shimano Hyper Drive-C<br>7-speed HG<br>HG-C Casette<br>Narrow Chain<br>Weight 183g | 11T Top Gear | Steel/Silver Finish | Sprocket Combinations<br>ab 11 12 13 14 15 17 19T |

Please see page 20 for additional specifications.




| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Rear Derailleur<br>**RD-C400**<br>(long cage) | Compatibility: 7-speed SIS<br>Max. Sprocket: 21T<br>Min. Sprocket: 11T<br>F/Difference: 22T or less<br>Total Capacity: 32T<br>Weight: 284g | Adjustable Return Spring<br>Sintered Alloy Guide Pulley Bushing<br>Double Servo-Pantagraph<br>Centeron Guide Pulley<br>Double Spoke Barrier<br>Sealed Mechanism<br>B-tension Adjust Bolt<br>Chain Retainer | Bracket Body: Aluminum/Barrel Finish<br>Right Link: Aluminum/Barrel Finish<br>Left Link: Steel/Zinc Plated<br>Plate Body: Aluminum/Barrel Finish | |
| Front Derailleur<br>**FD-C400**<br>(bottom route)<br>**FD-C401**<br>(top route) | Compatibility: Shimano Hyper Drive-C<br>Dual SIS<br>Narrow Chain<br>Capacity: 22T (round SG)<br>Clamp Dia: 28.0mm-28.6mm<br>31.8mm/34.9mm<br>Weight: 121g (FD-C400) | Rigid Chain Guide<br>New Trapease Mechanism<br>Pro-Set Guage & Block<br>Trailing Action Pantagraph | F/Band: Aluminum/Barrel Finish<br>R/Band: Aluminum/Barrel Finish<br>Right Link: Aluminum/Paint<br>Chain Guide: Steel/Chrome Plated | Set chainstay angle from 63° to 66°. |
| Rapidfire Plus Lever Set<br>**ST-C040**<br>(2 5-finger lever) | Compatibility: Dual SIS (7-rear, 3-front)<br>M-System Brakes<br>Clamp Dia: 22.2mm<br>Weight: 397g (pair) | Optical Gear Display Below-Bar Sliding Type<br>Dual Repeat Function<br>Digital Cable Adjust<br>Light Action Lever<br>Anatomical Form<br>Brake Lever Stroke Adjuster | Bracket: Aluminum/Paint<br>Brake Lever: Aluminum/High Luster | For proper M-System and Dual SIS operation use with M-System outer casing for brake lever and SIS-SP outer casing for shift lever, and SM-SP16 or SM-SP15 shift cable guides. |
| Cantilever Brake<br>**BR-C400**<br>(S size)<br>**BR-C401**<br>(M size) | Compatibility: M-Sysem Brakes<br>Weight: 350g (BR-C400 F&R set)<br>10g (Unit-Link) | Unit Link Dynamic Type<br>Rigid CAD Design<br>Sleeve Type Axle<br>Sealed Internal Spring<br>Easy-Attach Cable<br>Spring Tension Adjust | Aluminum/High Luster | Use with Rapidfire Plus or M-System brake lever and M-System outer casing. |
| Front Chainwheel<br>**FC-C400**<br>(SG-X gear triple/<br>low profile type) | Compatibility: Shimano Hyper Drive-C<br>Dual SIS<br>Narrow Chain<br>Crank Length: 170mm/175mm<br>Gearing: 42-32-20T<br>Bolt Circle: 110/58mm<br>Weight: 717g (170mm) | Low Profile Design<br>SG-X Gear | Crank: Aluminum/High Luster<br>Chainring: Aluminum (top, middle)<br>Steel (low) | |
| Sealed Cartridge Bottom Bracket<br>**BB-UN51** | Chain Line: 45.0mm / 47.5mm<br>Spindle Length: 113mm / 118mm<br>Shell Width: 68, 70, 73<br>Spindle Marking: LL113 / XL118<br>Weight: 316g (113mm) | Easy Assembly<br>Full Sealing<br>Extended Life<br>Maintenance Free<br>Light Weight Design | | Shell Width: 68 / 70 / 73<br>Thread: BCI 37 / M36 / BCI 37 |
| Free Hub<br>**FH-C040** | Compatibility: 7-speed HG<br>HG Gear Only<br>Over Locknut: 130mm<br>Axle Length: 141mm<br>Axle Dia: 10mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 45mm<br>Mount: Quick Release/Nut<br>Weight: 432g (7-speed OR) | 11T Gear Compatible<br>Uni Balance Design<br>Contact Type Sealed Mechanism<br>One Piece Forged Hub Body | Aluminum/Diamond Cut Finish | |
| Front Hub<br>**HB-C400** | Over Locknut: 100mm<br>Axle Length: 108mm/140mm<br>Axle Dia: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release/Nut<br>Weight: 228g | Contact Type Sealed Mechanism<br>One Piece Forged Hub Body | Aluminum/Diamond Cut Finish | |
| Cassette Sprockets<br>**CS-HG50-C** | Compatibility: Shimano Hyper Drive-C<br>7-speed HG<br>HG-C Cassette<br>Narrow Chain<br>Weight: 183g | 11T Top Gear | Steel/Brown Finish<br>(Silver Finish Low Gear) | Sprocket Combinations:<br>**ab** 11 12 13 14 15 17 19T |
| SPD Pedal<br>**PD-A525** | Compatibility: SPD Cleat System<br>One sided Binding<br>Mounting Thread: BC9/16"x 20T P.I.<br>Weight: 390g ( pair) | 31° Ground Clearance<br>Cartridge Axle<br>Cleat Retention Adjuster<br>Cleat Retention Indicator<br>Low Profile Design<br>Sealed Mechanism | Body Color: Aluminum/Painted<br>Axle: White or Silver<br>Binding: Cr-Mo Steel<br>Steel | |

Please see page 26 for additional specifications.


DURA-ACE
SP-7400
PD-7401
BL-7402
HS-7400
BB-7410
FC-7410
FH-7403
HP-7400
HB-7400
SL-BS50-8
CS-7401
SL-7402
CN-7401
ST-7400
HP-7410
RD-7402
FD-7410
BR-7403
PD-7410

# Designed to win, Dura-Ace continues to set new standards of performance.

Dura-Ace was developed with one goal in mind ... to win. Super-low profile crank, 8-speed HG freehub, hands-on STI levers, dual-pivot SLR brakes, SG-X chainrings, Dual SIS ... Each component and advanced function was designed to give the road racing cyclist that extra fraction of a second that separates the winners from everybody else. A new addition to Dura-Ace for 1994 is the HP-7410 cartridge bearing headset. Top racers around the world are proving that nothing beats Dura-Ace for quality and performance.

**Super-Low Profile Crank**
The FC-7410 super-low profile crankset uses a shorter axle and provides significantly more ankle clearance for increased pedaling stability and efficiency. Reinforcing ribs on the crank arms increase strength and rigidity with minimum weight. SG-X chain rings deliver fast and error-free front SIS shifting.



**SPD Road Racing Pedal**
Shimano Pedaling Dynamics PD-7410 pedal gives the road racer off bike mobility as well as clipless pedaling efficiency. Lightweight compact design provides a large 36° of ground clearance. Users can choose fixed or rotational-type cleats included with the pedal set.



**Cartridge Bearing Headset**
New HP-7410 cartridge bearing headset integrates cups, cones and bearings into a single cartridge unit. Precision bearings are pre-adjusted to run smoother. The headset is easier to install and lasts longer because it completely shuts out dirt, water, and mud.





DUAL SIS

Hands-on STI levers deliver instant error-free SIS shifting for both the rear and front derailleurs.

THE SHIMANO FREEHUB

8-speed freehub realizes a stronger rear wheel with the wider gear selection that top racers demand.

SUPER SLR SHIMANO LINEAR RESPONSE

Dual pivot brake caliper increases brake application power. Special coated low-friction pivot washers enhance lever response.

SHIMANO HYPERDRIVE

Shifting spikes on the large chain wheel enhance precision front SIS shifting for upgraded pedaling efficiency, especially during upshifts under high pedaling loads. Precision cartridge-type bottom bracket realizes smoother rotation with less friction.

HG HYPERGLIDE

HG sprockets use special teeth shapes, shift ramps and relational positioning that make SIS shifting almost instantaneous.

SPD SHIMANO PEDALING DYNAMICS

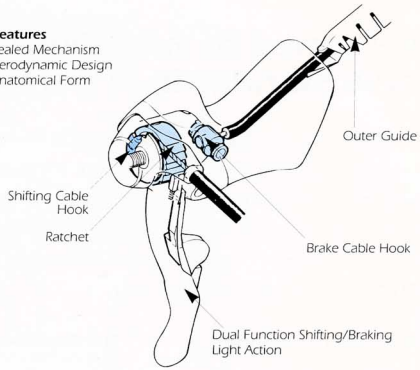
SPD (Shimano Pedaling Dynamics) PD-7410 pedal delivers clipless pedaling efficiency with off-bike mobility. Compact, lightweight design gives plenty of road clearance.

Dual Control Lever

## ST-7400

**Weight** 480g (pair)
**Compatibility** Shimano Total Integration
Dual SIS (8-rear, 2-front)
Super SLR (Shimano Linear Response)
**Bar Dia** 23.8-24.2mm
**Material & Finish** Aluminum/Chrome Plated (bracket)
Forged Aluminum/Painted (lever)
**Note** Use SIS-SP outer casing at shift lever and SIS sealed outer casing at rear derailleur.
Use ST-7400 lever set with BR-7403 caliper and SLR outer casing.

**Features**
Sealed Mechanism
Aerodynamic Design
Anatomical Form




Down tube Shift Lever

## SL-7402-F*CAI (8-speed SIS / brazed-on A type)

(*C Indicates 5mm mounting bolt.)

**Weight** 67g
**Compatibility** 8-speed SIS
**Features** SIS/Friction Mode Switch
Light Action Front Lever
Human Engineered Form
30° Offset Front Lever
Sealed SIS Outer Casing
**Mount** Down Tube
**Lever Clamp Dia** 28.6mm
**Material & Finish** Aluminum/Paint (lever)
**Note** Use with Shimano Dura-Ace rear derailleur, freehub, cassette sprockets, and SIS outer casing for top performance.

Bar End Shift Lever

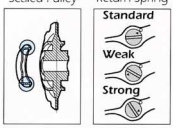
## SL-BS50-8

**Weight** 183g
**Compatibility** 8-speed SIS
**Features** SIS/Friction Mode Switch
Light Action Front Lever
Human Engineered Form
Sealed SIS-SP Outer Casing
**Mount** Bar End
**Bar Inner Dia** 19.0-22.0mm
**Material & Finish** Aluminum/Paint (lever)
**Note** For best SIS operation use with Shimano Dura-Ace rear derailleur, freehub, cassette sprockets, and Shimano SIS-SP outer casing.

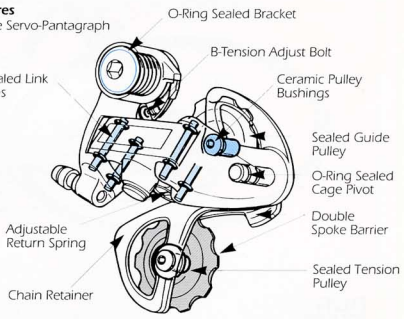
Rear Derailleur

## RD-7402

**Weight** 209g
**Compatibility** Shimano Total Integration
7/8-speed SIS
**Capacity** Max. Sprocket 26T
Min. Sprocket 12T
F/Difference 14T or less
Total Capacity 26T
**Material & Finish** Forged Aluminum/ Color Anodized (bracket & plate body)
Forged Aluminum/ Epoxy Inlay & Anodized (right link)
Forged Aluminum/Anodized (left link)
**Note** For use with narrow chain




**Features**
Double Servo-Pantagraph

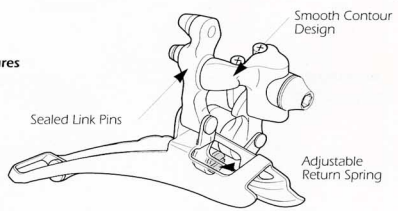



Front Derailleur

## FD-7410-B (band mount)
## FD-7410-F (braze-on mount)

**Weight** 97g (band mount)
**Compatibility** Shimano Total Integration
Dual SIS
Narrow Chain
**Capacity** 15T
**Clamp Dia** 28.0-28.6mm (band mount)
**Material & Finish** Forged Aluminum/Anodized (F&R bands / R&L links)
Steel/Chrome Plated (chain guide)

**Features**



Front Chainwheel

## FC-7410 (SG-X gear double / super low profile type)

**Features**




| | |
|---|---|
| **Weight** | 589g (53-39T/170mm) |
| **Compatibility** | Shimano Total Integration<br>Shimano HyperDrive<br>Dual SIS<br>Narrow Chain |
| **Gearing** | 53-42T/53-39T/52-42T (Shimano SG-X) |
| **Crank Lengths** | 165/167.5/170/172.5/175/177.5/180mm |
| **Material & Finish** | Forged Aluminum/Anodized (crank/chainring)<br>Titanium (crank fixing bolt)<br>Aluminum (crank cap / chainring fixing bolt & nut) |
| **Note** | Only use BB-7410 sealed cartridge bottom bracket with FC-7410 crank. |

Sealed Cartridge Bottom Bracket

## BB-7410

| | |
|---|---|
| **Weight** | 230g (103mm axle) |
| **Compatibility** | Super Low Profile Design Crank |
| **Features** | Easy Assembly<br>Extended Service Life<br>Maintenance Free<br>Lightweight Design<br>Full Sealing |
| **Material & Finish** | Nickel Cro-Mo Steel/Pearl Bright Plated (axle)<br>Aluminum / Titanium Color Anodized (R & L adapter) |

**Specifications**

| | |
|---|---|
| Chain Line | 43.5mm |
| Spindle Length | 103mm |
| Shell Width | 68 (BC) 70 (M36) |
| Spindle Marking | SS103 |

**Note** BB-7410 bottom bracket was designed only for use with FC-7410 crank set.

HG Chain

## CN-7401

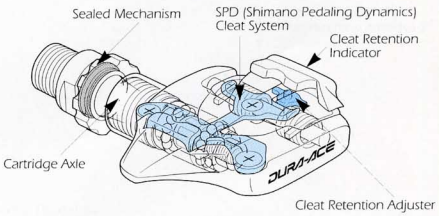
| | |
|---|---|
| **Compatibility** | Shimano Total Integration |
| **Feature** | Narrow HG Chain,<br>Chromized pins<br>Bushingless Design<br>Reinforced Connecting Pins |
| **Size** | 1/2" X 3/32" |
| **Material & Finish** | Steel/Nickel Finish (roller links ,pin links)<br>Cromizing Finish Pins |

SPD Pedal

## PD-7410

| | |
|---|---|
| **Weight** | 313g (pair) |
| **Mounting Thread** | BC 9/16" x 20T.P.I. |
| **Material & Finish** | Aluminum/Anodized Finish (body)<br>Cro-Mo Steel (axle) |
| **Note** | Choose from either fixed or rotating mount cleats.<br>Both types are included with each pedal set. |

**Features**
36° Ground Clearance
2 Cleat Type supplied
Low Profile Design




Clipless Pedal

## PD-7401

| | |
|---|---|
| **Weight** | 416g (pair)/92g (cleats & hardware) |
| **Compatibility** | Look® Cleats |
| **Features** | 34° Road Clearance<br>Compound Needle/Ball Bearings<br>Aerodynamic Design/No Dustcap<br>Sealed Mechanism/Adjustable Cleat Grip Tension |
| **Mounting Thread** | BC 9/16" x 20T.P.I. |
| **Material & Finish** | Forged Aluminum/Paint (body)<br>Nickel Cr-Mo Steel/Chrome Plated & Polished (axle) |

Bar Stem

## HS-7400

| | |
|---|---|
| **Weight** | 280g (100mm) |
| **Features** | Aerodynamic Form<br>Hexagon Release |
| **Extension** | 70/80/90/100/110/120/130mm |
| **Diameter** | 22.2mm |
| **Bar Clamp Dia** | 26.0mm |
| **Material & Finish** | Aluminum/Anodized |

Seat Post

## SP-7400-A (round)
## SP-7400-B (semi-oval)

| | |
|---|---|
| **Weight** | 224g (A-type)/244g (B-type) |
| **Features** | Aerodynamic Form/Hexagon Release |
| **A-Type Dia** | 25.0/25.8/26.4/26.6/26.8/27.0/27.2/27.4mm |
| **B-Type Dia** | 25.0/25.8/26.0/26.2/26.4/26.6/26.8/27.0<br>27.2/27.4mm |
| **Material & Finish** | Aluminum/Anodized |

Dual Pivot Brake

## BR-7403-49 (49mm reach)

| | |
|---|---|
| **Weight** | 432g (F&R set) |
| **Compatibility** | Shimano Total Integration<br>Super SLR (Shimano Linear Response) |
| **Features** | Thrust Bearing (Y-arm, C-arm)<br>Coated Pivot Washer (Y-arm, C-arm)<br>Click Eccentric Quick Release<br>Spring Adjust Pin<br>Centering Easy Adjust<br>Low Profile Brake Shoe |
| **Material & Finish** | Forged Aluminum/Anodized (caliper)<br>Aluminum/Color Anodized<br>(shoe holder & tire guide) |
| **Note** | BR-7403-49 must be used with<br>Shimano SLR outer casing. |

Brake Lever

## BL-7402 (Aero Type)

| | |
|---|---|
| **Weight** | 240g (pair) |
| **Compatibility** | SLR (Shimano Linear Response) |
| **Features** | Aerodynamic Design<br>Anatomical Form |
| **Clamp Dia** | 23.8-24.2mm |
| **Lever Stroke** | 88mm |
| **Material & Finish** | Aluminum/Anodized (lever)<br>Aluminum/Chrome Plated (bracket)<br>Soft Resin (hood) |
| **Color** | Black/White (hood) |
| **Note** | Use with SLR brake caliper and Shimano SLR outer<br>casing for top SLR performance.<br>Can be used with dual-pivot calipers. |

Front Hub

## HB-7400-F

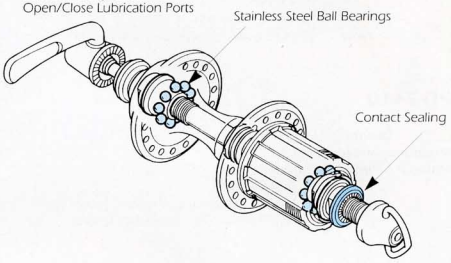
| | |
|---|---|
| **Weight** | 228g (w/QR) |
| **Features** | Stainless Steel Ball Bearings<br>Contact Sealing |
| **Over Lock Nut** | 100mm |
| **Axle Length** | 108mm |
| **Axle Dia** | 9mm |
| **Mount** | Quick Release |
| **Spoke Holes** | 28/32/36/ |
| **Hole P.C.D.** | 38mm |
| **Material & Finish** | Forged Aluminum/Anodized (hub shell) |

Freehub

## FH-7403-HG (8-speed)

| | |
|---|---|
| **Weight** | 439g (w/QR) |
| **Compatibility** | Shimano Total Integration<br>8-speed HG<br>HG/UG Compatible |
| **Over Locknut** | 130mm |
| **Axle Length** | 141mm |
| **Axle Dia** | 10mm |
| **Mount** | Quick Release |
| **Spoke Holes** | 28/32/36 |
| **Hole P.C.D.** | 44mm |
| **Material & Finish** | Forged Aluminum/Anodized (hub shell) |

**Features**
Uni-Balance System
Open/Close Lubrication Ports




Cassette Sprockets

## CS-7401-8 (8-speed HG)

| | |
|---|---|
| **Weight** | 255g (S-group & spacers) |
| **Compatibility** | Shimano Total Integration<br>8-speed HG<br>Narrow Chain |
| **Feature** | 8-speed HG |
| **Material & Finish** | Steel/Champagne Gold |
| **Sprocket Combinations** | **S** 12 13 14 15 16 17 19 21T<br>**T** 13 14 15 16 17 19 21 23T<br>**U** 12 13 14 15 17 19 21 23T<br>**V** 13 14 15 17 19 21 23 26T<br>**W** 12 13 15 17 19 21 23 25T |

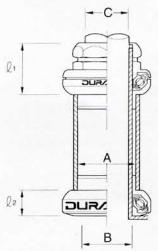
Cartridge Head Set

## HP-7410

| | |
|---|---|
| **Weight** | 101g |
| **Type** | Road Racing |
| **Feature** | Cartridge Bearing Unit<br>Sealed Mechanism |
| **Material & Finish** | Aluminum/Anodized (lock nut,<br>upper & lower housing, lower<br>cone) |

**Variations & Dimensions**

| Type | Standard | JIS |
|---|---|---|
| Thread | BC1" x 24T.P.I. | |
| A | 30.2mm | 30.0mm |
| B | 26.4mm | 27.0mm |
| C | 22.3mm | |
| ℓ1 | 24.1mm | |
| ℓ2 | 13.5mm | |



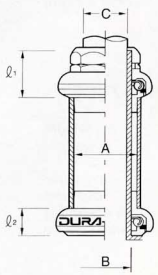

Head Set

## HP-7400

| | |
|---|---|
| **Weight** | 113g |
| **Type** | Road Racing |
| **Feature** | Sealed Mechanism<br>Steel Bearing Races |
| **Material & Finish** | Forged Aluminum/Anodized<br>(nut, cups, top cone) |

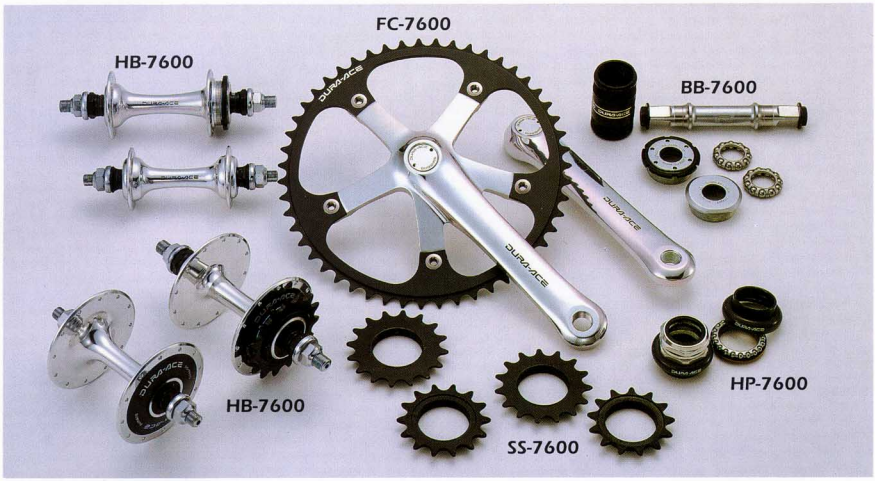
**Variations & Dimensions**

| Type | Standard | JIS | ISO | French |
|---|---|---|---|---|
| Thread | BC1" x 24T.P.I. | | | M25 x P1.0 |
| A | 30.2mm | 30.0mm | 30.2mm | 30.2mm |
| B | 26.4mm | 27.0mm | 27.0mm | 26.4mm |
| C | 22.3mm | | | |
| ℓ1 | 22.8mm | | | |
| ℓ2 | 13.5mm | | | |



# DURA-ACE
## TRACK

Dura-Ace Track was designed to give the track racer a fraction-of-a-second advantage that often spells the difference between victory and defeat in the highly competitive world of track racing. Besides offering great durability and rigidity, Dura-Ace Track provides a range of sophisticated features including diamond polished races and micron-precision bearings. As a result, the Dura-Ace Track racer is assured of the highest power transfer efficiency - the key to converting leg-power into go-power.




| Model No. | Specifications | Features | Material / Finish |
|---|---|---|---|
| Hub<br>**HB-7600** | Holes 24/28/32/36<br>Hole P.C.D. 24mm<br>Over Locknut 100mm (front)<br>120mm (rear)<br>Dropout Width 9mm (front)<br>10mm (rear)<br>Weight 313g (rear LF w/lock ring)<br>241g (front LF) | Precision Ground Cones<br>Diamond-Polished Mirror Finish (Cup & Cones)<br>Sealed Mechanism<br>Composite Construction (Large flange)<br>Hollow Axle | Hub Body Forged Aluminum/Anodized<br>Hub Shell Compound Polycarbonate Resin |
| Sprocket<br>**SS-7600** | Thread BC1.37" x 24T.P.I.<br>Size 1/2" x 1/8"<br>1/2" x 3/32"<br>Teeth 13/14/15/16T<br>Weight (1/2" x 1/8" sprocket)<br>13T 31g<br>14T 38g<br>15T 44g<br>16T 53g | | Cr-Mo Steel |
| Chainwheel & Bottom Bracket<br>**FC-7600**<br>**BB-7600** | Teeth 44-55T<br>Crank Length 165/167.5/170/172.5/175mm<br>Pedal Thread BC9/16" x 20T.P.I.<br>Cup Thread BC1.37 x 24T.P.I.<br>M35 x 1.0T.P.I.<br>M36 x 24T.P.I.<br>Axle Length 68-S-109<br>70-S-109<br>Weight 605g (48T/170mm)<br>305g (B.B. set) | Exclusively Designed for Track<br>Removal Sealed Mechanism (B.B.)<br>Available for 1/2" x 1/8" or 1/2" x 3/32" chain | Crank Forged Aluminum/Anodized<br>Chainring Aluminum/High-Tech Gray Anodized<br>Axle Bolt Steel/Chrome Plated<br>Axle Nickel Cr-Mo Steel |
| Head Set<br>**HP-7600** | Stack Height 31mm<br>Weight 90g<br>Variations | Sealed Mechanism<br>Super Light Weight<br>Composite Construction | Nut, Upper Cone Aluminum/Anodized<br>Top Cone, Lower Cup Covers High Impact Resin<br>Upper & Lower Cups Steel Bearing Races |

| Type | Thread | Race Diameter | |
|---|---|---|---|
| | | Upper & Lower Cup | Lower Cone |
| Standard | BC1" x 24T.P.I. | 30.2 mm | 26.4 mm |
| JIS | BC1" x 24T.P.I. | 30.0 mm | 27.0 mm |
| French | BC1" x 24T.P.I. | 30.2 mm | 26.4 mm |


SHIMANO 600
ULTEGRA
SP-6400
BB-UN71
BL-6403
HS-6400
FH-6402
HP-6400
HB-6400
PD-6402
SL-BS64
CN-HG90
FC-6400-SG
CS-HG90-8
SL-6401-FCAI
RD-6401
HP-6500
PD-6500
BR-6403
FD-6401
ST-6400

600 Ultegra is a road racing component group for the amateur racer, performance enthusiast, or any cyclist who demands a durable, high-quality component system with all the Shimano advanced functions. Smooth contours and high-tech gray finish on brakes, levers, and derailleurs create a striking look of functional quality. 600 Ultegra for 1994 now includes a cartridge bearing headset (HP-6500) and SPD pedal (PD-6500).

**SPD Pedal**

600 Ultegra for '94 features a new PD-6500 SPD road pedal. The Ultegra SPD pedal offers the same lightweight compact design as its big brother Dura-Ace model. Two cleat sets are offered for fixed or rotational cleat retention (±6°).



**Cartridge Headset**

New HP-6500 cartridge headset uses precision one-piece cup, cone, and bearing units for a smoother action. Efficient O-ring sealing completely shuts out dirt, mud, and water.





**SIS**

Hands-on-the-bars STI levers deliver precision 8-speed SIS shifting.

**SUPER SLR** SHIMANO LINEAR RESPONSE

Dual pivot Ultegra brake caliper increases brake application power. Special coated low-friction pivot washers enhance lever response.

**HG** HYPERGLIDE

8-speed HG sprocket cluster uses special shift ramps, teeth profiles, and relational positioning for instant SIS shifting.

**SHIMANO SG**

SG chainwheels deliver fast and smooth shifting, even under high pedal loads, with minimal hesitation.

**THE SHIMANO FREEHUB**

8-speed freehub allows the same wheel dish as conventional 7-speed types, resulting in a larger gear selection and stronger rear wheel.

**SPD** SHIMANO PEDALING DYNAMICS

SPD (Shimano Pedaling Dynamics) PD-6500 pedal delivers clipless pedaling efficiency with off-bike mobility. Super-compact lightweight design.

**Tools to upgrade consumers from 600 Ultegra to Dura-Ace**

Dura-Ace offers the following features not found in the 600 Ultegra group...

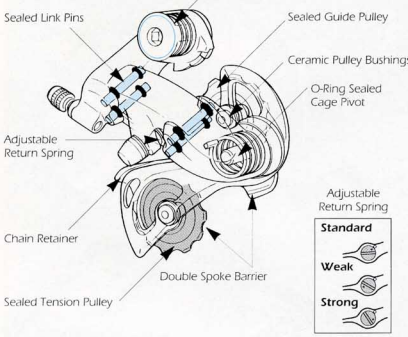
- It's designed specifically for pro-level road racing.
- All components are cold forged from high-grade alloy for maximum strength and light weight.
- Super-low profile crankset provides greater ankle clearance for racing.
- Highly efficient sealing mechanisms are used in all moving parts.
- High-response competition shifting system uses a shorter, more positive lever stroke (no compatibility with other Shimano component groups).
- Titanium crank bolts and alloy chainring fasteners reduce weight.
- Dura-Ace offers greater rotational precision through the use of mirror-finish ball bearings and races of high-grade steel.
- Tighter tolerances are used throughout the group.

## Shimano 600 Ultegra

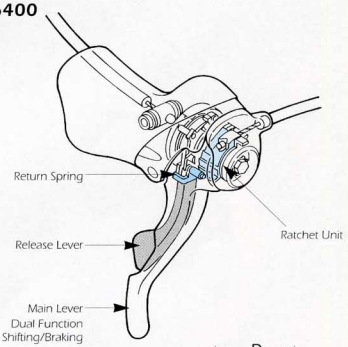
| Model No. | Specifications | | Features | Material/Finish | | Note |
|---|---|---|---|---|---|---|
| Rear Derailleur<br>**RD-6401** | Compatibility<br>Max. Sprocket<br>Min. Sprocket<br>F/Difference<br>Total Capacity<br>Weight | Shimano Total Integration<br>6/7/8-speed SIS<br>28T<br>12T<br>13T or less<br>28T<br>215g | Adjustable Return Spring<br>Sintered Alloy Tension Pulley Bushing<br>Double Spoke Barrier<br>Double Servo-Pantagraph<br>Sealed Guide Pulley<br>Ceramic Pulley Bushing<br>O-Ring Sealed Bracket<br>O-Ring Sealed Cage Pivot<br>Sealed Link Pins<br>Sealed Tension Pulley<br>B-Tension Adjuster<br>Chain Retainer | Bracket Body<br>Plate Body<br>Pulley Plate<br>Right Link<br>Left Link | Aluminum/<br>Dark Gray Paint<br>Aluminum/<br>Dark Gray Paint<br>Aluminum/Barrel Finish<br>Aluminum/Silver Paint<br>Aluminum/Barrel Finish | Use in combination with narrow chain. Do not use with standard chain. |
| Front Derailleur<br>**FD-6401-B**<br>(band mount)<br>**FD-6401-F**<br>(Italian braze-on A type) | Compatibility<br>Capacity<br>Clamp Dia<br>Weight | Shimano Total Integration<br>Shimano SG Gear<br>Narrow Chain<br>14T<br>28.0-28.6mm<br>(band mount)<br>107g (band mount) | Adjustable Return Spring<br>Rigid Chain Guide<br>Sealed Link Pins<br>Compact Design | F/Band<br>R/Band<br>Right Link<br>Chainguide | Aluminum/<br>Dark Gray Paint<br>Aluminum/<br>Dark Gray Paint<br>Aluminum/Silver Paint<br>Steel/Chrome Plated | |
| Dual Control Lever<br>**ST-6400** | Compatibility<br>Clamp Dia<br>Weight | Shimano Total Integration<br>8-speed SIS<br>Super SLR (Shimano<br>Linear Response)<br>23.8-24.2mm<br>542g (pair) | Dual Function Shifting/Braking Lever<br>Ratchet Unit<br>Aerodynamic Design<br>Anatomical Form<br>Light Action Lever<br>Return Spring<br>Sealed Mechanism | Bracket<br>Lever | Aluminum/Chrome<br>Plated<br>Aluminum/Painted | To maintain proper SIS operation use SIS-SP outer casing at lever side and SIS sealed outer casing at derailleur side and SM-SP16 or SM-SP15 shift cable guides.<br>ST-6400 dual control lever must be used with BR-6403 caliper and SLR outer casing to maintain SLR function. |
| Down Tube Shift Lever<br>**SL-6401-F*CAI**<br>(8-speed SIS braze-on A Type) | Compatibility<br>Mount<br>Clamp Dia<br>Weight | 8-speed SIS<br>Down Tube<br>28.6mm<br>67g (pair) | SIS/Friction Mode Switch<br>Light Action Lever (front)<br>Sealed Mechanism<br>Human Engineered Design<br>30° Offset Front Lever<br>Sealed SIS Outer Casing<br>SIS Unit | Lever | Aluminum/<br>Gray Paint | Use with RD-6401 or RD-1056 rear derailleur.<br>(*C indicates Italian 5mm mounting bolt.) |
| Bar End Shift Lever<br>**SL-BS64-8** | Compatibility<br>Mount<br>Bar Inner Dia<br>Weight | 8-speed SIS<br>Bar End<br>19.0-22.0mm<br>180g (pair) | SIS/Friction Mode Switch<br>Light Action Lever (front)<br>Sealed Mechanism<br>Human Engineered Design<br>Sealed SIS-SP Outer Casing<br>SIS Unit | Lever | Aluminum/<br>Gray Paint | The SL-BS64-8 lever must be used with the RD-6401 rear derailleur for correct 8-speed SIS operation. |
| Dual Pivot Brake<br>**BR-6403-49**<br>(49mm reach) | Compatibility<br>Weight | Shimano Total Integration<br>Super SLR (Shimano<br>Linear Response)<br>424g (F&R set) | Centering Easy Adjust<br>Low Profile Brake Shoe<br>Click Eccentric QR<br>Spring Sleeve<br>Thrust Bearing (Y-arm)<br>Coated Washer (C-arm) | Caliper<br>Pivot Bolt<br>Quick Release | Forged Aluminum/<br>Paint<br>Steel/Chrome Plated<br>Steel/Chrome Plated | Use BR-6403 with ST-6400 dual control lever and Shimano SLR outer casing to maintain proper SLR operation. |
| Brake Lever<br>**BL-6403**<br>(Aero Type) | Compatibility<br>Clamp Dia<br>Lever Stroke<br>Weight | Super SLR (Shimano<br>Linear Response)<br>23.8-24.2mm<br>84mm<br>272g (pair) | Aerodynamic Design<br>Anatomical Form<br>Integral Return Spring | Lever<br>Body<br>Hood | Aluminum/Paint<br>Aluminum/Barrel Finish<br>Soft Resin/<br>Black or White | Use BL-6403 with BR-6403 caliper and Shimano SLR outer casing to maintain SLR operation. |
| Front Chainwheel<br>**FC-6400-SG**<br>(SG gear double/LD type) | Compatibility<br>Gearing<br>Crank Length<br>Weight | Shimano Total Integration<br>Narrow Chain<br>52-42T (Bolpace SG)<br>53-42T/52-42T<br>(round SG)<br>165/170/172.5/<br>175mm<br>650g (42-52T/170mm) | Shimano SG Gear | Crank<br>Chainring | Aluminum/Anodized<br>Aluminum/Anodized | |
| Sealed Cartridge Bottom Bracket<br>**BB-UN71** | Chain Line<br>Axle Length<br>Shell Width<br>Spindle Marking<br>Weight | 43.5mm<br>115mm<br>68, 70<br>D-H<br>272g (115mm) | Lightweight Design<br>Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | | | Shell Width / Thread<br>68 / BC1.37<br>70 / M36 |
| Freehub<br>**FH-6402-HG** | Compatibility<br>Holes<br>Hole P.C.D.<br>Over Locknut<br>Axle Length<br>Mount<br>Axle Dia<br>Weight | Shimano Total Integration<br>8-speed HG<br>HG/UG Cassette<br>28/32/36<br>45mm<br>130mm<br>141mm<br>Quick Release<br>10mm<br>426g (w/QR) | Uni-Balance Design<br>Contact Sealing<br>One-Piece Forged Hub Body | Hub Shell<br>Dust Cap<br>QR housing | Forged Aluminum/<br>Polished Anodized<br>Resin<br>Steel/Chrome Plated | |
| Front Hub<br>**HB-6400-F** | Holes<br>Hole P.C.D.<br>Over Locknut<br>Axle Length<br>Mount<br>Axle Dia<br>Weight | 28/32/36<br>38mm<br>100mm<br>108mm<br>Quick Release<br>9mm<br>212g (w/QR) | Contact Sealing<br>One-Piece Forged Hub Body | Hub Shell | Forged<br>Aluminum/Anodized | |
| Cassette Sprocket<br>**CS-HG90-8**<br>(8-speed HG) | Compatibility<br>Weight | Shimano Total Integration<br>8-speed HG<br>Narrow Chain<br>250g (S-group & spacers) | | Steel/Chrome Plated | | Sprocket Combination<br>**S** 12 13 14 15 16 17 19 21T<br>**T** 13 14 15 16 17 19 21 23T<br>**U** 12 13 14 15 17 19 21 23T<br>**V** 13 14 15 17 19 21 23 26T<br>**W** 12 13 15 17 19 21 23 25T |
| HG Chain<br>**CN-HG91**<br>**CN-HG90** | Compatibility<br>Size<br>Weight | Shimano Total Integration<br>1/2" x 3/32"<br>335g (114 links) | Narrow HG Chain<br>Chromized Pins<br>Bushingless Design<br>Reinforced Connecting Pins | **CN-HG91** Steel/Gray Finish (roller links)<br>Steel/Silver Finish (pin links)<br>**CN-HG90** Steel/Black Finish (roller links)<br>Steel/Silver Finish (pin links) | | |

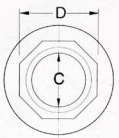
| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| SPD Pedal<br>**PD-6500** | Compatibility SPD Cleat System<br>Mounting Thread BC9/16"x20T.P.I.<br>Weight 348g (pair) | 34° Ground Clearance<br>Cleat Retention Indicator<br>Cleat Retention Adjuster<br>Sealed Mechanism<br>Cartridge Axle<br>Low Profile Design | Body Aluminum/Polished<br>Axle Cr-Mo Steel | Choose from either fixed or rotating mount cleats.<br>Both types are included with each pedal set. |
| Clipless Pedal<br>**PD-6402** | Compatibility Look® Cleats<br>Mounting<br>Thread BC9/16"x 20T.P.I.<br>Weight 450g (pair)<br>92g (cleat & hardware) | 34° Ground Clearance<br>Adjustable Cleat Lock Tension<br>Aerodynamic No-Dustcap Design<br>Easy Maintenance Cartridge Axle<br>Sealed Mechanism<br>Dual Function Allows Fixed or Self-Aligning Cleat Retention<br>Low Profile Design | Body Aluminum<br>Axle Nickel Cr-Mo Steel | |
| Seat Post<br>**SP-6400-A**<br>(round tube)<br>**SP-6400-B**<br>(semi oval tube) | Sizes 25.0mm/25.4mm/25.8mm/26.0mm/26.2mm/26.4mm/26.6mm/26.8mm/27.0m m/27.2mm<br>Weight 284g (B type 27.2mm) | Aerodynamic Design<br>Hexagon Release | Aluminum/Anodized | |
| Bar Stem<br>**HS-6400** | Extensions 70/80/90/100/110/120/130mm<br>Stem Dia 22.2mm<br>Clamp Dia 25.4/26.0mm<br>Weight 286g (100mm) | Aerodynamic Design<br>Flush Hexagon Release | Aluminum/Anodized | |
| Cartridge Head Set<br>**HP-6500** | Stack Hight 37.6mm<br>Type Road Racing<br>Weight 108g | Cartridge Type Bearing<br>Sealed Mechanism | Locknut Aluminum/Anodized<br>Upper Housing Aluminum/Anodized<br>Lower Housing Aluminum/Anodized<br>Ball Race Steel | |
| Head Set<br>**HP-6400** | Upper Stack 22.0mm<br>Lower Stack 11.5mm<br>Type Road Racing<br>Weight 100g | Sealed Mechanism | Upper & Lower Cup Aluminum<br>Lower Cone Races Stainless Steel<br>Cr-Mo Steel | |

Rear Derailleur
**RD-6401**

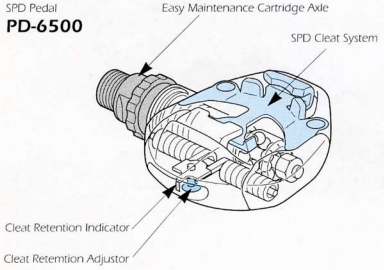



Dual Control Lever
**ST-6400**



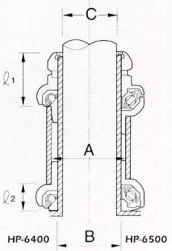

SPD Pedal
**PD-6500**

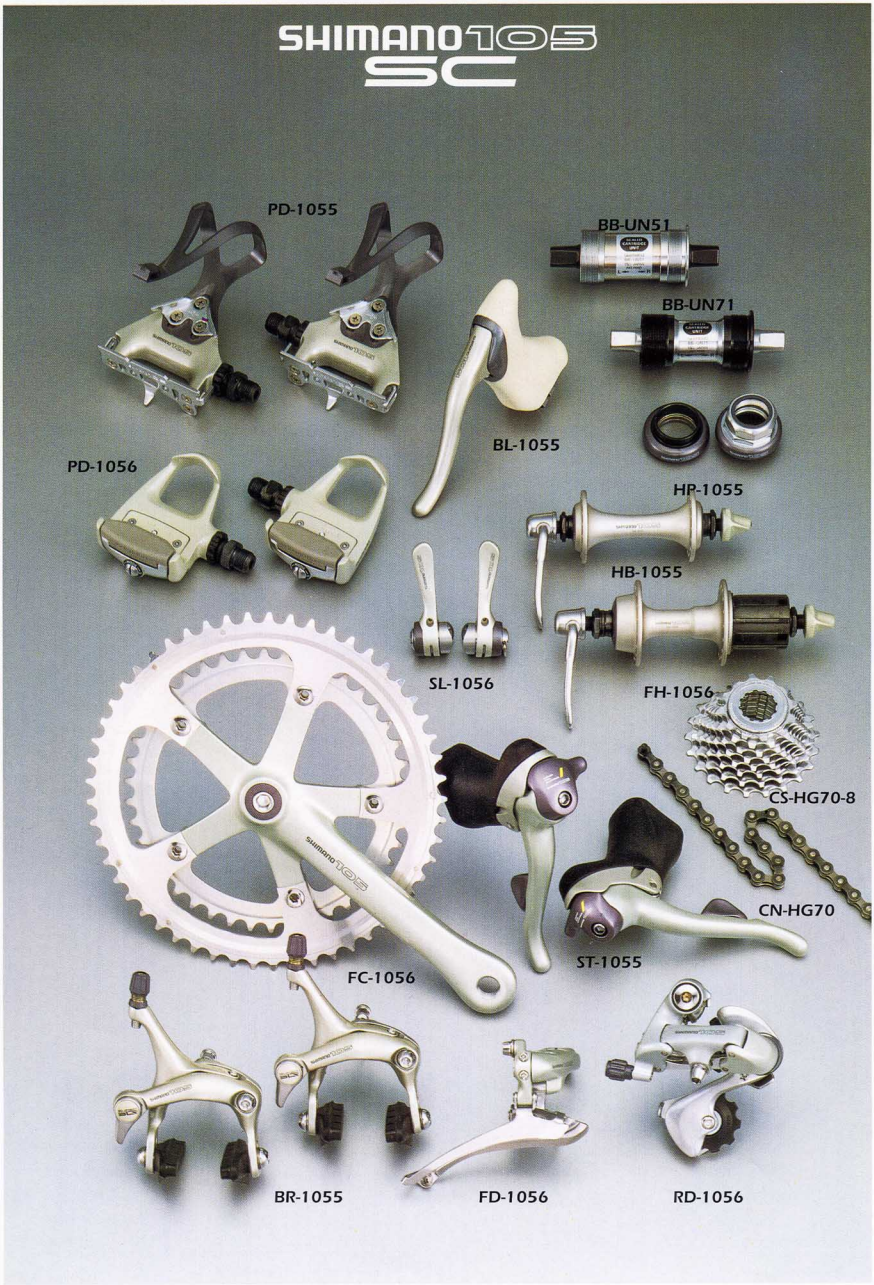



Cartridge Head Set
**HP-6500**
Head Set
**HP-6400**

**Variation & Dimentions**

| Type | Standard | JIS | French |
|---|---|---|---|
| Thread | BC1"x24T.P.I. | | M25xP1.0 |
| A | 30.2 mm | 30.0 mm | 30.2 mm |
| B | 26.4 mm | 27.0 mm | 26.4 mm |
| C | 22.3 mm | | |
| D | 32.0 mm | | |
| *l1* | 24.1 mm (6500), 22.0 mm (6400) | | |
| *l2* | 13.5 mm (6500), 11.5 mm (6400) | | |




SHIMANO 105
SC
PD-1055
BB-UN51
BB-UN71
BL-1055
PD-1056
HP-1055
HB-1055
SL-1056
FH-1056
CS-HG70-8
CN-HG70
ST-1055
FC-1056
BR-1055
FD-1056
RD-1056

Shimano 105SC is an all-purpose sport/road racing component group packed with advanced functions. Amateur racers, triathletes, fitness cyclists, and all cycling enthusiasts will appreciate the high level of quality and performance that 105SC brings to the racing-type sport bike. Nothing's been left out. There's Super SLR brakes, 8-speed freehub, Dual SIS, choice of standard SIS downtube or STI lever sets and more. If good-looking performance is what you're after, 105SC's got it.



DUAL SIS

Error-free click-stop shifting at both levers. 8-speeds in the rear and double chainwheels in front, and it's all SIS.

SUPER SLR
SHIMANO LINEAR RESPONSE

Friction-free lever response and dual-pivot calipers for sensitive fingertip speed control.

HG
HYPERGLIDE

HG sprockets feature special teeth profiles, shift ramps, and relational positioning for instantaneous SIS shifting.

SHIMANO HYPERDRIVE

Low profile crank and cartridge bottom bracket for power transfer efficiency. SG-X chainwheels for crisp SIS shifting.

THE SHIMANO FREEHUB

8-speed cassette sprockets and freehub design make a stronger, more rigid rear wheel with wide gear selection.

**Tools to upgrade consumers from 105SC to 600 Ultegra**

600 Ultegra offers the following features not found in the 105SC group...

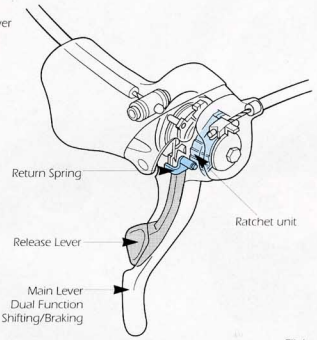
- 600 Ultegra is a real racing component group designed specifically for amateur level road competition.
- It uses a higher grade aluminum alloy for greater strength.
- An SPD road pedal is available (PD-6500).
- Better materials and tighter tolerances are used in the shifting mechanisms.
- Polished bearing races in the hubs, freewheel, bottom bracket, and headset reduce friction and provide improved rotational precision.
- Cartridge bearing headset is available (HP-6500).

## Shimano 105SC

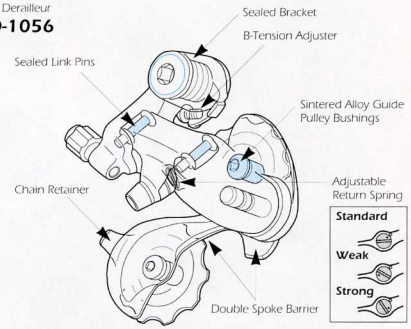
| Model No. | Specifications | | Features | Material/Finish | | Note |
|---|---|---|---|---|---|---|
| Rear Derailleur<br>**RD-1056** | Compatibility<br>Max. Sprocket<br>Min. Sprocket<br>F/Difference<br>Total Capacity<br>Weight | Shimano Total Integration<br>7/8-speed SIS<br>28T<br>12T<br>13T or less<br>28T<br>247g | Adjustable Return Spring<br>Sintered Alloy Guide Pulley Bushing<br>Double Servo-Pantagraph<br>Double Spoke Barrier<br>Sealed Bracket<br>Sealed Link Pins<br>B-Tension Adjuster<br>Chain Retainer | Bracket<br>Plate<br>Right Link<br>Left Link | Aluminum/Painted<br>Aluminum/Painted<br>Aluminum/Painted<br>Steel/Pearl Bright Finish | Use in combination with narrow chain.<br>Do not use with standard chain. |
| Front Derailleur<br>**FD-1056-B**<br>(band mount)<br>**FD-1056-F**<br>(braze-on A type) | Compatibility<br>Capacity<br>Clamp Dia<br>Weight | Shimano Total Integration<br>Dual SIS<br>Shimano SG-X<br>Narrow Chain<br>15T<br>28.0-28.6mm<br>(band mount)<br>105g (band mount) | Compact Design<br>Sealed Mechanism<br>Rigid Chainguide | F/Band<br>R/Band<br>Right Link<br>Chainguide | Aluminum/Painted<br>Aluminum/Painted<br>Aluminum/Painted<br>Steel/Pearl Bright Finish | |
| Dual Control Lever<br>**ST-1055** | Compatibility<br>Clamp Dia<br>Weight | Shimano Total Integration<br>Dual SIS (8-rear/2-front)<br>Super SLR (Shimano<br>Linear Response)<br>23.8-24.2mm<br>495g (pair w/o cable) | Dual Function Shifting/Braking Lever<br>Ratchet Unit<br>Aerodynamic Design<br>Anatomical Form<br>Light Action Lever<br>Return Spring<br>Sealed Mechanism | Body<br>Lever | Aluminum/Barrel Finish<br>Aluminum/Painted | To maintain proper SIS operation use SIS outer casing at lever side and SIS sealed outer casing at derailleur side and SM-SP16 or SM-SP15 shift cable guides.<br>ST-1055 dual control lever must be used with BR-1055 caliper and SLR outer casing to maintain SLR function. |
| Down Tube Shift Lever<br>**SL-1056-F*CAI**<br>(8-speed SIS braze-on A type)<br>**SL-1055-F*CAI**<br>(7-speed SIS braze-on A type)<br>**SL-1055-B*CAI**<br>(7-speed SIS band mount A type) | Compatibility<br>Mount<br>Clamp Dia<br>Weight | Shimano Total Integration<br>8-speed SIS (SL-1056)<br>7-speed SIS (SL-1055)<br>Down Tube<br>28.6mm<br>70g (SL-1055-F-CAI) | SIS/Friction Mode Switch<br>Light Action Lever (front)<br>Sealed Mechanism<br>Human Engineered Design<br>30° Offset Front Lever<br>SIS Unit | Lever | Aluminum/Painted | Use with RD-1056 or RD-6401 rear derailleur.<br>(*C indicates Italian 5mm mounting bolt.) |
| Bar End Shift Lever<br>**SL-BS64-8**<br>(8-speed)<br>**SL-BS50-7**<br>(7-speed) | Compatibility<br>Mount<br>Bar Inner Dia<br>Weight | Shimano Total Integration<br>8-speed SIS (SL-BS64-8)<br>6/7-speed SIS (SL-BS50-7)<br>Bar End<br>19.0-22.0mm<br>183g (SL-BS50-7) | SIS/Friction Mode Switch<br>Light Action Lever (front)<br>Sealed Mechanism<br>Human Engineered Design<br>Sealed SIS-SP Outer Casing<br>SIS Unit | **SL-BS64-8**<br>Lever | Aluminum/Gray Painted | Use with RD-1056 or RD-6401 rear derailleur and SIS-SP outer casing for correct 8-speed SIS operation. |
| Dual Pivot Brake<br>**BR-1055-49**<br>(49mm reach)<br>**BR-1055-57**<br>(57mm reach) | Compatibility<br>Weight | Shimano Total Integration<br>Super SLR (Shimano<br>Linear Response)<br>360g<br>(F&R set/49mm reach) | Centering Easy Adjust<br>One-Piece Low Profile Brake Shoe<br>Click Eccentric QR<br>Spring Sleeve<br>Thrust Bearings (Y-arm)<br>Coated Washer (C-arm) | Caliper<br>Pivot Bolt | Aluminum/Painted<br>Steel/Chrome Plated | Use BR-1055 with ST-1055 dual control lever or BL-1055 brake lever and SLR outer casing.<br>Performance will be impaired if other combinations are used. |
| Brake Lever<br>**BL-1055**<br>(aero type) | Compatibility<br>Clamp Dia<br>Lever Stroke | Shimano Total Integration<br>Super SLR (Shimano<br>Linear Response)<br>23.8-24.2mm<br>252g (pair) | Aerodynamic Design<br>Human Engineered Design<br>Return Spring | Lever<br>Bracket<br>Hood | Aluminum/Painted<br>Aluminum/Barrel Finish<br>Soft Resin/Black, White or Gray | Use BL-1055 lever with BR-1055 caliper and SLR outer casing.<br>Using other components will impair braking performance. |
| Front Chainwheel<br>**FC-1056**<br>(SG-X gear double/low profile type) | Compatibility<br>Gearings<br>Crank Lengths<br>Weight | Shimano Total Integration<br>Shimano HyperDrive<br>Dual SIS<br>Narrow Chain<br>53-39T/53-42T/52-42T<br>(Shimano SG-X)<br>165/167.5/170/172.5/<br>175mm<br>686g (42-52T/170mm) | Super Low Profile Design<br>Shimano SG-X Gear<br>Capless Crank Arm | Crank | Aluminum/Painted | |
| Sealed Cartridge Bottom Bracket<br>**BB-UN51** | Chain Line<br>Axle Length<br>Shell Width<br>Spindle Marking<br>Weight | 43.5mm<br>107mm<br>68, 70<br>MM107<br>000g (107mm) | Lightweight Design<br>Easy Assemble<br>Extend Service Life<br>Maintenance Free<br>Full Sealing | | | Shell Width: 68 — Thread: BCT.37<br>Shell Width: 70 — Thread: M36 |
| Freehub<br>**FH-1056-HG**<br>(8-speed)<br>**FH-1055-HG**<br>(7-speed) | Compatibility<br>Over Locknut<br>Axle Length<br>Axle Dia<br>Holes<br>Hole P.C.D.<br>Mount<br>Weight | Shimano Total Integration<br>8-speed HG (FH-1056)<br>7-speed HG (FH-1055)<br>HG/UG Cassette<br>130mm (FH-1056)<br>126mm (FH-1055)<br>141mm (FH-1056)<br>137mm (FH-1055)<br>10mm<br>32/36<br>45mm<br>Quick Release<br>427g (FH-1056 w/QR)<br>415g (FH-1055 w/QR) | Uni-Balance Design<br>Contact Sealing<br>One-Piece Forged Hub Body | **FH-1056**<br>Hub Shell<br>Dust Cap<br>**FH-1055**<br>Hub Shell | Forged Aluminum/<br>Polished Anodized<br>Resin<br>Aluminum/<br>Polished Anodized | |
| Front Hub<br>**HB-1055-F** | Over Locknut<br>Axle Length<br>Axle Dia<br>Holes<br>Hole P.C.D.<br>Mount<br>Weight | 100/96mm<br>104/108mm<br>9mm<br>32/36<br>38mm<br>Quick Release<br>216g (w/QR) | One-Piece Forged Hub Body<br>Contact Sealing | Hub Shell | Aluminum/<br>Polished Anodized | |
| HG Chain<br>**CN-HG70** | Compatibility<br>Size<br>Weight | Shimano Total Integration<br>1/2 x 3/32"<br>335g (114 links) | Narrow HG Chain<br>Chromized Pins<br>Bushingless Design<br>Reinforced Connecting Pins | Roller Links<br>Pin Links | Steel/Gray<br>Steel/Black | |

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Cassette Sprocket<br>**CS-HG70-8**<br>(8-speed)<br>**CS-HG70-7**<br>(7-speed) | Compatibility: Shimano Total Integration 8-speed HG (CS-HG70-8) 7-speed HG (CS-HG70-7)<br>Weight: 278g (CS-HG70-8, U-group & spacers) | HG Sprocket Design | Steel/Silver | Sprocket Combination (CS-HG70-8)<br>**S** 12 13 14 15 16 17 19 21T<br>**T** 13 14 15 16 17 19 21 23T<br>**U** 12 13 14 15 17 19 21 23T<br>**V** 13 14 15 17 19 21 23 26T<br>**W** 12 13 15 17 19 21 23 25T<br>Sprocket Combination (CS-HG70-7)<br>**E** 12 14 16 18 21 24 28T<br>**H** 13 15 17 19 21 23 26T<br>**I** 13 14 15 17 19 21 23T<br>**J** 13 14 15 16 17 19 21T<br>**L** 12 13 14 15 17 19 21T<br>**M** 13 15 17 19 21 24 28T |
| Clipless Pedal<br>**PD-1056** | Compatibility: Shimano/Look® Cleats<br>Mounting Thread: 9/16"x 20T P.I.<br>Weight: 460g (pair) 105g (cleat & hardware) | 34° Ground Clearance<br>Adjustable Cleat Lock Tension<br>Aerodynamic No-Dustcap Design<br>Easy Maintenance Cartridge Axle<br>Sealed Mechanism<br>Dual Release Mode<br>Low Profile Design | Body: Aluminum<br>Axle: Cr-Mo Steel | |
| Pedal<br>**PD-1055** | Mounting Thread: BC9/16"x 20T P.I.<br>Toe Clip Size: M/L/LL<br>Weight: 433g (pair w/L toe clip) | 34° Ground Clearance<br>Easy Maintenance Cartridge Axle<br>Aerodynamic Design<br>Sealed Mechanism | Body: Aluminum<br>Front Plate: Steel<br>Axle: Cr-Mo Steel<br>Toe Clip: Dark Gray Resin | |
| Head Set<br>**HP-1055** | Stack Height: 32.7mm<br>Weight: 101g | Sealed Mechanism | Cups: Aluminum/Silver<br>Fork Cone: Stainless Steel<br>Races: Cr-Mo Steel | |

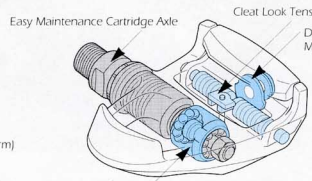
Dual Control Lever
**ST-1055**



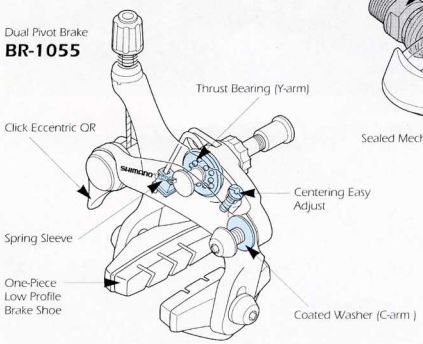

Rear Derailleur
**RD-1056**




Clipless Pedal
**PD-1056**



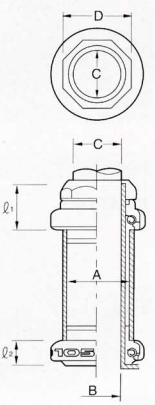

Dual Pivot Brake
**BR-1055**




Head Set
**HP-1055**

**Variation & Dimentions**

| Type | Standard | JIS | French |
|---|---|---|---|
| Thread | BC1"×24T.P.I. | | M25×P1.0 |
| A | 30.2 mm | 30.0 mm | 30.2 mm |
| B | 26.4 mm | 27.0 mm | 26.4 mm |
| C | 22.3 mm | | |
| D | 32.0 mm | | |
| l1 | 21.2mm | | |
| l2 | 11.5mm | | |






| Model No. | Specifications | | Features | Material/Finish | | Note |
|---|---|---|---|---|---|---|
| Rear Derailleur<br>**RD-A551** | Compatibility<br>Max. Sprocket<br>Min. Sprocket<br>F/Difference<br>Total Capacity | 7/8-speed SIS<br>28T<br>12T<br>13T or less<br>28T | Adjustable Return Spring<br>Sintered Alloy Guide Pulley Bushing<br>Double Servo-Pantagraph<br>Centeron Guide Pulley<br>Double Spacer Barrier<br>Sealed Cage Pivot<br>B-Tension Adjuster<br>Chain Retainer | Bracket Body<br>Plate Body<br>Right Link<br>Left Link | Aluminum/Barrel Finish<br>Aluminum/Barrel Finish<br>Aluminum/Barrel Finish<br>Steel/Pearl Bright | Use in combination with narrow chain. Do not use with standard chain. |
| Front Derailleur<br>**FD-A551-B**<br>(band mount)<br>**FD-A551-F**<br>(brazed-on mount) | Compatibility<br>Capacity<br>Band Dia.<br>Stroke<br>Weight | Dual SIS<br>Narrow Chain<br>15T<br>28.0-28.6mm<br>37-51mm (band mount)<br>105g (band mount) | Compact Design<br>Sealed Mechanism<br>Rigid ChainGuide | F/Band<br>R/Band<br>R/Link<br>Chain Guide | Aluminum/Barrel Finish<br>Aluminum/Barrel Finish<br>Aluminum/Barrel Finish<br>Steel/Pearl Bright | |

| Model No. | Specifications | Features | Material/Finish | Note |
|---|---|---|---|---|
| Dual Control Lever<br>**ST-A550** | Compatibility: Shimano Total Integration, Dual SIS (8-rear/2-front), Super SLR (Shimano Linear Response)<br>Clamp Dia: 23.8-24.2mm<br>Weight: 495g (pair w/o cable) | Sealed Mechanism<br>Aerodynamic Design<br>Anatomical Form<br>Light Action Lever<br>Return Spring<br>Ratchet Unit<br>Dual-Function Shifting/Braking Lever | Body: Aluminum/Barrel Finish<br>Main Lever: Aluminum/Polished<br>Release Lever: Aluminum/Silver Metanic Finish | To maintain proper SIS operation use SIS-SP outer casing at lever side and SIS sealed outer casing at derailleur side and SM-SP16 or SM-SP15 shift cable guides.<br>ST-A550 lever must be used with Dual Pivot caliper and SLR outer casing to maintain SLR function. |
| Down Tube Shift Lever<br>**SL-A551-F*CAI**<br>(8-speed SIS braze-on A type) | Compatibility: Shimano Total Integration, 8-speed SIS (SL-1056)<br>Mount: Down Tube<br>Clamp Dia: 28.6mm<br>Weight: 70g | SIS/Friction Mode Switch<br>Light Action Levers (front)<br>Sealed Mechanism<br>Human Engineered Design<br>30° Offset Front Lever<br>SIS Unit | Lever: Aluminum/Painted | *C indicates Italian 5mm mounting bolt. |
| Dual Pivot Brake<br>**BR-A550-49**<br>(49mm reach)<br>**BR-A550-57**<br>(57mm reach) | Compatibility: Supe-SLR (Shimano Linear Response)<br>Flush Nut: F/27.5mm, R/12.8mm<br>Exposed Nut: F/47.0mm, R/30.0mm<br>Weight: 348g (F&R set 49mm) | Easy Adjust<br>Synchronizer<br>Spring Sleeve<br>Coated Pivot Washer<br>One Piece Low Profile Brake Shoe | C-Arm: Aluminum/Anodized<br>Y-Arm: Aluminum/Anodized<br>Bridge: Aluminum/Anodized | Use BR-A550 with ST-A550 dual control lever or BL-A550 brake lever and SLR outer casing.<br>Performance will be impaired if other combinations are used. |
| Brake Lever<br>**BL-A550**<br>(Aerodynamic) | Compatibility: Super SLR<br>Clamp Dia: 23.8-24.2mm<br>Stroke: 84mm<br>Weight: 252g (pair) | Aerodynamic Design | Lever: Aluminum/Polished<br>Bracket: Aluminum/Barrel Finish<br>Hood: Soft Molded Resin Black/White | Use BL-A550 lever with BR-A550 caliper and outer casing.<br>Avoid mixing non-compatible components. |
| Front Chainwheel<br>**FC-A551**<br>(SG-X gear double/low profile type) | Compatibility: Shimano Total Integration, Shimano HyperDrive, Dual SIS, Narrow Chain<br>Gearings: 53-39T/53-42T/52-42T (Shimano SG-X)<br>Crank Lengths: 165/170/175mm<br>Weight: 686g (42-52T/170mm) | Super Low Profile Design<br>Shimano SG-X Gear<br>Capless Crank Arm | Crank: Aluminum/Polished<br>Chainring: Aluminum/Anodized | |
| Sealed Cartridge Bottom Bracket<br>**BB-UN51** | Chain Line: 43.5mm<br>Axle Length: 107mm<br>Shell Width: 68, 70<br>Spindle Marking: MM107 | Easy Assembly<br>Extended Service Life<br>Full Sealing<br>Maintenance Free<br>Lightweight | | Shell Width / Thread<br>68 / BC1.37<br>70 / M36 |
| Freehub<br>**FH-A551-HG**<br>(8-speed) | Compatibility: Shimano Total Integration, 8-speed HG, HG/UG Cassette<br>Over Locknut: 130mm<br>Axle Length: 141mm<br>Axle Dia: 10mm<br>Holes: 32/36<br>Hole P.C.D.: 45mm<br>Mount: Quick Release<br>Weight: 427g (w/QR) | Uni-Balance Design<br>Contact Sealing<br>One-Piece Forged Hub Body | Hub Shell: Forged Aluminum/Polished<br>Freewheel Body: Steel/Black Finish<br>Dust Cap: Resin | |
| Front Hub<br>**HB-A550-F** | Over Locknut: 100mm<br>Axle Length: 108mm<br>Axle Dia: 9mm<br>Spoke Holes: 32/36<br>Hole P.C.D.: 38mm<br>Mount: Quick Release<br>Weight: 202g | Resin Sealed Mechanism<br>One-Piece Forged Hub Body | Aluminum/Polished | |
| Cassette Sprocket<br>**CS-HG70-8**<br>(8-speed) | Compatibility: Shimano Total Integration, 8-speed HG<br>Weight: 278g (Ugroup & spacers) | HG Sprocket Design | Steel/Silver | Sprocket Combination (CS-HG70-8)<br>**S** 12 13 14 15 16 17 19 21T<br>**T** 13 14 15 16 17 19 21 23T<br>**U** 12 13 14 15 17 19 21 23T<br>**V** 13 14 15 17 19 21 23 26T<br>**W** 12 13 15 17 19 21 23 25T |
| Chain<br>**CN-HG50**<br>**CN-HG70** | Compatibility: Shimano Total Integration<br>Size: 1/2"x 3/32"<br>Weight: 335g (114 links) | Narrow HG Chain<br>Chromized Pins<br>Bushingless Design<br>Reinforced Connecting Pins | **CN-HG50**: Steel/Black (roller links), Steel/Black (pin links)<br>**CN-HG70**: Steel/Gray (roller links), Steel/Black (pin links) | |
| SPD Pedal<br>**PD-A525** | Compatibility: SPD Cleat System, One sided Binding<br>Mounting Thread: BC9/16 x 20T.P.I.<br>Weight: 390g (pair) | 31° Ground Clearance<br>Cartridge Axle<br>Cleat Retention Adjuster<br>Cleat Retention Indicator<br>Low Profile Design<br>Sealed Mechanism | Body: Aluminum/Painted<br>Color: White or Silver<br>Axle: Cr-Mo Steel<br>Binding: Steel | |
| Pedal<br>**PD-A550** | Mounting Thread: English BC9/16"x 20T P.I.<br>Toe Clip Size: M/L/LL<br>Toe Clip: 3-screw mount<br>Weight: 400g (pair w/L toeclips) | 32° Ground Clearance<br>Easy-Maintenance Cartridge Axle<br>Seal Mechanism<br>Aerodynamic Design<br>Optional Reflector | Body: Aluminum/Barrel Finish<br>Toe Clip: High-Impact Resin | |
| Head Set<br>**HP-R500** | Stack Height: 33.5mm<br>Weight: 121g<br>Variations: | Sealed Mechanism | Locknut: Steel/Pearl Bright<br>Upper Cup: Steel<br>Lower Cup: Resin/Steel<br>Colors: White/Silver/Black | |

| Type | Thread | Race Diameter | |
|---|---|---|---|
| | | Upper & Lower Cup | Lower Cone |
| Standard | BC1" x 24T.P.I. | 30.0mm | 27.0mm |
| JIS | BC1" x 24T.P.I. | 30.2mm | 26.4mm |
| French | M25 x P1.0 | 30.2mm | 26.4mm |

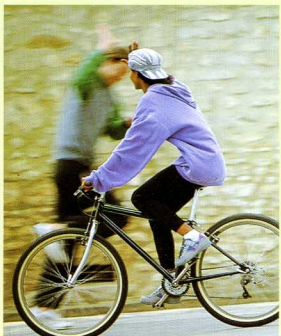
## Shimano presents the world's most advanced derailleur shifting system for 1994 ...

# ADVANCED LIGHT ACTION

Shimano cycling technology has made great strides in derailleur shifting performance. Shimano components now provide faster, smoother, easier, and more precise shifting than ever before.

Integrated design of the indexed shift lever and derailleur resulted in the first Shimano Index System. HG sprockets improved SIS shifting response and the introduction of SG and SG-X chainwheels made front shifting faster and more precise. Dual SIS finally brought indexed shifting to the front derailleur.

The Shimano shifting system has been further refined for 1994 with the introduction of Advanced Light Action. Advanced Light Action refers to light-effort index unit designs and the use of a constant-load coil spring in the rear derailleur instead of the conventional torsion type. The result is a lighter and more precise lever feeling that makes shifting easier and more enjoyable for everybody. Advanced Light Action is a significant improvement in SIS shifting performance.



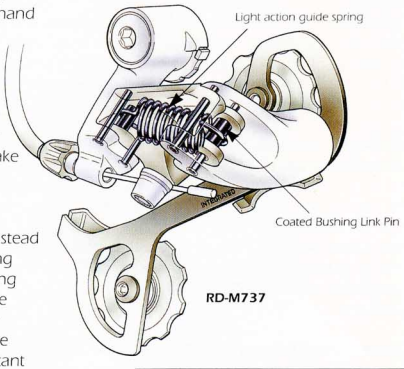
**ADVANCED LIGHT ACTION**

# A lighter, easier, more precise shifting feeling.

## What is "Advanced Light Action?"

Advanced Light Action refers to various refinements that were made in the derailleur, lever, and SIS units of the MTB groups. The purpose of these refinements is to minimize friction in the shifting system in order to reduce the effort needed to operate the front and rear derailleurs. Less shifting effort means easier shifting, reduced hand fatigue, and increased stamina; something all MTB cyclists will appreciate.

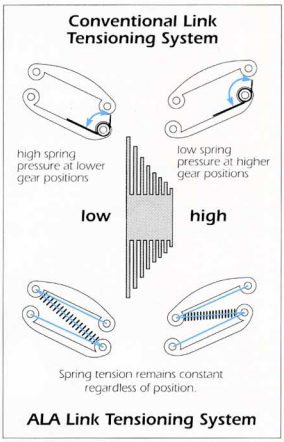
SHIMANO DEORE XT SHIMANO DEORE LX SHIMANO STX
SHIMANO ALIVIO SHIMANO ALTUS C50 SHIMANO TOURNEY
SHIMANO




## How does it work?

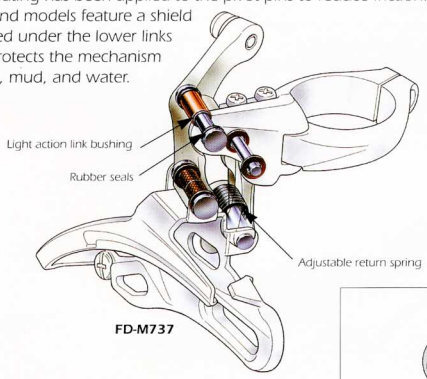
SIS indexing units in Rapidfire lever sets have been redesigned so that less effort is needed to engage the next indent. Other lever modifications were undertaken to reduce friction and make the index unit operate smoother and easier, even under high shifting loads.

A new linear tension coil spring is used in the rear derailleur instead of the conventional radial torsion type. By extending the spring diagonally between the right and left links (instead of tensioning one link with a torsion spring), the difference in spring pressure between the derailleur's high and low positions is significantly reduced. Low-friction coated pivot pins are also utilized. These improvements provide a lighter lever action that remains constant regardless of the derailleur's position.



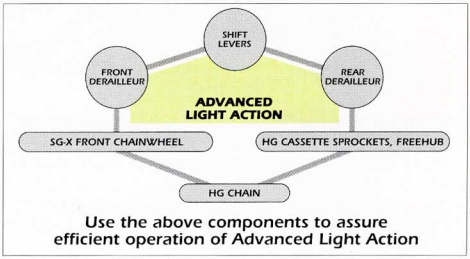

## New link design in the front derailleur

An extremely heavy load is applied to the chain cage and link pins when the front derailleur shifts a highly tensioned drive chain. Advanced Light Action uses wider, stiffer links and pivot pins to make the derailleur more rigid in order to improve shifting performance. A Teflon coating has been applied to the pivot pins to reduce friction. Higher-end models feature a shield positioned under the lower links which protects the mechanism from dirt, mud, and water.




## What are the benefits?

A shift lever that takes less effort to operate gives new cyclists the confidence to start shifting gears safely and skillfully right from the start. Reduced shifting effort can also help off-road racers and other performance cyclists by reducing hand fatigue and increasing stamina.



# DUAL SIS

# SIS shifting for both the rear and front derailleurs opens up a new era of fast, simple, error-free derailleur shifting performance.

## What is SIS?

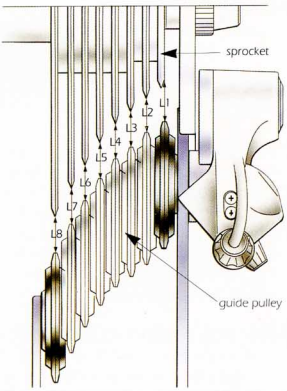
SIS refers to the Shimano Index System. SIS uses an indexing unit in the shift lever to automatically position the derailleur precisely under the selected gear. SIS uses a ratchet mechanism which keeps the lever in the same position regardless of the gear selected. You can also shift across multiple gears simultaneously with a longer lever stroke. With SIS there's no need to "tune" the lever to align the chain. SIS makes derailleur shifting, once a matter of the rider's skill and experience, a function of the components themselves. Everybody shifts like a pro with SIS.




## SIS Mechanisms:

### SIS Indexing Unit

The SIS indexing unit built into the shift lever uses a ratchet mechanism that operates in coordination with the rear or front derailleur. One quick push on the lever precisely positions the rear derailleur guide pulley (or front derailleur chain cage) at the desired gear to execute the shift. The ratchet mechanism always keeps the lever in the same position. Depending on the length of the lever stroke, you can shift 1, 2, even 3 gears at a time if you desire.



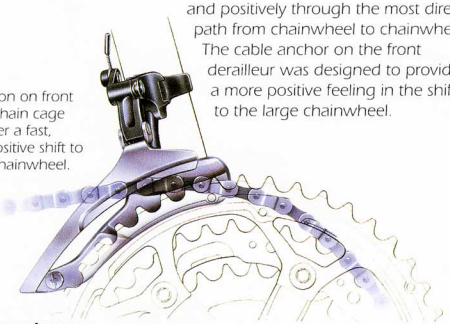

### Double Servo Pantagraph Rear Derailleur

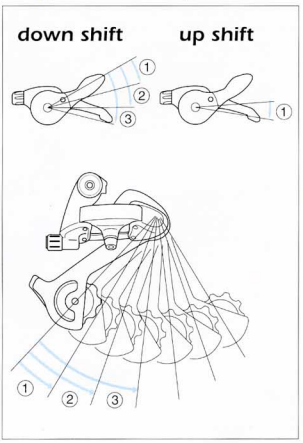
Depending on the frame dropout type and size of the sprockets, the distance from the derailleur's guide pulley and the tips of the sprocket teeth will vary among different bicycles. This distance, shown as L1 through L8 in the diagram at right, must be as small as possible to maintain top SIS shifting performance. The double servo pantagraph design of the rear derailleur aids SIS shifting by keeping the guide pulley close to the sprocket teeth regardless of frame and dropout configuration.

### Front Derailleur With SG-X Compatible Chain Cage

The Dual SIS front derailleur uses a special bulge on the inner chain cage flange to provide fast and smooth SIS shifting with SG-X chainwheels. Leading teeth and spikes on the SG-X chainwheel guide the chain quickly and positively through the most direct path from chainwheel to chainwheel. The cable anchor on the front derailleur was designed to provide a more positive feeling in the shift to the large chainwheel.

Bulge section on front derailleur chain cage helps deliver a fast, smooth, positive shift to the large chainwheel.



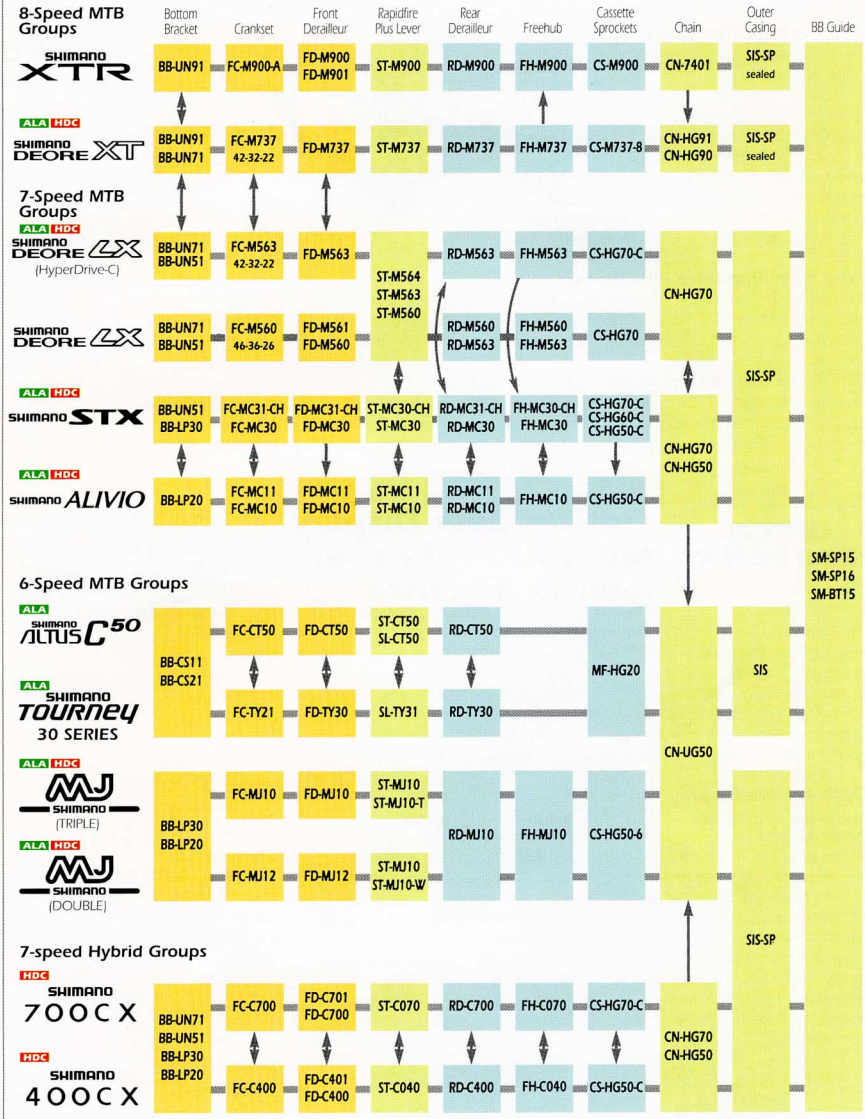



## The Advantages:

The most important thing about SIS is that it makes derailleur shifting a function of component operation rather than rider skill. With a non-SIS system, the rider has to take the time and effort to adjust the lever in order to align the chain. SIS, however, allows the cyclist to execute a perfect shift quickly without the need to fiddle with the lever. SIS shifting is faster, easier, and safer. Racing cyclists appreciate SIS because it lets them concentrate on racing – not shifting gears. Beginning and recreational cyclists appreciate SIS because it gives them the confidence to shift quickly and easily without worrying about losing control of the bicycle.

# DUAL SIS COMPATIBILITY CHART

## Interchangeability of Dual SIS Components




ALA denotes Advanced Light Action system

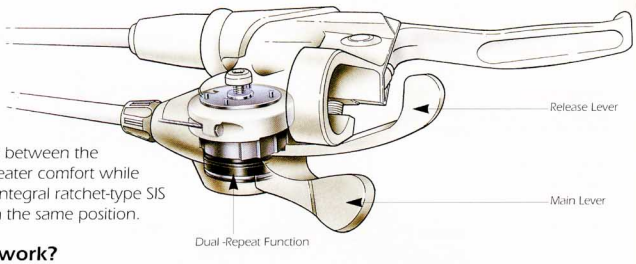
HDC denotes HyperDrive-C

RAPIDFIRE PLUS

# Keep your grip while you brake, steer, and shift.

### What is Rapidfire Plus?

The Rapidfire Plus shift lever set (right side) uses a below-bar thumb lever for shifting to larger sprockets, and a trigger-action lever positioned in front of the bar for shifting to smaller sprockets. Dividing shifting duties between the thumb and forefinger provides greater comfort while reducing stress and fatigue. The integral ratchet-type SIS unit always maintains the levers in the same position.




### How does Rapidfire Plus work?

Push the lower lever with the thumb to execute a down-shift. Pull the release lever back, like a trigger, to execute an up-shift. An extended push of the thumb lever can simultaneously shift multiple gears in one stroke. Close-to-the-bar position keeps shift levers from interfering with the brake lever.

### What are the advantages?

You can shift Rapidfire Plus without moving, or even loosening your grip on the bars. Rapidfire Plus lets you shift quickly and with confidence any time and anywhere ... even during extreme off-road maneuvers. Two-finger action is more comfortable and reduces fatigue.

OPTICAL GEAR DISPLAY

# Optical Gear Display lets you verify your gear at a glance.

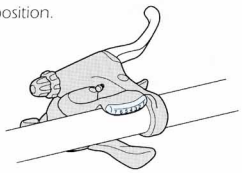
SHIMANO DEORE XT · SHIMANO DEORE LX · SHIMANO STX · SHIMANO ALIVIO · SHIMANO ALTUS C50 · MJ SHIMANO · SHIMANO TOURNEY

The Optical Gear Display (OGD) is a new function that has been integrated into all the new Rapidfire Plus lever sets for 1994. Because the Rapidfire Plus lever is always in the same position, you can't depend on the lever to tell you what gear you're in. While experienced cyclists try to remember what gear they're in, it's not always possible. The Optical Gear Display provides an accurate indication of the currently selected gear. Off-road racers will appreciate OGD because they can plan shifts better after verifying how many gears remain above or below the current one. Beginning cyclists can use OGD to help them learn shifting technique. Besides providing a practical advantage, Optical Gear Display makes shifting more fun too.

### Optical Gear Display Types

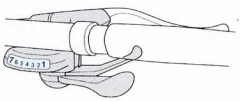
**Above-bar display for Deore XT and LX**

Because the Deore XT and LX groups are often used on mountain bikes that are ridden hard, the OGD indicators were positioned above the bar to allow them to be easily read when the rider is pedaling out of the saddle. The indicator provides the rider with a quick, easy-to-read numerical read-out of the current gear position.



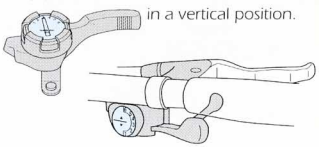
**Below-bar display for STX and Alivio**

Because the new STX and Alivio groups are used on mountain bikes which are less likely to be ridden fast in rough terrain, the Optical Gear Display uses a large below-bar indicator which is easier to see while sitting on the saddle. The actual number of the selected gear is shown on the display.



**Rotary type display for Altus C50, Tourney TY30, and MJ Youth Package**

The Altus C50 and Tourney TY30 groups use a dial-type Optical Gear Display positioned horizontally above the handle bar. The compass-like design of the dial indicator gives an all-outdoors look to the Altus C50 and Tourney TY30 bicycle. The new MJ Youth Package uses a dial-type OGD indicator below the handle bar in a vertical position.

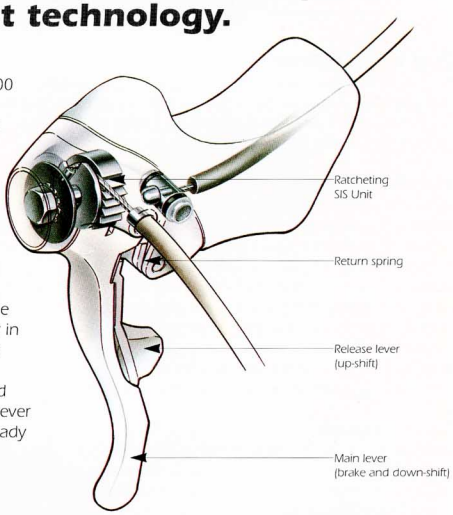


DUAL CONTROL LEVER

# One lever for braking and shifting – a significant advance in bicycle component technology.

## What is the Dual Control lever?

The Dual Control Lever is available on the Dura-Ace, 600 Ultegra, 105SC, and RX-100 road racing component groups. The main lever has two functions – it can shift the derailleur to a larger sprocket as well as apply the brakes. That' why it's called "Dual Control." A smaller release lever behind the main lever is used to release the cable for shifts to smaller sprockets. And it's all done with your hands on the bars in any braking position.

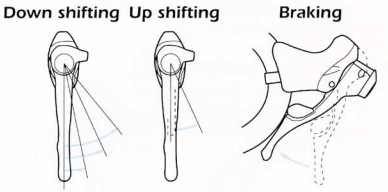



## How does it work?

Push the end of the main lever toward the center of the bike to engage larger sprockets. Push the smaller lever in the same direction to shift to smaller sprockets one at a time. Up to three gears can be down-shifted simultaneously with one longer stroke of the right-hand main lever. The ratchet-type SIS unit always keeps the lever centered. With the Dual Control lever you're always ready to shift.

## What are the advantages?

The Dual Control Lever makes shifting easier and safer because you don't lose speed or change balance by reaching for a downtube lever. For example, you can shift while pedaling hard without letting go of the bar and without giving up hard-won speed. You can shift before exiting a turn to accelerate faster. You can shift while climbing, or accelerating out of the saddle, without releasing the bars and without letting up on pedal pressure.




A longer stroke of the main lever can down-shift up to 3 gears simultaneously.

## DUAL CONTROL LEVER COMPATIBILITY CHART

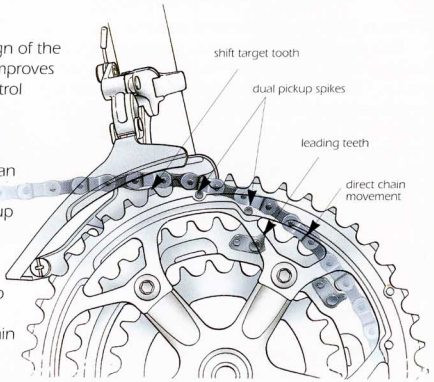
| | Dual Control Lever | Rear Derailleur | Front Derailleur | Crankset Bottom Bracket | Dual Pivot Brake | Freehub | Cassette Sprockets | Chain | Cable | B.B. Guide |
|---|---|---|---|---|---|---|---|---|---|---|
| DURA-ACE | ST-7400 | RD-7402 | FD-7410 | FC-7410 BB-7410 | BR-7403 | FH-7403 | CS-7401 | CN-7401 | SIS-SP (lever side) SIS-sealed (rear derailleur side) | SM-SP15 SM-SP16 SM-BT15 |
| SHIMANO 600 ULTEGRA | ST-6400 | RD-6401 | FD-6401 | FC-6400 BB-UN71 | BR-6403 | FH-6402 | CS-HG90-8 | CN-HG90 | | |
| SHIMANO 105 SC | ST-1055 | RD-1056 | FD-1056 | FC-1056 BB-UN51 | BR-1055 | FH-1056 | CS-HG70-8 | CN-HG70 | | |
| SHIMANO RX100 | ST-A550 | RD-A551 | FD-A551 | FC-A551 BB-UN51 | BR-A550 | FH-A551 | | CN-HG70 CN-HG50 | | |

**SHIMANO HYPERDRIVE**

# More efficient power transfer and improved shifting from integrated derailleur and chainwheel design.

## What is HyperDrive?

Shimano HyperDrive refers to the carefully integrated design of the shift lever, front derailleur, and chainwheels. HyperDrive improves power transfer efficiency through the upgraded chain control provided by fast and precise SIS chainwheel shifting.




## How does it work?

HyperDrive utilizes computer-designed SG-X chainrings as an integral component of the front SIS. Four pairs of strategically positioned spikes on the outer chainring pick up the chain from specific release points determined by the leading teeth on the inner chainring. The chain moves quickly and directly along the shortest possible path from the inner to the outer chainring. The result is fast and crisp SIS shifting, even when the chain is under high tension. Hesitation and chain shock are eliminated because the chain never rides up on the large chainring before engaging.

### SG-X Chainwheels

Making SIS work for the front derailleur was difficult because, unlike the rear derailleur, the chain must be shifted on the side tensioned by the pedals. Shimano applied computer aided design techniques to develop the SG-X chainwheels. The outer SG-X chainwheel uses special plateau contours and four sets of dual spikes that guide the chain up from the middle (or small) chainwheel through the shortest and most direct path.
The middle SG-X gear has two roles – it must release the chain to the top gear and inner chainrings also pick up the chain from the inner chainwheel on triple cranksets. To do this better, it incorporates special leading teeth that determine chain release and pickup points. This provides more positive chain control during shifting.

## What are the advantages

Chainwheel shifting has always involved a loss of speed and a certain amount of pre-planning because pedal pressure had to be reduced to allow the chain to disengage from the chainring. HyperDrive lets you shift quickly and smoothly, even under high chain loads, without letting up on pedal pressure or losing speed. The result is easier shifting, more efficient power transfer, and enhanced performance. HyperDrive also reduces wear on the derailleur and chainwheels so the components last longer.

**SHIMANO HYPERDRIVE-C**

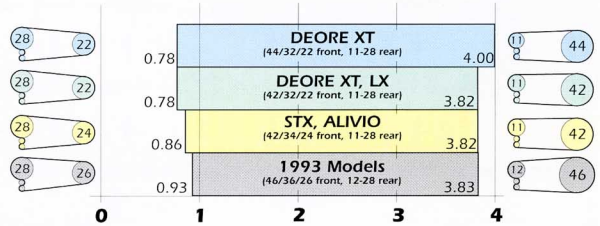
# A lighter, compact, better performing drive system.

SHIMANO DEORE XT · SHIMANO DEORE LX · SHIMANO STX · SHIMANO ALIVIO · SHIMANO MJ · SHIMANO 700CX · SHIMANO 400CX

## What is HyperDrive-C

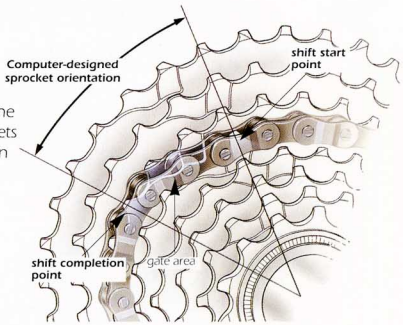
The "C" of HyperDrive-C stands for "compact." By making the chainwheels and rear sprockets smaller, you can reduce the weight of these components (and use a shorter and lighter chain), without any sacrifice in the gearing range. The 42-tooth HyperDrive-C outer chainwheel and 11-tooth sprocket provide a top gear that's equivalent to a 46-12 combination. The HyperDrive-C 24 front and 28 rear combination provides a lower ratio than conventional 26-28 gearing. Smaller chainwheels also provide more ground clearance and improve the bicycle's appearance.

The STX HyperDrive-C system offers an equivalent top gear with a slightly lower bottom gear. While the HyperDrive-C system of the STX group has a total gear capacity of 35 teeth, 1 less than the 36 teeth of a non-HyperDrive-C group, the available gear range is actually wider.



HYPERGLIDE

# Faster, smoother SIS shifting – even under high chain loads.




## What are HG sprockets?:

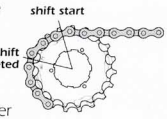
HG sprockets were computer designed to aid SIS shifting by moving the chain more quickly and directly from sprocket to sprocket. HG sprockets speed up shifts by eliminating chain skipping and by keeping the chain from riding on top of the gear teeth before engaging. The result is fast, crisp, ultra-smooth shifting that's almost instantaneous, even under high pedal loads.

## How do they work?

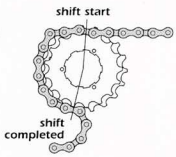
Conventional sprockets cause the chain to ride up and over the gear teeth before engaging. This results in slow, noisy shifts and causes excess wear on the chain and sprockets. HG sprockets uses special computer-designed teeth configurations, contoured shift gates, and precise interrelational positioning that combine to guide the chain directly to the next sprocket without skipping or riding on top of the teeth.

## What are the advantages?

The biggest advantage of HG sprockets is that you can shift quickly and precisely regardless of the tension on the chain. This makes it much easier to downshift on uphills without losing speed or balance. Shifting shock and chain skipping are eliminated so the chain and sprockets last longer. And the HG shifting action delivers smoother, quieter shifts that give new cyclists the confidence to quickly become shifting experts.




HG sprockets guide the chain quickly and directly to the next sprocket without override.




Conventional sprockets cause the chain to ride up and over the gear teeth before engaging the sprocket.

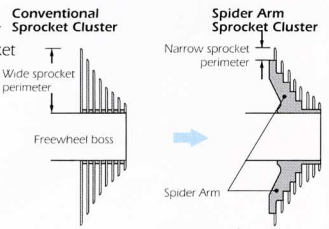
SPIDER ARM CASSETTE SPROCKETS

# Reduced weight, greater rigidity, and more precise shifting.

SHIMANO XTR
SHIMANO DEORE XT

## What is the Spider Arm?

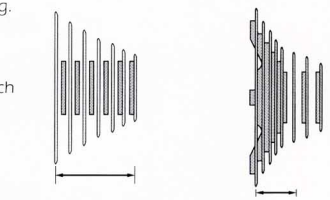
The Spider Arm is a star-shaped four-arm alloy boss that supports the four or five larger sprockets on the 8-speed freewheel unit. It increases sprocket rigidity, reduces weight, and reduces stress on the freewheel by distributing chain loads more evenly. It also allows more precise sprocket positioning for enhanced SIS shifting.




## How does it work?

Because the alloy Spider Arm supports the sprockets close to their outer perimeter, the sprockets can be made with less steel to reduce weight. Furthermore, because the sprockets have a more rigid mounting, flex is reduced with a resulting increase in power transmission efficiency. The Spider Arm also spaces the sprockets more precisely to improve SIS shifting.

Normal sprocket clusters use a stacked sandwich construction which causes variances in sprocket spacing that can adversely affect shifting performance. The Spider Arm uses an individual mounting flange for each sprocket so spacing is even and precise. Pedaling loads are evenly distributed over the entire freewheel boss regardless of the gear. This eliminates freewheel distortion caused by the high localized loads transferred from the small cross section of a conventional sprocket.



Stacked sprockets cause variances in spacing.

Spider Arm maintains precise sprocket spacing.

## What are the advantages?

Spider Arm HG cassette sprockets make a stronger, lighter rear wheel. They reduce weight, enhance shifting precision, and increase power transfer efficiency – real advantages for off-road racers. The new Deore-XT group uses 11-28T HyperDrive-C Spider Arm cassette sprockets.

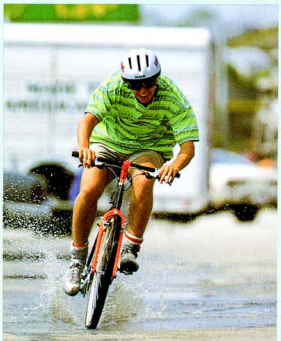
# The all-weather brake system that gives you more stopping power in any environment.

## SHIMANO M SYSTEM

All-around cycling performance means the ability to stop as well as go. SLR (Shimano Linear Response) realizes a great improvement in braking performance by reducing friction throughout the brake system. The result is a light and highly responsive lever feeling that provides a greater feeling of control and confidence. Braking power is increased because less energy is absorbed by the brake system components.

While all these improvement maximize the ability of the brakes to control speed under ideal conditions, wet and dusty environments still have an adverse effect on braking performance. The Shimano M-System was designed specifically to help the brakes work with maximum effectiveness under less-than-ideal conditions. M-System was designed to maintain braking effectiveness under every environmental condition that the cyclist is likely to encounter. M-System keeps the brakes working when the rims get wet, dusty, or muddy.

SLR brakes with M-System – it's another step forward in high-performance braking technology from Shimano.



# The all-weather brake system that gives you more stopping power in any environment.

## What is M-System?

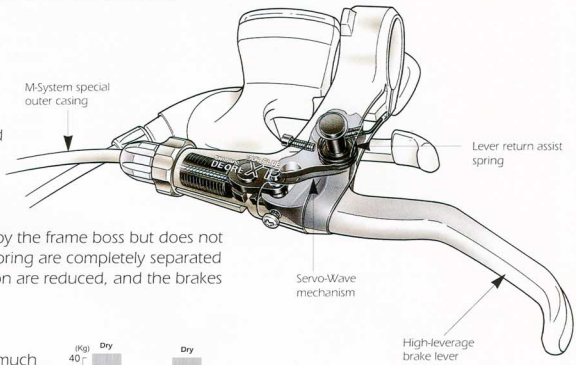
All-around cycling performance means the ability to stop as well as go. While modern cantilever brakes work well under normal dry conditions, wet and dusty environments can significantly reduce their effectiveness. The Shimano M-System was designed specifically to keep the brakes working predictably and consistently even when rims and brake components get wet, dusty, or muddy.

SHIMANO DEORE XT | SHIMANO DEORE LX | SHIMANO MJ
SHIMANO STX | SHIMANO ALIVIO | SHIMANO 700CX
SHIMANO ALTUS C50 | SHIMANO TOURNEY | SHIMANO 400CX

## How does M-System work?

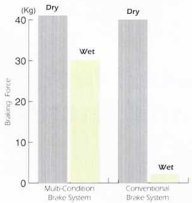
### Unit Design

The invasion of dust, mud, and water between the cantilever arm and frame pivot boss eventually causes friction and corrosion. The M-System unit design encloses the return spring inside the cantilever arm itself. The cantilever arm also has its own integral sealed pivot bearing, so the arm is supported by the frame boss but does not rotate on it. The bearing surface and spring are completely separated from the environment. Wear and friction are reduced, and the brakes work better and longer as a result.



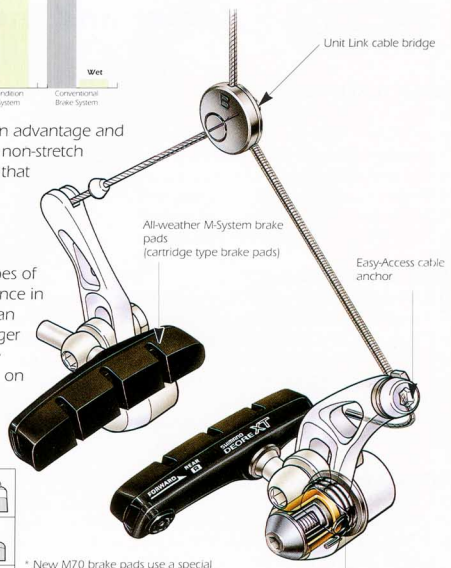

### Special Compound Brake Pads

The job of the brake pad is to apply as much friction as possible to the rim. Doing this under less than ideal conditions is the difficult part. With M-System, a special pad compound and manufacturing technique were developed to maintain a higher coefficient of friction, even when foreign matter intrudes between the pad and rim.



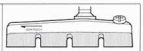

### Lever and Cable

The M-System lever provides a greater power transmission advantage and is more rigid to reduce stress distortion losses. A durable non-stretch cable and newly developed anti-friction liner help assure that all the energy you put into the brakes comes out again.




## What are the advantages?

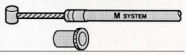
M-System is significant because it makes cycling safer by delivering consistent braking power and control in all types of environments. M-System dramatically reduces the difference in stopping performance between dry and wet rims, or clean or dirty rims. Your brakes work at peak performance longer and are less affected by wear and changes in rim surface over time. You feel more confident in your ability to stop on rain-soaked streets, muddy trails, or sandy surfaces. It's not just all-weather braking performance, but a significant improvement in overall cycling performance.

| | | |
|---|---|---|
| Deore XT | Super M70 cartridge-type brake pad |  |
| Deore LX, STX, Alivio | Super M65 brake pad |  |
| Altus C50 Tourney | Standard M brake pad |  |

* New M70 brake pads use a special compound that lasts twice as long as that of the current M900 shoe used with the BR-M900 brake.

# M-SYSTEM COMPONENT GROUP CHART

This chart shows the lever, cantilever, and cable combinations which insure optimum M-System braking performance.

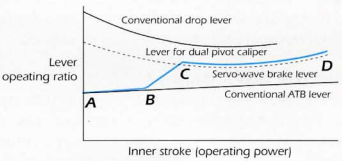
| Series | Brake lever | Cantilever | Cable |
|---|---|---|---|
| DEORE XT | ST-M737 | BR-M737 | Inner Ø1.6mm Outer Ø5.0mm   |
| DEORE LX | ST-M564<br>ST-M563<br>ST-M560 | BR-M561<br>BR-M560 | Inner Ø1.6mm Outer Ø5.0mm   |
| SHIMANO STX | ST-MC30-CH<br>ST-MC30 | BR-MC31-CH/BR-MC31<br>BR-MC30-CH/BR-MC30 | |
| SHIMANO ALIVIO | ST-MC11<br>ST-MC10 | BR-MC15/BR-MC11<br>BR-MC10 | |
| 700 CX | ST-C070 | BR-C701<br>BR-C700 | |
| 400 CX | ST-C040 | BR-C401<br>BR-C400 | |
| MJ | ST-MJ10<br>BL-MJ10 | BR-MJ10 | |
| ALTUS C50 | BL-CT50 | BR-CT51<br>BR-CT50 | Inner Ø1.6mm Outer Ø5.0mm   |
| TOURNEY | BL-TY21 | BR-TY23<br>BR-TY22 | |

SLR PLUS
SHIMANO LINEAR RESPONSE

## Modulated lever action responds faster and increases braking power.

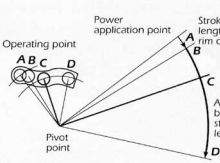
### What is SLR Plus?

SLR Plus is an advanced brake system that uses a modulated lever action to changes the power application ratio as the lever moves through its stroke. At the beginning of the lever stroke, the cable moves quickly to bring the pads into contact with the rim. Cable speed is then lowered, and the power application advantage increases in order to apply maximum braking energy with a high level of control.




### How does it work?

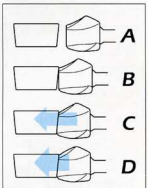
The brake cable is connected to the SLR Plus lever through a servo-wave link that rides in a cam slot in the lever end. The cam slot is profiled to provide faster cable travel during the initial lever stroke, followed by a slower cable speed, and a corresponding increase in energy output, after the brake shoes come into contact with the rim. More of the lever stroke is used after pad-rim contact for greater power application and control of braking energy.




A-B stroke brings shoes quickly into contact with rim. B-C stroke slows cable take-up. C-D stroke increases power multiplication factor for super-strong but easily modulated braking power.

### What are the advantages?

SLR Plus increases braking power because more of the lever stroke is used when the pads are in actual contact with the rim. This enhances control because braking energy can be applied in much smaller increments. M-System brake pads can be used with SLR Plus systems for more predictable all-weather braking performance.




Articulated stroke applies strongest braking power after rim-shoe contact.

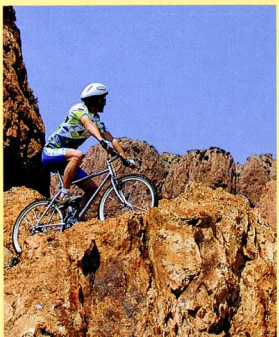
# LIGHT, DURABLE, AND EASY TO MAINTAIN.

It is a Shimano design policy to make our components as light, durable, and easy to maintain as possible. For example, we now offer cartridge bottom brackets for nearly all component groups. Easy-to-install cartridge-type headsets are offered on some component groups this year.

The new STX Special Edition component system includes plated and specially coated fasteners that resists corrosion and discoloration. While this type of feature is usually found on more expensive component groups, it will provide extra value to the owner of the STX bicycle who wants to spend time riding instead of performing maintenance. It will help the STX bicycle keep its beautiful appearance as it provides years of service.

The new Parallax hub design is stronger and more rigid than conventional types. It makes a stronger and more durable wheel that demands less maintenance.

Advanced functions have made component installation and adjustment more important than before. To insure that our components operate as designed, we have introduced Pro Set tools that make front SIS derailleur installation and adjustment faster and easier. The unit link cantilever bridge cables eliminate the difficulty of setting up cantilever brakes. Aids like this help cyclists to keep their Shimano components operating at peak performance.



**SEALED CARTRIDGE BOTTOM BRACKET**

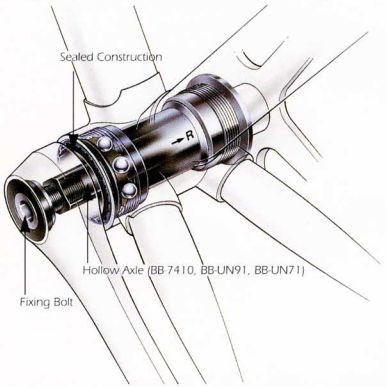
# Simple installation and adjustment... Upgraded durability with less maintenance.

### What is a sealed cartridge bottom bracket?

The cartridge bottom bracket combines the cups, cones, and bearings into a one-piece sealed unit that is easier to install and lasts longer than conventional separate bottom brackets. Dirt and water are sealed out and the precision pre-adjusted bearing units run smoother through a significantly longer service life. Bottom bracket shell adapter eliminates the need for bearing adjustment.

### What are the advantages?

The separate ball bearings, cups, seal, and axle of the conventional bottom bracket have been combined in a single integrated cartridge-type unit which eliminates the need for bearing adjustment. This unitized construction also makes it simple to install and set up the proper chain line. Efficient sealing keeps out dirt and water for a prolonged service life.




| Model No. | Crank Set | Spindle length | Stamped marking | Shell width | Chainline |
|---|---|---|---|---|---|
| BB-7410 | FC-7410 | 103 | SS103 | 68, 70 | 43.5 |
| BB-UN91 | FC-M900 | 107 | MM107 | 68, 70, 73 | 47.5 |
| | | 113 | LL113 | 68, 70, 73 | 50 |
| BB-UN71 | FC-6400 | 115 | D-H | 68, 70 | 43.5 |
| | FC-M737 | 107 | MM107 | 68, 70, 73 | 47.5 |
| | | 113 | LL113 | 68, 70, 73 | 50 |
| | FC-C700 | 113 | LL113 | 68, 70 | 45 |
| | | 118 | XL118 | 68, 70 | 47.5 |
| BB-UN51 | FC-1056<br>FC-A551 | 107 | MM107 | 68, 70 | 43.5 |
| | FC-M563 | 107 | MM107 | 68, 70 | 47.5 |
| | | 113 | LL113 | 68, 70, 73 | 50 |
| | FC-M560 | 113 | LL113 | 68, 70 | 47.5 |
| | | 118 | XL118 | 68, 70, 73 | 50 |
| | FC-MC31-CH | 110.5 | MM110 | 68, 70, 73 | 47.5 |
| | | 113 | LL113 | 68, 70, 73 | 50 |
| | FC-C400 | 113 | LL113 | 68, 70 | 45 |
| | | 118 | XL118 | 68, 70 | 47.5 |
| BB-LP30<br>BB-LP20 | FC-MC30<br>FC-MC11<br>FC-MC10 | 110.5 | MM110 | 68, 70, 73 | 47.5 |
| | | 113 | LL113 | 68, 70, 73 | 50 |
| BB-CS11 | FC-CT50<br>FC-TY21<br>FC-TY20 | 122.5 | D-NL | 68, 70, 73 | 47.5 |
| BB-LP20 | FC-MJ12 | 110.5 | MM110 | 68, 70 | 43.5 |
| | FC-MJ10 | 110.5 | MM110 | 68, 70 | 45 |

The following chart shows which crankset and bottom bracket application to use to get the desired chain line.

**CARTRIDGE HEADSET**

# Cartridge-type headset offers easier installation and greater durability.

SHIMANO DEORE XT
SHIMANO DEORE LX
SHIMANO STX Special Edition
DURA-ACE
SHIMANO600 ULTEGRA

The headset plays an extremely important role in determining the performance of the frame. Unlike other components, the headset becomes an integral part of the frame itself. It's also one of the most difficult components to install and adjust properly. Improperly adjusted bearings can ruin a headset quickly and destroy the frame's handling.

Shimano developed the cartridge bearing headset to eliminate the problems associated with the conventional loose ball type. The cup, cone, and bearings are integrated into a single one-piece unit which easily slips into the headset shell. The precision bearing units are completely sealed to shut out water, mud, and dirt. The headset lasts longer without the need for periodic maintenance. The pre-adjusted bearing cartridges can be quickly and easily replaced, and they make the headset rotate smoother.



**PARALLAX HUB**

# The first Shimano hub designed specifically for the special needs of the mountain bike.

SHIMANO DEORE XT | SHIMANO DEORE LX | SHIMANO STX | SHIMANO ALIVIO | SHIMANO MJ

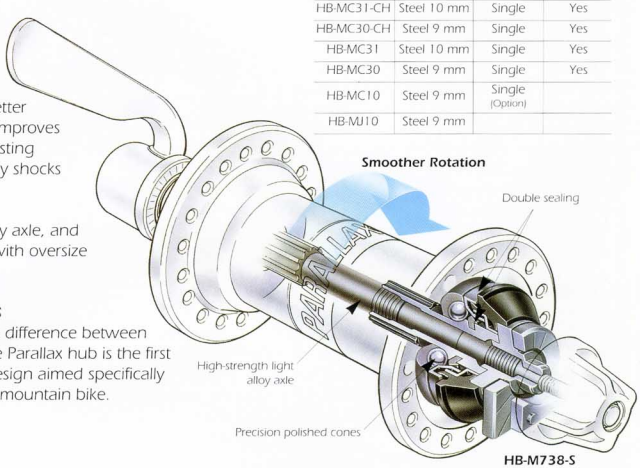
| Model No. | Axle | Seal | Smoother rotation |
|---|---|---|---|
| HB-M738 | Alloy 11 mm | Double | Yes |
| HB-M737 | Steel 9 mm | Double | Yes |
| HB-M564 | Steel 10 mm | Double | Yes |
| HB-M563 | Steel 9 mm | Double | Yes |
| HB-MC31-CH | Steel 10 mm | Single | Yes |
| HB-MC30-CH | Steel 9 mm | Single | Yes |
| HB-MC31 | Steel 10 mm | Single | Yes |
| HB-MC30 | Steel 9 mm | Single | Yes |
| HB-MC10 | Steel 9 mm | Single (Option) | |
| HB-MJ10 | Steel 9 mm | | |

## What is the Parallax hub?

The Parallax hub was developed specifically for the special needs of the mountain bike. It uses an oversize hub body that not only increases wheel strength, but adds to fork rigidity as well for a more stable front end. The heavy-duty look of the hub also goes well with the mountain bike. All of the new Shimano off-road component groups for 1994 incorporate the Parallax hub.

## How does it work?

The fork and front wheel of the MTB take a lot of punishment. The oversize hub body provides a stronger and more rigid spoke anchor so the wheel stands up better to rough off-road cycling. It also improves steering response by reducing twisting between the fork blades caused by shocks such as hitting rocks or other objects. The HB-M738 Deore XT hub uses a heavy-duty 11mm alloy axle, and other Parallax hubs are available with oversize 10mm steel axles.



HB-M738-S

## What are the advantages

Up until now, there has been little difference between road hubs and off-road hubs. The Parallax hub is the first significant improvement in hub design aimed specifically at the special requirements of the mountain bike.

**CORROSION RESISTANT NUTS & BOLTS**

# Components that keep their like-new appearance for years.

SHIMANO DEORE XT | SHIMANO DEORE LX | SHIMANO STX Special Edition

For 1994, Shimano has introduced a corrosion resistant plating and coating process applied to all the fastening hardware used in the Deore XT, Deore LX, and STX Special Edition groups. This special corrosion-resistant treatment will help keep the components looking new and performing at top efficiency for years.


Corrosion-resistant chainring and crank arm bolts

## What are the advantages:

Off-road cycling exposes the bike to the elements in a way no other cycling style does. Off-road components have to be strong, durable, and corrosion resistant. The corrosion resistant treatment upgrades the value of the bicycle by increasing its service life, even in the most severe off-road environments.

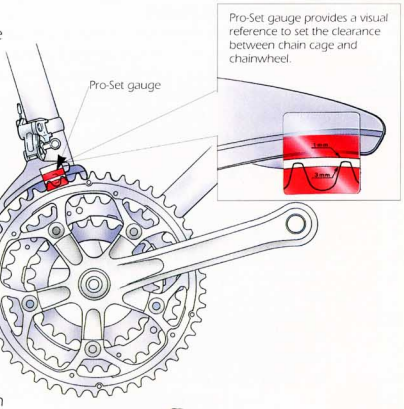

**Corrosion-resistant fastening hardwear throughout the componrnt group.**

**EASY INSTALLATION & ADJUSTMENT**

# Easy-to-use Pro-Set tools that assure correct installation and adjustment of front SIS and cantilever brakes.

## What are Pro-Set tools?

Your components won't deliver top performance unless they are installed and adjusted correctly. Shimano Pro-Set tools make installation of the front derailleur and cantilever brakes fast and easy. Pro-Set gauges help you set the critical dimension between the front derailleur and chainwheel in front SIS systems. Unit-design and indicator-type bridge cable carriers help you install and adjust your cantilever brakes quickly, easily, and correctly for maximum braking power.



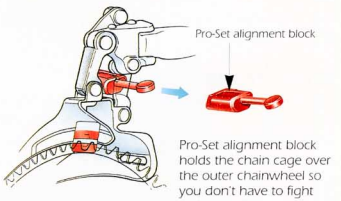

## How do they work?

### Front SIS:

The Pro-Set gauge and alignment block make it easy to set the critical dimension between the front derailleur chain cage and chainwheel. The alignment block holds the derailleur cage directly over the chainwheel so you don't have to fight spring tension when setting derailleur height and cage alignment. The Pro-Set gauge gives you a visual reference that makes it easy to set the correct 1-3mm clearance between the chain cage and chain wheel.

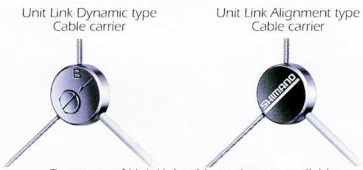
### Cantilever Brakes:

Let's face it, cantilever brakes have always been difficult to install and set up properly. Unit Link bridge cables make it easy to set the correct cable angle for maximum braking effectiveness. Just align to do is attach the cable to the cantilever at the end of the unit link sleeve. These automatically sets the best cable angle for mximum braking energy. That's all there is to it.

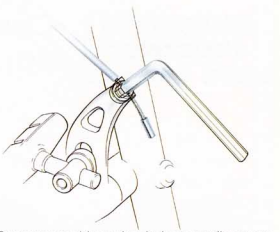



## What are the advantages?

Proper installation and adjustment is necessary to insure efficient operation of the advanced functions designed into Shimano components. Pro-Set tools make it easy to set up and keep your Shimano components working at peak efficiency.




Two types of Unit Link cable carriers are available.



Easy-access cable anchor bolt on cantilever arm

| Model No. | BR-M737 BR-M560 BR-MC30-CH BR-MC30 | BR-M561 BR-MC31-CH BR-MC31 | BR-C700 BR-C400 | BR-C701 BR-C401 | BR-MC10 BR-CT50 BR-TY22 | BR-MC11 BR-CT51 BR-TY23 | BR-MC15 | BR-MJ10 |
|---|---|---|---|---|---|---|---|---|
| Cantilever Size | M | L | S | M | M | L | S | L |
| Link Type | Unit link (dynamic type) | | | | Unit link (alignment type) | | | |
| Link Cable Length | A/73 | A/73 | A/73 | A/73 | A/73 | A/73 | A/73 | A/73 |
| | B/82 | B/82 | B/82 | B/82 | B/82 | B/82 | B/82 | B/82 |
| | | C/106 | | C/106 | | C/106 | | C/106 |
| | | D/93 | | D/93 | | D/93 | | D/93 |
| | | | S/63 | | | | S/63 | |

# SMALL PARTS & TOOLS

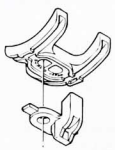
To maintain top performance of Advanced Light Action, Dual-SIS, and M-System brakes, we strongly recommend use of the Shimano frame parts shown on this page.

## Cable Guide

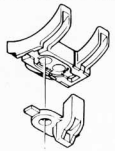
**SM-MT15**
Code No. 66Y 9382



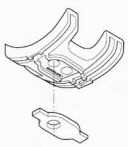
**SM-MT55**
Code No. 66Y 9811



**SM-MT25**
Code No. 66Y 9821



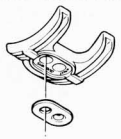
**SM-BT15**
Code No. 66Y 9840



**SM-SP16**
Code No. 66Y 9831



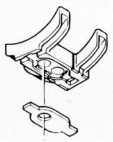
**SM-SP15**
Code No. 66Y 9830



**SM-SP55**
Code No. 66Y 9810



**SM-SP25**
Code No. 66Y 9820

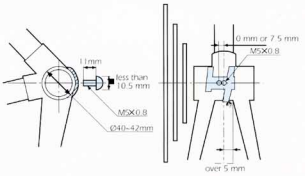


**SM-SP70**
Code No. 66W2700

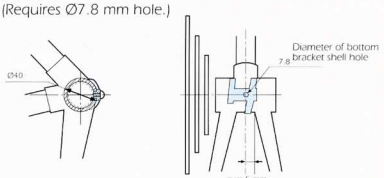


### Installation dimensions and positions

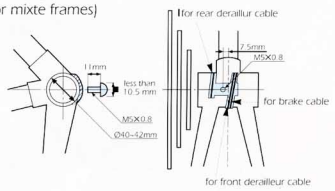
- **SM-SP55/SM-SP25/SM-SP15**
  **SM-M55/SM-MT25/SM-MT15**



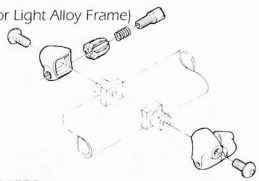

- **SM-SP16**
  (Requires Ø7.8 mm hole.)



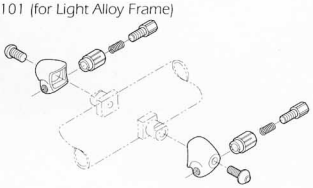

- **SM-BT15**
  (for mixte frames)




Cable Stopper
**SM-ST74**
for ST-7400/ST-6400/ST-1055 Brazed-on Boss
Code No. 67D 9801
67D 9802 (for Light Alloy Frame)



Cable Stopper
**SM-CS50**
for Bar end shifter or ST-A550
Code No. 67B 9100
67B 9101 (for Light Alloy Frame)



## Reinforced Special Pin

for HG compatible chain.





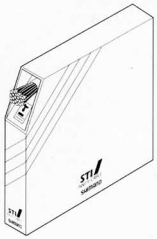

Code No.045 9802 (50-piece)




Code No.045 9801 (3-piece)

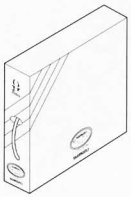
# SMALL PARTS & TOOLS

## Inner Cable File Box



| PART NO. | DESCRIPTION | | PCS.PER BOX |
|---|---|---|---|
| 600 9851 | For Shifting Lever | ø1.2mm x 2000m (Stainless) | 100 |
| 600 9852 | For Shifting Lever | ø1.2mm x 2100m | 100 |
| 800 9851 | For ATB Brake Lever | ø2.0mm x 1700m | 50 |
| 800 9852 | For ATB Brake Lever | ø1.6mm x 1700m | 100 |
| 800 9853 | For Racing Brake Lever | ø1.6mm x 1700m | 100 |

## M-system Outer Casing File Box (ø5mmx30m/98.5ft.)



| PART NO. | DESCRIPTION |
|---|---|
| 80Y 0021 | ø5mm x 30m/Red (#107) |
| 80Y 0022 | ø5mm x 30m/Blue (#207) |
| 80Y 0024 | ø5mm x 30m/Yellow (#407) |
| 80Y 0025 | ø5mm x 30m/White (#507) |
| 80Y 0025-1 | ø5mm x 30m/Transparent Silver (#517) |
| 80Y 0025-2 | ø5mm x 30m/Silver (#527) |
| 80Y 0025-3 | ø5mm x 30m/Metaric Sillver (#537) |
| 80Y 0026 | ø5mm x 30m/Black (#607) |
| 80Y 0026-4 | ø5mm x 30m/Gray (#647) |

## SLR Outer Casing File Box (ø6mmx25m/82ft.)



| PART NO. | DESCRIPTION |
|---|---|
| 80A 0020 | ø6mm x 25m/White (#507) For ø2.0mm Inner Cable |
| 80A 0026 | ø6mm x 25m/Black (#607) For ø2.0mm Inner Cable |

## SIS-SP Outer Casing

(25ft./7.62m) w/Outer Cap
(6mm size:30pcs./5.5mm size:15pcs./
4mm size:15pcs.)

| PART NO. | COLOR |
|---|---|
| 60B 9760-1 | Silver (#537) |
| 60B 9761-1 | White (#507) |
| 60B 9762 | Red (#107) |
| 60B 9763-1 | Blue (#207) |
| 60B 9765 | Black (#607) |
| 60B 9768 | Yellow (#407) |
| 60B 9769 | Gray (#637) |



## Outer Cap

| PART NO. | DESCRIPTION |
|---|---|
| 60E 0004 | Sealed Outer Cap (ø4mm) |
| 60E 0003 | Sealed Outer Cap (ø5mm) |
| 60E 0001 | Sealed Outer Cap (ø6mm) |
| 60B 0003 | Outer Cap (ø4mm) |
| 60B 0004 | Outer Cap (ø5mm) |
| 60B 0001 | Outer Cap (ø6mm) |



## Inner End Cap

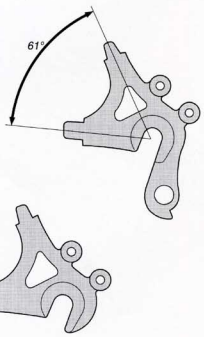
| PART NO. | DESCRIPTION |
|---|---|
| 620 2010 | Inner End Cap (ø1.2mm) |
| 620 2011 | Inner End Cap (ø1.6mm) |
| 620 2013 | Inner End Cap (ø2.0mm) |



MTB Type Fork Ends

## FE-SF25

8-Speed Compatible



Cartridge Head set Tool

**TL-HP50** (1")

(HP-7410, HP-6500, HP-M740, HP-M563 and HP-MC30)

Code No. 7200105-0

**TL-HP51** (1-1/8")

(HP-M741, HP-M564 and HP-MC31)

Code No. 7200106-0

**TL-HP52** (1-1/4")

(HP-M742)

Code No. 7200107-0



Chain Cutter (Large Type)

**TL-CN30**

Use to break and connect HG chains.

Code No. 3-1309030



Chain Cutter

**TL-CN21**

Use to break and connect HG chains.

Code No. 3-1309020



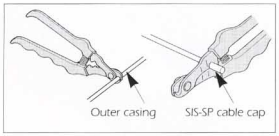
Cable Cutter

**TL-CT10**

Used to cut outer casings, inner cables, and install end caps.

Code No. 098 0001






Bottom Bracket Installation Tool

**TL-UN72**

For BB-UN90/91, BB-UN71/70, BB-UN51/50, BB-CS21/ 20, BB-CS11/10 and BB-LP30/20

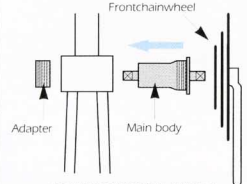
Code No. 1300906-5



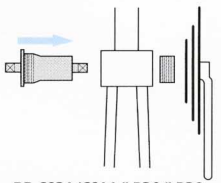

**Tightening torque: 49.0-68.6 Nm {435-608 in.lbs.}**

Install by using the special tool TL-UN72 First install the main body, then the adapter.

**Note:** Direction of insertion depends on the model.




**BB-UN91/UN71/UN51**



**BB-CS21/CS11/LP30/LP20**

8mm x 200mm Hexagon Wrench key

**TL-WR38**

For Low Profile Crank

Code No. 1300917



Cotterless Crank Extractor

**TL-FC10**

Code No. 1300901



Three Spanners Set

**TL-FC30**

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

Code No. 1309001



Cone Adjusting Tool Set

**TL-PD73**

For PD-M735/PD-M650 Pedal.

Code No. 4609850



Pedal Axle Unit Removal Tool

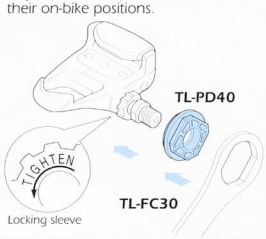
**TL-PD40**

For PD-1056, PD-1055, PD-A550 and SPD Pedal.

Code No. 42A0900



Place the tool over the locking sleeve and use BB wrench TL-FC30 to remove the cartridge bearing unit. Be careful to note the tightening direction marked on the locking sleeve as pedals use right and left hand threads. Loosen accordingly. The PD-7410 Dura-Ace pedal has no tightening direction marked on the locking sleeve. If in doubt about the tightening or loosening direction, loosen the sleeve by turning it forward (toward the front of the bicycle) with the pedals oriented in their on-bike positions.




Lock Ring Tool for HG Sprockets

**TL-HG15**

Code No. 1200918



# Shimano Cycling Footwear
# Creating a better foot-pedal interface

The cycling shoe is one of the bicycle's most important components. It forms the critical interface where the cyclist's energy is transformed into mechanical power. Cycling comfort, stamina, and power transfer efficiency are largely determined by the shoe. A good shoe enhances performance and makes cycling more fun. Shimano cycling shoes were developed from a wealth of advanced biomechanical technology with the goal of increasing the cyclist's performance and making the sport more enjoyable.

Shimano now offers a wide range of shoes for every cycling style. There's a Shimano shoe for professional and amateur competition on or off the road; sport and fitness cycling, training, touring and recreational cycling. A snug and comfortable fit is provided by design features that make the shoe conform better to the natural contours of the foot. The use of advanced materials realizes an exceptionally lightweight and durable shoe that stands up to years of hard use. And fashionable design makes Shimano cycling shoes look as good as they perform.

### SHIMANO SHOES FOR ROAD CYCLING

Shimano road shoes are designed to deliver top performance for racing and fitness cycling. The SH-R210 is the top line SPD road racing shoe. The new SH-R120 and SH-T120 models offer SPD versatility for racing, fitness riding, or performance cycling.

Shimano also offers SPD shoes for on-the-road sport and recreational cycling. Any cyclist will appreciate the light weight, comfortable fit, and efficient pedaling made possible by the SH-A100 and SH-A050 shoes. These shoes feature color treatments that make them highly fashionable as well.

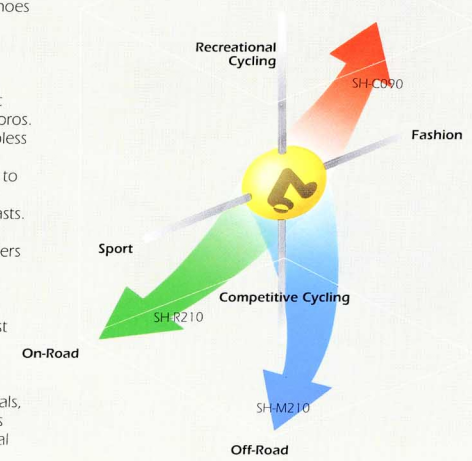
### SHIMANO SHOES FOR OFF-ROAD CYCLING

Shimano offers a full line of off-road cycling shoes that respond to the needs of everyone from beginners to pros. All Shimano MTB shoes feature the SPD system for clipless pedaling efficiency and off-bike mobility.

The new top-line SH-M210 was designed to stand up to the rigors of pro-level off-road racing. The SH-M110 responds to the demands of hard-riding MTB enthusiasts. The SH-M051 and SH-M030 offer excellent value for touring and recreational cyclists or occasional off-roaders who want a quality SPD shoe at reasonable cost.

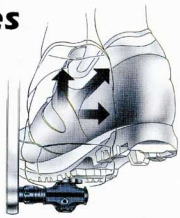
### SH-C090

The SH-C090 is a new type of shoe aimed at the cyclist whose interests extend to other sports as well. It's a high-quality shoe offering the stylish appearance of top line sport shoe plus the added advantage of SPD compatibility. Lightweight construction, quality materials, and up-to-date design make it a great off-blike shoe as well. It's the first SPD shoe that puts the accent on total versatility.



SPD
SHIMANO PEDALING DYNAMICS

# A shoe-pedal interface that enhances the cycling experience.



Twist out to release.

## FEATURES:

Shimano Pedaling Dynamics (SPD) is part of the Ride Light concept that makes the bicycle feel lighter, more responsive and enjoyable to ride. The recessed SPD shoe cleat locks into the SPD pedal for greater pedaling stability and efficiency, and yet lets you walk or hike with complete comfort and safety. New for 1994 is the SH-C090 shoe. It's a fashionable high-quality sport shoe that stresses style and comfort and provides excellent performance off the bike.

## DESIGN

Simply step into the SPD pedal and push your foot down to engage the pedal. Rotate your ankle outward and the SPD binding releases quickly and easily.

The SPD system is especially beneficial for off-road cycling because it delivers the power, stability, and efficiency of a cleated cycling shoe, yet lets you walk comfortably and safely without any cleat-ground interference. SPD pedal were designed to repel mud and dirt so even the worst environments won't interfere with the operation of the binding system.

The compact SPD binding mechanism reduces the size and weight of SPD road racing pedals - an important factor in competition. SPD also provides racers with the convenience of being able to walk comfortably before and after races without bothering to change shoes. Side pontoons protect the cleat from damage and abrasion when walking. And with 36° of ground clearance, the SPD road racing pedal can take on the steepest turns.



Cleated cycling shoes you can walk in.

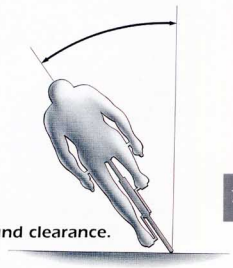


Step in to engage the SPD binding.

## ADVANTAGES

The advantage of the SPD system is that is fulfills two roles – the stability and efficiency of clipless pedaling from a rugged lightweight shoe that's both comfortable and safe to walk in.

The quick-release binding lets off-road racers dismount fast and easily. When the going gets rough, you can release quickly and easily to help keep balance. You can also walk or carry your bike on trails without worrying about slipping on cleats thanks to the recessed cleat and the excellent traction provided by the treaded rubber sole.



36° of ground clearance.

# SPD shoes for off-road racing, touring, and recreational cycling.

NEW

SPD Racing Shoe

## SH-M210

This is the top-line SPD shoe aimed at off-road competition and performance cycling. Quality materials and rugged design stand up to the rigors of the hardest off-road riding. The SPD shoe for anybody who wants the best..

**Weight** 770g (pair, size 44 w/o cleats)
**Material** Upper: Hytrel plastic, synthetic leather, polyester mesh
Inner Sole: Cup molded cambrelle w/ EVA backing
Mid Sole: Fiberglass reinforced nylon
Outer Sole: Rubber tread
**Options** Sole spike
**Sizes** 36, 37-47 (including half sizes), 48
**Color** 1-style: Black
**Recommended Pedal**
PD-M737/PD-M525/PD-M323 SPD pedals
U.S. PAT 5,125,173



PD-M737

SPD Racing/Performance Shoe

## SH-M110

A quality full-featured SPD shoe for off-road racing, touring, or any type of mountain biking. Versatile performance and durability.

**Weight** 795g (pair, size 43, w/o cleats)
**Material** Upper: High-Strength nylon mesh, PU coated split leather
Inner Sole: Cup molded cambrelle w/ EVA backing
Mid Sole: Fiberglass reinforced nylon
Outer Sole: Rubber tread
**Sizes** 36, 37-47 (including half sizes), 48, 49
**Color** 1-style: Blue
**Recommended Pedal**
PD-M737/PD-M525/PD-M323 SPD pedals
U.S. PAT 5,125,173



PD-M737

SPD Off-Road/Touring Shoe

## SH-M051

A great all-purpose SPD shoe for off-road riding, touring, or virtually any cycling style. Laces and strap closures insure a comfortable and secure fit.

**Weight** 872g (pair, size 43, w/o cleats)
**Material** Upper: High-Strength nylon mesh, split leather
Inner Sole: Cambrelle w/ EVA backing
Mid Sole: Fiberglass reinforced nylon
Outer Sole: Rubber (hiking tread design)
**Sizes** 36, 37-47 (including half sizes), 48
**Color** 1-style: Blue
**Recommended Pedal**
PD-M737/PD-M525/PD-M323/PD-A525 SPD pedals
U.S. PAT 5,125,173



PD-M525

SPD Off-Road/Touring/Recreational Shoe

## SH-M030

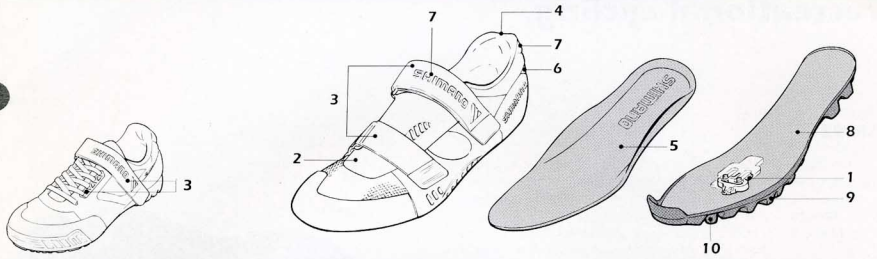
An excellent cost-performance value in an SPD sport shoe. Low-cut rubber outer sole for more comfortable walking. Great performance both on and off the bike.

**Weight** 810g. (pair, size 43, w/o cleats)
**Material** Upper: Split leather & breathable nylon mesh
Inner Sole: Cambrelle w/ EVA backing
Mid Sole: Fiberglass reinforced nylon
Outer Sole: Rubber (hiking tread design)
**Sizes** 36-48 (whole size only)
**Color** 1-style: Gray
**Recommended Pedal**
PD-M737/PD-M525/PD-M323/PD-A525 SPD pedals
U.S. PAT 5,125,173



PD-M323

## SPD Off-Road Shoe Features




| Feature | Benefit | SH-M210 | SH-M110 | SH-M051 | SH-M030 |
|---|---|---|---|---|---|
| **1. SPD Compatible Cleat Mounting** | Sole patch can be easily removed to install SPD cleats for clipless pedaling performance with SPD pedals. Pre-drilled mounting allows 20mm fore/aft and 5mm lateral cleat positioning. | ● | ● | ● | ● |
| **2. Shoe Upper** | Flexible super-strong Hytrel plastic upper, heel, and side panels increase strength and comfort and resist the highest pedaling stresses without stretching. The flexibility of Hytrel also enhances walkability. Polyester mesh won't strech for water. | ● | | | |
| | Nylon mesh and polyurethane form a high-strength upper that allows plenty of ventilation to cool the foot and reduce fatigue. | | ● | nylon mesh | nylon mesh |
| **3. Closures** | Extra-long hook-and-loop type strap closures enhance comfort by allowing the shoe to conform better to the shape of the foot. Straps can be easily adjusted with one hand while riding. | ● | ● | ● | |
| | Aluminum strap rings reduce weight and provide a strong and durable anchor for the strap closures. Black coating enhances shoe appearance. | ● | ● | | |
| | Hook-and-loop strap and laces provides a double security closure system. Strap also holds tied laces in place to prevent them from untying or getting caught in the crank. | | | ● | |
| | High-strength resin eyelets protect the shoe upper. They allow the laces to slide easier and be tied tighter. | | | ● | |
| **4. Ankle Panels** | Anatomical fit padded ankle panel provides firm support for ankle and heel. Provides excellent shock absorption. | ● | ● | | |
| **5. Cup Molded Cambrelle & EVA Inner Sole** | Combination Cambrelle & EVA cup molded inner sole matches foot contours and provides a smooth transition between upper panels and inner sole. The result is a more natural anatomical fit that increases comfort and reduces fatigue. Cambrelle & EVA absorbs moisture to help keep feel dry. | ● | ● | cambrelle & EVA inner sole | cambrelle & EVA inner sole |
| **6. Anatomical Construction Heel** | Heel section cups and supports for a better fit to reduce foot movement in the shoe. Pedaling efficiency and comfort are both increased. Reinforcing strap panel hugs the heel and helps prevent side movement. | ● | ● | ● | |
| **7. Reflectorizing** | Reflectorized sections at heel and straps provide better night visibility. Movement of reflectors while pedaling makes cyclist exceptionally visible. | ● | ● | ● | heel only |
| **8. Fiberglass Reinforced Nylon mid Sole** | Fiberglass reinforced mid sole protects feet against localized pressure points and distributes pedaling loads. The result is more comfortable pedaling with less fatigue. | ● | ● | ● | ● |
| **9. Outer Sole** | High-traction outer sole with aggressive tread pattern provides an excellent grip on all kinds of surfaces. Hard toe block protects against shocks and penetrations. | ● | ● | | |
| | Low-cut rubber tread pattern makes the shoe more comfortable to walk in. Shoes can be worn for a wider range of activities. | | | ● | ● |
| **10. Optional Spike Mounting** | Optional spikes can be mounted on the outer sole to provide more grip in loose sand and mud, an advantage for off-road competition. | ● | | | |

# SPD shoes for road racing, touring, and recreational cycling.

SPD Pro Road Racing Shoe

## SH-R210

The professional-level SPD road racing shoe that delivers on-bike performance with the convenience of off-bike mobility. The latest in lightweight high-strength materials, anatomic design, and triple-strap closures assure top performance.

**Weight** 538g (pair, size 43, w/o cleats)
**Material** Upper: Vectran mesh, synthetic leather
Inner Sole: Cup molded cambrelle w/ EVA backing
Outer Sole: Carbon fiber
**Sizes** 39-47 (including half-sizes), 48
**Color** 1-style: Silver
**Recommended Pedal**
PD-7410/PD-6500 SPD pedals
U.S. PAT 5,125,173
**Compatibility** Shimano (Look) PD-7401,6402,1056 pedals
Normal cleat (SM-SH31)




SPD Road Racing/Performance Shoe

## SH-R120

NEW

High-tech design, light weight, and the latest materials make this a high-performance SPD road racing shoe for racers and performance-oriented cyclists.

**Weight** 640g (pair, size 43, w/o cleats)
**Material** Upper: Synthetic Leather, nylon mesh,
Inner Sole: Cup molded cambrelle w/ EVA backing
Outer Sole: Fiberglass reinforced nylon
**Sizes** 36, 37-47 (including half-sizes), 48, 49
**Color** 1-style: Dark gray
**Recommended Pedal**
PD-7410/PD-6500 SPD pedals
U.S. PAT 5,125,173
**Compatibility** Shimano (Look) PD-7401,6402,1056 pedals
Normal cleat (SM-SH31)




SPD Road Racing/Sport Shoe

## SH-T120

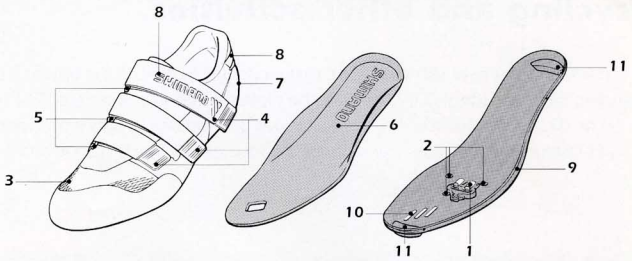
NEW

An excellent cost-performance value in a real racing shoe.
The SH-T120 is a great shoe for amateur racers, performance and fitness cyclists ... anybody who demands quality equipment and value.

**Weight** 630g (pair, size 43, w/o cleats)
**Material** Upper: Nylon mesh, PU coated split leather
Inner Sole: Cambrelle w/ EVA backing
Outer Sole: Fiberglass reinforced nylon
**Sizes** 36, 37-47 (including half-sizes), 48
**Color** 1-style: Black
**Recommended Pedal**
PD-7410/PD-6500 SPD pedals
U.S. PAT 5,125,173
**Compatibility** Shimano (Look) PD-7401,6402,1056 pedals
Normal cleat (SM-SH31)



## SPD Road Racing Shoe Features




| Feature | Benefit | SH-R210 | SH-R120 | SH-T120 |
|---|---|---|---|---|
| 1. **Adjustable SPD Cleats** | SPD cleat position can be set to rider preference. SPD cleat mounting allows 15mm of fore and aft adjustment and 5mm of lateral adjustment. | ● | ● | ● |
| 2. **SPD and Look® Compatibility** | SPD performance comes to the road. Soles are predrilled for SPD or Look® cleats. Two types of SPD cleats allow fixed or rotational binding depending on rider preference. | ● | ● | ● |
| 3. **Upper Panels** | **Vectran**<br>Upper panels of high-strength Vectran (polyallylate) mesh provide excellent ventilation and resist the highest pedaling loads without stretching. | ● | | |
| | **Synthetic Leather**<br>High-grade synthetic leather is more durable, stretch and water-resistant than natural leathers. | | ● | |
| 4. **Extra-Long Triple Strap Closures** | Three extra-long hook-and-loop closures assure a snug fit for any foot shape. Three straps help reduce foot movement in the shoe for greater pedaling efficiency. Straps can be easily adjusted with one hand while riding. (SH-T120 uses two straps.) | ● | ● | double |
| 5. **Aluminum Strap Rings** | Aluminum rings provide a strong, reliable and lightweight strap anchor that won't weaken. | ● | ● | ● |
| 6. **Cup Molded Cambrelle & EVA Inner Sole** | Combination Cambrelle & EVA inner sole is cup to better match foot contours and to provides a smooth transition between upper panels and inner sole. The result is a more snug, comfortable fit that reduces fatigue. Cambrelle & EVA composition absorbs moisture to help keep feet dry. | ● | ● | cambrelle & EVA inner sole |
| 7. **New Construction Heel** | Heel section cups and supports for a better fit to reduce foot movement in the shoe. Pedaling efficiency and comfort are both increased. Reinforcing strap panel hugs the heel and helps prevent side movement. | ● | ● | ● |
| 8. **Reflectorizing** | Reflectorized sections at heel and straps provide better night visibility. Movement of reflectors while pedaling makes cyclist exceptionally visible. (SH-T120 has heel reflector only.) | ● | ● | ● |
| 9. **Full Carbon Fiber Sole** | Full carbon fiber sole is light, rigid, and super-strong to maximum pedaling efficiency. | ● | | |
| 10. **Air Vents** | Air vents at the front of the shoe allow air in to cool the feet and help keep them dry. | ● | ● | ● |
| 11. **Polyurethane Pads** | Polyurethane pads on the outer sole protect the cleat and provide a non-slip surface for walking. | ● | Rubber | Rubber |

# A fashionable all-purpose SPD sport shoe for cycling and other activities.

The SH-C090 is a new SPD sport shoe that works just as well off the bike as it does on. A new expression in cycling footwear, the SH-C090 delivers the clipless pedaling efficiency of SPD system in a stylish shoe that can be worn for other activities as well. It was designed for cyclists who want a high-quality cycling shoe that's fashionable, functional, and flexible. It's a great SPD cycling shoe and a whole lot more.

SPD Sport Shoe

## SH-C090

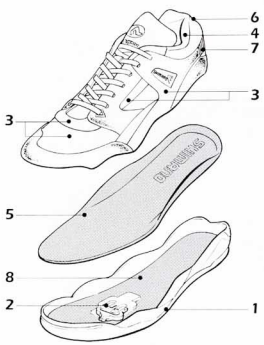
NEW

**Weight** 812g (pair/size 42 w/o cleats)
**Material** Upper: Nylon mesh, split leather, synthetic leather
Inner Sole: Cup molded cambrelle w/ EVA backing
Mid Sole: Hytrel Plastic
Outer Sole: EVA, high traction rubber with sport tread pattern
**Sizes** 36-48 (whole sizes only)
**Color** 1-style: Gray
**Recommended Pedal**
PD-M737/PD-M525/PD-M323/PD-A525 SPD pedals
U.S. PAT 5,125,173





## New SH-C090 SPD Sport Shoe Feature




| Feature | Benefit |
|---|---|
| **1. A Great Sport Shoe** | Rubber outer sole uses an aggressive tread pattern made from an advanced long-wearing tire rubber formula. A layer of EVA under the rubber provides a cushioning effect for more comfortable walking, running, or hiking. |
| **2. Adjustable SPD Cleat Mounting** | 20mm of fore-aft adjustment and 5mm of lateral adjustment allow precise cleat positioning to match personal preferences. |
| **3. Synthetic Leather Upper** | Tough synthetic leather upper won't stretch out of shape. And because it's water-resistant, the shoe maintains its fit in any cycling environment. |
| **4. Ankle Panels** | The rear side panels cradle the ankle are for increased support, cushioning, and shock protection. |
| **5. Molded Cambrelle-EVA Inner Sole** | Cup molded inner sole matches the natural contours of the sole of the foot and provides a smooth transition between the inner sole and upper panels. Cambrelle-EVA composition helps absorb moisture to keep feet fresh and cool. |
| **6. Three-Quarter Heel** | Three-quarter heel cut provides better ankle support and makes for a more fashionable appearance. |
| **7. Reflectors** | Reflectorized panel on the heel provides greater safety by making the cyclist more visible at night. |
| **8. Hytrel Mid-Sole** | Mid-sole of tough Hytrel plastic provides the flexibility needed for comfortable walking yet eliminates pressure points and distributes pedaling loads. |

| US | Europe |
|---|---|
| 4 | 36 |
| 5 | 37 |
| 5-1/2 | 38 |
| 6-1/2 | 39 |
| 7 | 40 |
| 8 | 41 |
| 8-1/2 | 42 |

| US | Europe |
|---|---|
| 9 | 43 |
| 10 | 44 |
| 11 | 45 |
| 11-1/2 | 46 |
| 12 | 47 |
| 13 | 48 |

# SPD Sport Shoes for Cycling and a Whole Lot More

SPD Sport/Fitness Shoe

## SH-A100

Touring, fitness cycling, recreational riding ... the SH-A100 is an all-round cycling shoe for active cycling lifestyles. Low-cut rubber sole provides excellent traction and walking comfort.

**Weight** 780g (pair, size 43, w/o cleats)
**Material** Upper: Nylon mesh, PU coated split lesther
Inner Sole: Cup molded cambrelle w/ EVA backing
Mid Sole: Fiberglass reinforced nylon
Outer Sole: Rubber
**Sizes** 36, 37-47 (including half-sizes), 48
**Color** 2-style:n Black, White
**Recommended Pedal**
PD-M737/PD-M525/PD-M323/PD-A525 SPD pedals
U.S. PAT 5,125,173




SPD Sport/Recreational Shoe

## SH-A051

NEW

This all-purpose SPD shoe is an excellent cost-performance value. Low-cut rubber sole makes the SH-A051 a comfortable sport shoe for off-bike activities.

**Weight** 730g (pair, size 43, w/o cleats)
**Material** Upper: Nylon mesh, PU coated split leather, PVC
Inner Sole: Cup molded cambrelle w/ EVA backing
Mid Sole: Fiberglass reinforced nylon
Outer Sole: Rubber
**Sizes** 36-48 (whole sizes only)
**Color** 1-style: Blue
**Recommended Pedal**
PD-M737/PD-M525/PD-M323/PD-A525 SPD pedals
U.S. PAT 5,125,173




## SPD Sport/Fitness Shoe Features

| Feature | Benefit | SH-A100 | SH-A051 |
|---|---|---|---|
| **SPD Cleat Compatibility** | Shoes are pre-drilled for SPD cleat mounting. Just remove the sole patch and install cleats for clipless pedaling performance with SPD pedals. 20mm of fore/aft adjustment, 5mm of lateral adjustment. | ○ | ○ |
| **Nylon Mesh Upper Panels** | Nylon mesh upper panels resist stretching and provide plenty of ventilation to help keep feet cool and dry. | ○ | ○ |
| **Split Leather Upper** | Split leather upper panels resist stretching and are impervious to water. | ○ | ○ |
| **Reflectorizing** | Reflectors on heel and side panels make the cyclist more visible at night. Pedaling movement enhances visibility. | ○ | ○ |
| **Extra Long Hook & Loop Strap Closures** | Extra-long hook-and-loop strap closures assure a snug and comfortable fit for any foot shape. Straps can be easily adjusted with one hand while riding. (SH-A100 has two straps, SH-A051 has one strap.) | ○ | ○ |
| **Anatomical Construction Heel** | Anatomical construction heel reduces pressure points and provides for a more comfortable fit that reduces energy losses. Integral reinforcement strap stabilizes heel in the shoe. | | ○ |
| **Cup Molded Cambrelle & EVA Inner Sole** | Cambrelle & EVA composition absorbs moisture to help keep feet dry. Cup molding assures a better fit because it matches the contour of the sole of the foot. It also forms a smooth transition between the inner sole and upper panels. (Cup molding on SH-A100 only.) | ○ | ○ |
| **Rubber Outer Sole** | Low-cut rubber outer sole makes walking more comfortable. | ○ | ○ |

# FOOTWEAR ACCESSORIES AND REPLACEMENT PARTS




### SM-SH50 (black)
Black SPD cleat set with mounting hardware.
Single position release type.
Code No. 4249801

### SM-SH55 (silver)
Silver SPD cleat set with mounting hardware.
Multiple position release type.
Code No. 4249805

### Spike for SH-M210 Shoe
Removable spikes can be attached to the SH-M210 shoe for better traction in mud and loose dirt.



### SM-SH74
Cleat adaptor set for use only with Shimano racing shoes (models SH-R200, SH-R110, SH-T110) and Shimano SPD racing pedals.
Code No. 34269807



### SM-SH70
Fixed binding type SPD cleat set for SH-R210/R120/T120 shoe. Includes mounting hardware and cleat protector pontoons. One pair.
Code No. 4269804

### SM-SH71
Rotational binding type SPD cleat set for SH-R210/R120/T120 shoe. Includes mounting hardware and cleat protector pontoons. One pair.
Code No. 4269805



### SM-SH24
Shimano design Look®-compatible cleat set with mounting hardware.
Code No. 40B9811

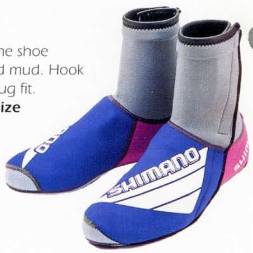


### SM-SH31
Shimano design standard cleat set with mounting hardware.
Code No. 40B9802



### SH-CV20
Rugged high-top neoprene shoe covers shut out water and mud. Hook and loop straps assure snug fit.

| SIZE | Shimano shoe size |
|---|---|
| S | 36 - 38 1/2 |
| M | 39 - 41 1/2 |
| L | 42 - 44 1/2 |
| XL | 45 - 48 |




### SH-SD10
Shimano sandals give your feet a gentle massage off the bike. Hook and loop straps for adjustable fit. Odor-resistant sole.

| SIZES | |
|---|---|
| S | 39 |
| M | 41 |
| L | 43 |
| XL | 46 |




### Shimano Shoe Inserts
Shoe inserts provide a greater cushioning effect and enhance comfort.

| SIZES | |
|---|---|
| 36-38 1/2 | 39-40 1/2 |
| 41-41 1/2 | 43-44 1/2 |
| 45-46 1/2 | 47-48 |




### SM-PD51
Reflector set for PD-7410 and PD-6500 pedals.



### SM-PD20
Reflector set for PD-M737 and PD-M525 pedals.
Code No. 41A9804



### SM-PD30
Reflector set for PD-A525 pedals.
Code No. 4259801



# High-performance products demand high-performance service.

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FAX: 800-206-0010
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**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 of 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.

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

SHIMANO

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