English (E)

'93
SHIMANO BICYCLE SYSTEM COMPONENTS

Embracing our world...
closer to nature, closer to people.

SHIMANO

A lighter and more responsive cycling feeling.

Ozone depletion, acid rain, global warming. Because Shimano views these problems with increasing concern, we are looking for ways to help improve the environment by making the bicycle a more integral part of our society.

Our concern for the environment was reflected in our first corporate slogan adopted in 1981; "Technology working for the harmony of man, his tools, and his environment." Our present corporate slogan, "Embracing the earth - closer to nature, closer to people," was adopted on our 70th anniversary in 1991 and reflects our philosophy of doing everything we can to contribute to a better environment.

For 1993 we introduce the Ride Light concept. Ride Light is not just a catch phrase, but a reflection of our determination to develop bicycle components that significantly lighten the way the bicycle feels, rides, and operates. Ride Light represents an effort to increase the appeal and functionality of the bicycle in order to make it more rider-friendly and enjoyable to ride.

Through Ride Light, we hope that more people will turn to the bicycle for transportation, fun, and fitness. The result can be a better environment for all of us.







A lighter feeling of control that enhances the enjoyment of cycling.

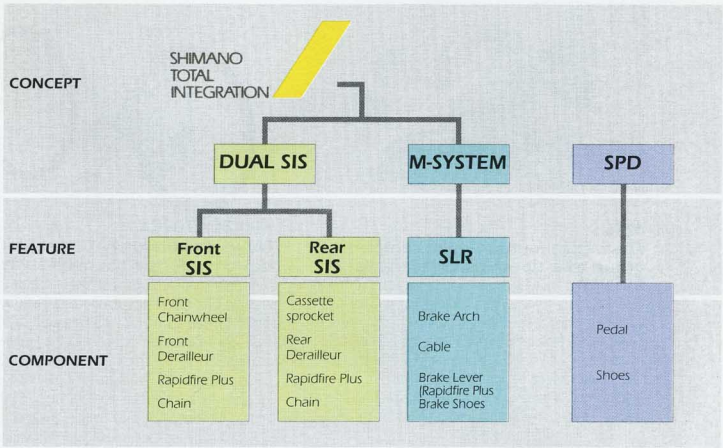
Ride Light is an integrated bicycle design concept which stresses these four areas:

1) Ride Light makes the bicycle appear lighter to increase its appeal as a means of transportation, exercise and fun.
2) Ride Light provides a lighter and more reliable feeling of control and response.
3) Ride Light makes the bicycle feel lighter, livelier, and more responsive.
4) Ride Light reduces weight in order to make the bicycle easier to ride and handle.

Ride Light is a continuation of the Shimano Total Integration concept which put all of the bicycle's control functions at the handlebars for upgraded control, convenience, and safety. This human-friendly approach to bicycle control is supported by various Shimano Innovations such as front and rear SIS shifting, all-weather M-System brakes, and the SPD shoe and pedal system.

The overall result is that the Ride Light bicycle allows everybody to ride with more skill, confidence, and safety even though they may not be able to ride their bicycles often. By bringing the bicycle closer to the rider, the Ride Light concept will help more people enjoy the bicycle while cultivating a healthy outdoor lifestyle in harmony with our environment.

RIDE LIGHT



What's new for '93...

SHIMANO 105SC
Now with Shimano Total Integration.
More sport cyclists, triathletes, and racing bike enthusiasts can now enjoy the performance advantage of Shimano Total Integration. The integrated shifting and braking function of STI is now part of the 105SC group for '93. New 8-speed freehub gives the same 16-speed gear selection as the pros.





DEORE LX
Refined functions and a new look make Deore LX a trend-setting high-performance component group.
Deore LX offers a whole new look plus refined functions that upgrade the image of the affordable high-performance mountain bike. For rough-and-tumble trail riding or city cruising, Deore LX delivers rugged performance from a full compliment of advanced Shimano functions.



EXAGE ES / EXAGE LT
Component packages that upgrade the entry level mountain bike.
Exage ES and LT are new component groups that deliver pro-like performance to the quality entry-level mountain bike. Durable painted finish looks good too. Whether it's a cruise through the city, a trip into the country, or a test of your off-road cycling skill; the new Exage ES and LT groups are rugged and willing.



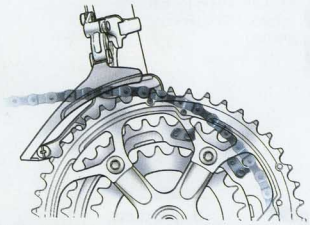
ALTUS
The basic mountain bike component group that doesn't sacrifice style or function.
The Altus components were designed to upgrade the performance and style of the basic entry-level mountain and city bike. Available in A10, A20, C10, and C20 versions, Altus introduces Shimano performance, style, and safety-oriented functions for sport and utility bicycles aimed at youngsters, casual cyclists, and first time riders.



400CX / 700CX
New component systems specifically designed for people with style.
Created for the special requirements of the hybrid bicycle, the 400CX and 700CX groups offer simple, compact design and all but maintenance-free operation for sports, recreation, or leisure cycling. New features include Dual SIS, M-System plus 42 X 11T gearing that reduces weight and imparts a more elegant, compact look to the bicycles drive train. CX, a fusion of design, elegance and style.

New functions too...

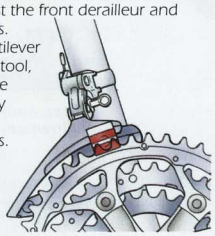
Dual SIS
SIS at the front and rear makes derailleur shifting easier than ever.
SIS shifting precision has come to the front chainwheel. Just click the Rapidfire thumb shifter for the best chainwheel shifting ever. SG-X chainrings feature mid-gear leading teeth and top gear spikes which promote fast and smooth chain transfer with click-stop precision. Front SIS not only enhances performance and safety, it makes cycling more enjoyable for beginners and pros alike.



M-System Brakes
Now get more consistent all-weather braking.
Get more dependable braking in any weather condition. New M-System approach reduces the variations in braking performance caused by wet rims, mud, and dust. New shoe formulation, lever, and lined cable help you get more consistent braking in adverse as well as ideal weather conditions.



Set up and adjustment aids insure top performance.
Shimano has made it easier than ever to install and adjust the front derailleur and cantilever brakes. Unit-design cantilever arm, alignment tool, and cable bridge indicator simplify adjustment of cantilever brakes. Pro Set gauge helps align and adjust front SIS derailleurs.



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The ultimate in off-road component systems.

XTR means off-road racing - the absolute state-of-the-art in high-performance components for the MTB. Two finger Rapidfire Plus shifting action with it's advanced ergonomic design reduces finger stress. Advanced SLR Servo-wave brakes deliver more controllable stopping power. New Dual SIS signals the start of a new era in fast easy chainwheel shifting. Shimano XTR - the ultimate in off-road component systems.

New! Dual SIS Shifting
Front and rear - it's all SIS.



Rapidfire Plus Lever Set (ST-M900) delivers indexed SIS chainwheel shifting with optional SG-X chain rings. Push the thumb shifter for crisp clean indexed down shifts. Pull the trigger lever for instant up-shifts. Dual SIS means total shifting precision.

SG-X Chainring.
SIS comes to the front!.



Indexed shifting at the front derailleur! FC-M900 crankset is available with optional SG-X chainring for fast, reliable SIS chainwheel shifting.



DUAL SIS

8 sprockets,
3 chainwheels - all SIS

8-speed SIS for the MTB now gives a wider gear selection with the simple ratchet-action shifting of Rapidfire plus. The Rapidfire Plus makes smooth and quick shifting on the thumb through a trigger-action finger lever for up-shifting.

SLR PLUS

Braking performance that just keeps getting better.

Servo-wave cam mechanism speeds up pad-rim contact and then increases the power multiplication factor for more braking power and control. Compact 2-finger lever provides a light responsive feeling.

HG

8-Speed HG Sprockets

Shimano XTR's 8-speed gear cassette features HG sprockets. HG sprockets make fast and smooth shifts, regardless of pedal torque or cadence, and have become known as the state-of-the-art shifting system for the off-road bike. Spider-type boss reduces freewheel weight.

THE SHIMANO FREEHUB

8-Speed Freehub

Rear hub and freewheel are combined to form a stronger unit in the famous Shimano freehub design, now featuring an 8-sprocket cassette for the wider gear selection needed in competition.

SHIMANO HYPERDRIVE

Faster, more positive chainwheel shifting.

HyperDrive chainwheels feature leading teeth configurations and pins that contribute to front SIS shifting precision. Sealed cartridge bottom bracket is more durable and maintenance free.


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

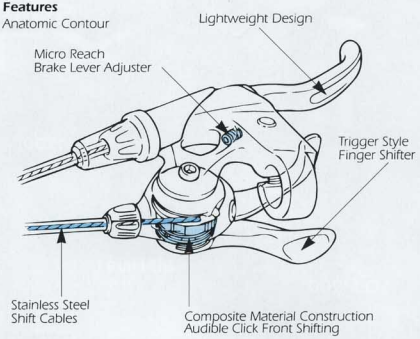
Rapidfire Plus Shift Lever Set

ST-M900 (Servo-Wave/2-Finger Lever)

Weight	411g (pair)
Compatibility	Shimano Total Integration Shimano HyperDrive 8-speed SIS SLR(Shimano Linear Response) Plus
Clamp Dia	22.2 mm
Material & Finish	Aluminium/Titanium Colour Paint (bracket) Forged Aluminium/Anodized (lever)
Note	Use with SLR cable housing and SIS-SP shift cable housing for best performance. Avoid using bar grips more than 5mm thick.

Features

Anatomic Contour



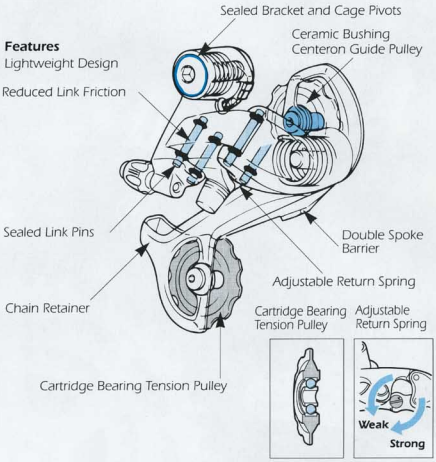
Rear Derailleur

RD-M900 (medium cage)

Weight	230g	
Compatibility	Shimano Total Integration 8-speed SIS	
Capacities	Max. Sprocket	32T
	Min. Sprocket	12T
	F/Difference	22T
	Total Capacity	33T
Material & Finish	Aluminum/Anodized	

Features

Lightweight Design



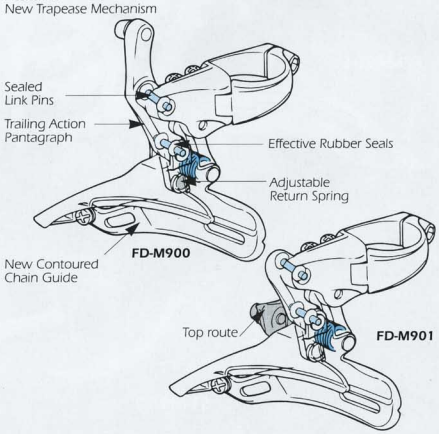
Front Derailleur

FD-M900
FD-M901 (top route)

Weight	118g
Compatibility	Shimano Total Integration Shimano HyperDrive Shimano SG Gear Narrow Chain
Capacity	24T (Biopace HP) 26T (round)
Clamp Dia	28.6/31.8/34.9mm (band mount) 31.8 mm (EC type)
Material & Finish	Aluminum/Anodized (F&R band. R&L links) Steel/Chrome Plated (chain guide bolt)

Features

New Trapease Mechanism

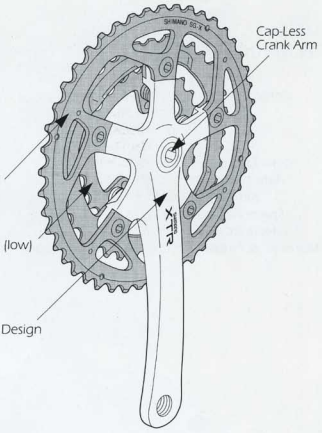


Front Chainwheel

FC-M900-A (SG-X Gear Triple / MD Type)

Weight 680g (46-36-26T/175 mm)
Compatibility Shimano Total Integration
Shimano HyperDrive
Dual SIS
Narrow Chain
Chain Size 1/2" x 3/32"
Gearing 48-36-26T/46-36-26T (round SG)
Crank Arm Lengths 165/170/175/180mm
Pedal Thread BC 9/16" x 20T.P.I.
Bottom Brackets BB-UN91 / BB-UN90
Material & Finish Cold Forged Aluminium/
Titanium Colour Anodized (crank arms and spider)
Aluminium/Anodized (chain rings)

Features



Sealed Cartridge Bottom Bracket

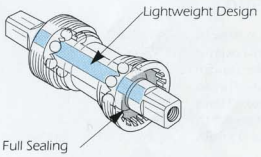
BB-UN91

Weight 255g
Compatibility Shimano HyperDrive
Narrow Chain
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

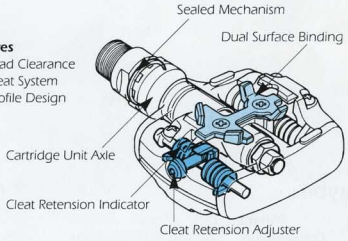


SPD Pedal

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° Road Clearance
SPD Cleat System
Low-Profile Design

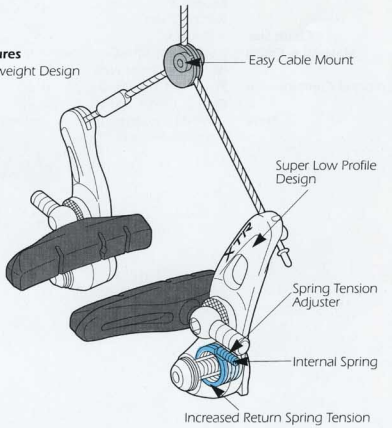


Cantilever Brake

BR-M900-F/R

Weight 340g (F&R)
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 cable housing.

Features
Lightweight Design

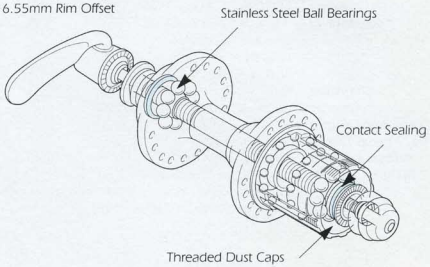


Freehub

FH-M900 (8-speed)

Weight	454g (w/QR)
Compatibility	Shimano Total Integration 8-speed SIS Spider Arm Sprockets HG Gear
Over Locknut	135mm
Axle Length	146mm
Axle Dia	10mm
Spoke Holes	28/32/36
Hole P.C.D.	45mm
Material & Finish	Aluminum/Titanium Colour Anodized (hub shell)

Features
Spider Arm Boss Included
Lightweight Design
6.55mm Rim Offset

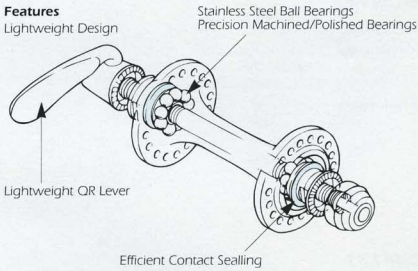


Front Hub

HB-M900-F

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

Features
Lightweight Design

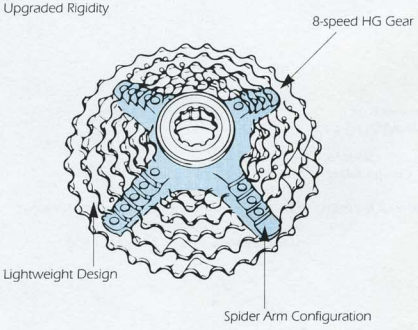


Cassette Sprockets

CS-M900-8 (8-speed)

Weight	332g (P-group)
Compatibility	Shimano Total Integration 8-speed SIS Narrow Chain
Chain Size	1/2" x 3/32"
Material & Finish	Steel/Champagne Gold (sprockets) Aluminum (spider arm)
Sprocket Combinations	**P** 12 14 16 18 21 24 28 32T **Q** 12 13 14 16 18 21 24 28T
Note	CS-M900-8 sprockets must be used with FH-M900 freehub.

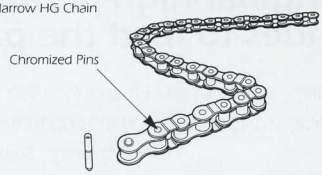
Features
Improved Gear Precision
Upgraded Rigidity



HG Chain
CN-7401

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

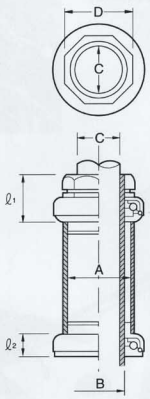
Features
Narrow HG Chain



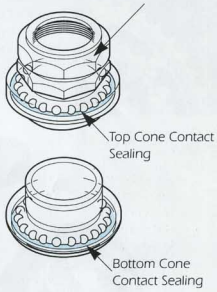
Head Set
HP-M900
HP-M901
HP-M902

Weight 119g (HP-M900)
136g (HP-M901)
167g (HP-M902)
Type Off-Road
Material & FInish Aluminum (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	34.0mm	37.0mm
B	26.4/27.0mm	30.0mm	33.0mm
C	22.1mm	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



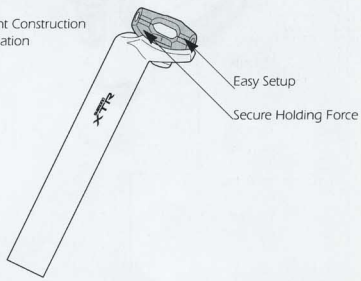
Features Lightweight Design



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 Tubing

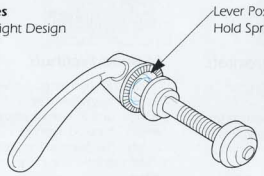
Features
Lightweight Construction
Easy Installation



Seat Post Quick Release
SQ-M900

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

Features
Lightweight Design



The original high-performance MTB group continues to lead the pack.

Deore XT offers additional refinements for 1993 that enhance its reputation for function and durability. Rugged construction stands up to the worst off-road abuse. High strength and rigidity help assure more power transfer efficiency. Sealed mechanisms almost completely shut out water, dirt, and mud. Deore XT continues to define the high-performance mountain bike.



Optional SIS Crankset
Available FC-M730-A crankset uses new SG-X chain ring for indexed front SIS shifting.



All-weather M-system brakes
Optional BR-M734-M cantilevers, M-system cables, and servo-wave lever combine to provide amazing all-weather braking performance. M-system stops faster and surer in any environment.



DUAL SIS

7 sprockets, 3 chainwheels - all SIS

SIS shifting from both Rapidfire levers! Dual SIS finally brings precision indexed shifting to the front derailleur. Virtually any gear you want is now just a clickstop away.

SHIMANO M SYSTEM

Enhanced servo-wave braking performance.

Servo-wave cam mechanism provides modulated power multiplication ratios at the brake lever. The result is faster pad-rim contact with more braking power and control. Lever is light and compact 2-finger type. M-System brake shoes and cables can be used for enhanced all-weather performance.

HG

7-Speed HG Sprockets

Shimano XT's 7-speed gear cassette features HG (Hyperglide), which realize fast and smooth shifts regardless of pedal torque or cadence. SIS with HG is now known as the state-of-the-art shifting system for the off-road bike.

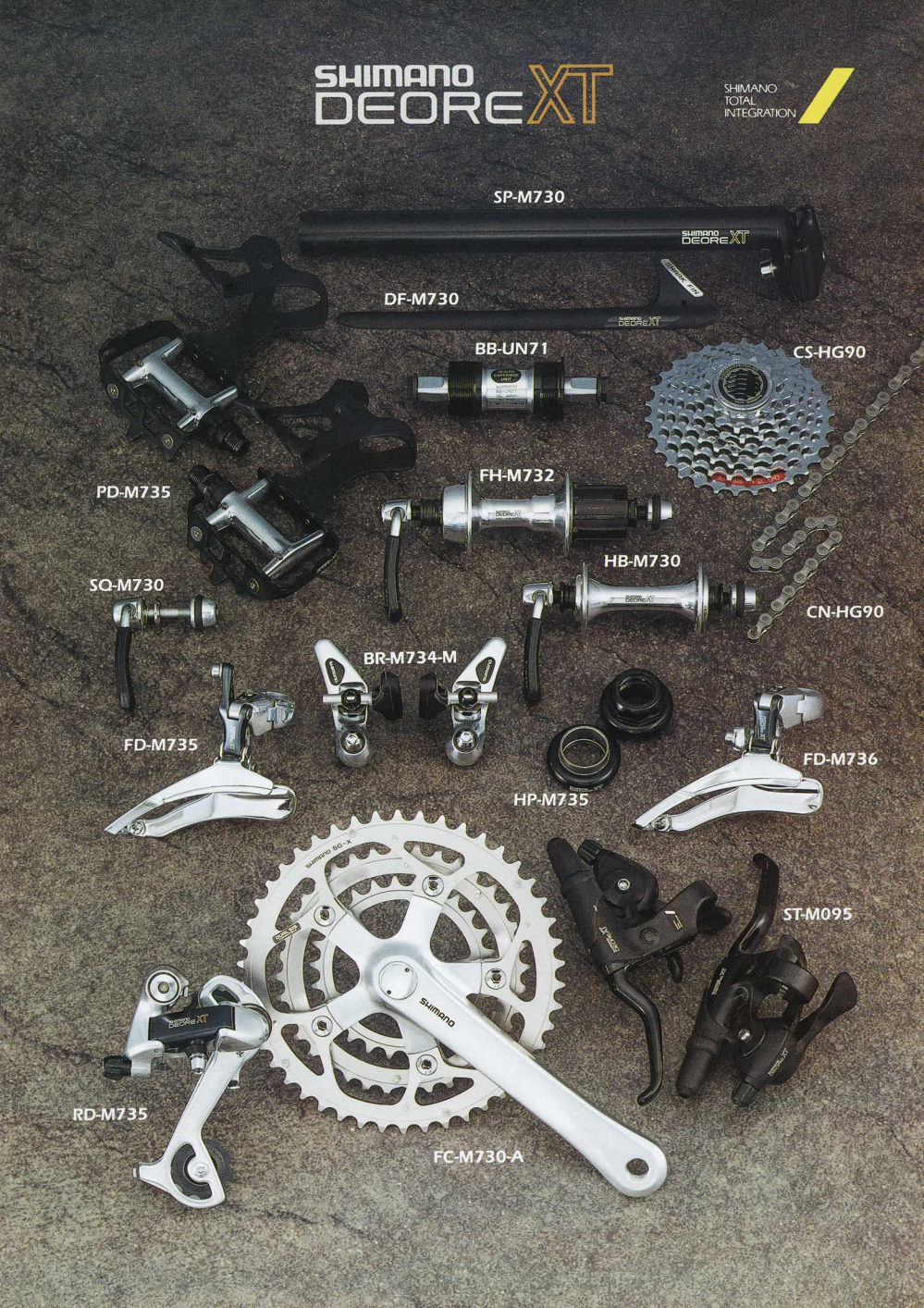
THE SHIMANO FREEHUB

7-Speed Freehub

Shimano XT combines the rear hub and freewheel into a stronger unit as a result of the famous Shimano freehub design. The freehub increases wheel strength, durability, and improves power transfer efficiency.

SHIMANO DEORE XT

SHIMANO TOTAL INTEGRATION

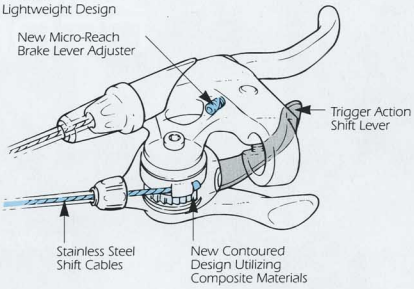


Rapidfire Plus Lever Set

ST-M095 (Servo-Wave/2-Finger Lever)

Weight	411g (pair)
Compatibility	Shimano Total Integration M-System Brakes SLR (Shimano Linear Response) Plus
Clamp Dia	22.2mm
Material & Finish	Aluminum/Black Anodized (bracket) Forged Light Alloy/Black Paint (lever)
Note	For proper M-System and Dual SIS operation use with M-System cable housing and SIS-SP cable housing for shift lever.

Features
Lightweight Design

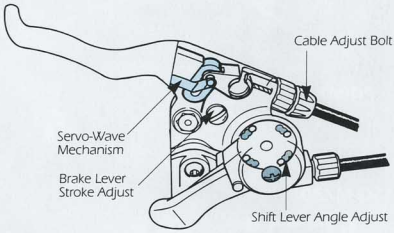


Rapidfire

ST-M092 (Servo-Wave/2-Finger)
ST-M090 (4-Finger)

Weight	550g (ST-M092 pair)
Compatibility	Shimano Total Integration 7-speed SIS SLR (Shimano Linear Response) Plus (ST-M092)
Clamp Dia	22.2mm
Material & Finish	Aluminum/Anodized (bracket) Aluminum/Paint (lever)
Note	For best SLR & SIS operation, use SLR brake cable housing and SIS-SP sealed shift cable housing. Avoid using handlebar grips more than 5mm thick.

Features
Dual Repeat Function
Light Action

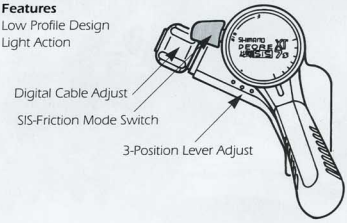


Shifting Lever

SL-M732

Weight	182g
Compatibility	7-speed SIS
Mount	Handlebar
Clamp Dia	22.2mm
Material & Finish	Aluminum/Anodized (bracket) Aluminum/Buff (lever)

Features
Low Profile Design
Light Action

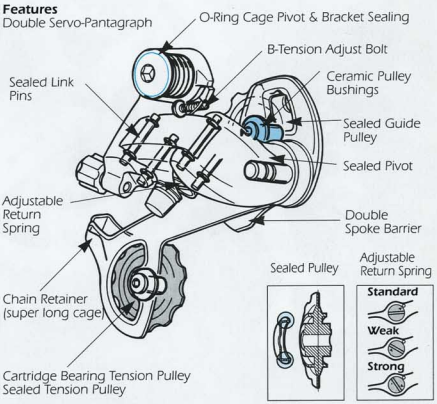


Rear Derailleur

RD-M735-SGS (super long cage)
RD-M735-SS (short cage)

Weight	270g (super long cage) 250g (short cage)	
Compatibility	Shimano Total Integration 6/7-speed SIS	
Capacity	Max. Sprocket	32T (super long cage) 28T (short cage)
	Min. Sprocket	12T
	F/Difference	20T
	Total Capacity	38T (super long cage) 28T (short cage)
Material & Finish	Aluminum/Buff (bracket & plate) Aluminum/Anodized (right link) Aluminum/Barrel Finish (left link)	

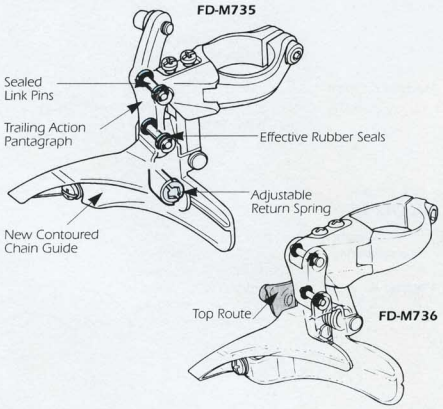
Features
Double Servo-Pantagraph



Front Derailleur

FD-M735
FD-M736 (top route)

Features
New Trapease Mechanism

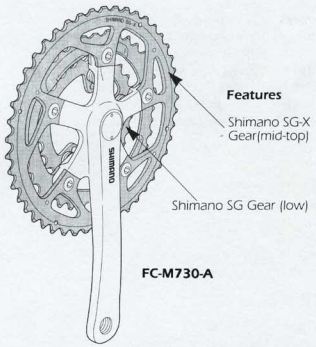


Weight	116g (M735 band mount)
Compatibility	Shimano Total Integration Shimano SG Gear Narrow Chain
Capacity	24T (Biopace HP) 26T (round)
Clamp Dia	28.0-28.6mm / 31.8mm / 34.9mm
Material & Finish	Aluminum/Buff (F&Rear bands) Aluminum/Anodized (right link) Steel/Chrome-Plated (chain guide)

Front Chainwheel

FC-M730-A (SG-X Gear Triple / MD Type)

Compatibility	Shimano Total Integration Shimano HyperDrive Dual SIS Narrow Chain
Chain Size	1/2" x 3/32"
Gearing	48-36-26T / 46-36-26T (round SG-X)
Crank Length	165/170/175/180mm
Pedal Thread	English BC 9/16" x 20T.P.I.
Material & Finish	Aluminum/Anodized (crank-chainring)



Front Chainwheel

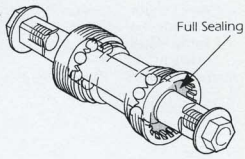
FC-M730-SG (Shimano SG- Triple / MD Type)

Weight	730g (46-36-26T/170mm)
Compatibility	Shimano Total Integration Narrow Chain
Chain	1/2" x 3/32"
Gearing	48-38-28T / 46-36-26T (Biopace SG) 48-38-28T / 46-36-24T (round SG)
Crank Length	165 /170 /175 /180mm
Pedal Thread	English BC 9/16" x 20T.P.I.
Material & Finish	Aluminum /Anodized (crank-chainring) (Black chain ring available.)

Sealed Cartridge Bottom Bracket

BB-UN71

Features
Maintenance Free
Easy Installation
Extended Service Life
Lightweight Design



Weight 280g (122.5mm)

Specifications

Chain Line	47.5mm	50mm
Spindle Length	122.5mm	127.5mm
Shell Width	68(BC) 70(M36) 73(BC)	68(BC) 70(M36) 73(BC)
Spindle Marking	D-NL	D-EL

Pedal

PD-M735

Weight	295g (pair)
Features	32° Road Clearance Super Low Profile Design Parallelogram Form Contact Sealing Stainless Steel Grip Pins Reflector Mount Toe Clip
Pedal Thread	English BC 9/16" x 20T.P.I.
Material & Finish	Aluminum (body) Aluminum/Anodized (plate) Resin (toe clip)

Pedal

PD-M730

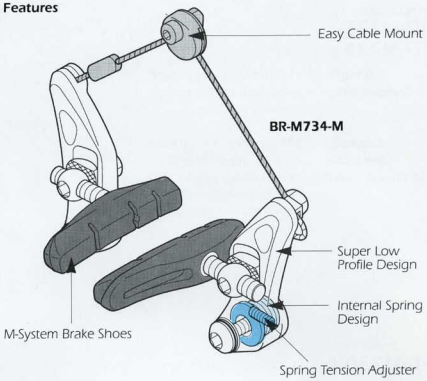
Weight	412g (pair)
Features	26° Road Clearance Low Profile Design Parallelogram Form Contact Sealing Stainless Steel Grip Pins Toe Clip/Reflector Mount
Pedal Thread	BC 9/16" x 20 T.P.I.
Material & Finish	Aluminum (body), Aluminum/Anodized (plate), Cr-Mo Steel (axle)

Cantilever Brake

BR-M734-M

Weight	344g (F&R Set)
Compatibility	Shimano Total Integration M-system Brakes SLR (Shimano Linear Response) Plus
Material & Finish	Aluminum/Buff (black available)
Note	Use with M-System lever and M-System brake cable for top performance.

Features



Cantilever Brake

BR-M734

Weight	344g (F&R Set)
Compatibility	Shimano Total Integration SLR (Shimano Linear Response)
Material & Finish	Aluminum/Buff (black available)
Note	Use with SLR brake lever and SLR cable housing for top SLR performance.

U-II Brake

BR-M733

Weight	375g (1 caliper set)
Compatibility	Shimano Total Integration SLR (Shimano Linear Response)
Features	Power Plate w/Shark Tooth
Material & Finish	Forged Aluminum/Anodized
Note	Use with SLR brake lever and SLR cable housing for top SLR performance.

Brake Lever

BL-M732 (4-Finger)
BL-M733 (2-Finger)

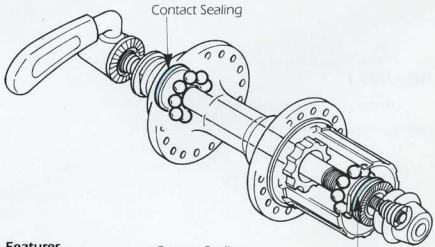
Weight	284g (pair / 2-Finger)
Compatibility	SLR (Shimano Linear Response)
Features	Integral Return Spring 4-Position Lever Adjustment
Clamp Dia	22.2mm
Material & Finish	Aluminum/Anodized (bracket) Aluminum/Paint (lever)
Note	Use with SLR brake lever and SLR cable housing for top SLR performance.

Freehub

FH-M732 (7-speed)

Weight	490g (w/QR)
Compatibility	Shimano Total Integration 7-speed SIS HG/UG Gear
Over Locknut	135mm / 130mm (QR type)
Axle Length	146mm /141mm (QR type)
Axle Dia	10mm
Spoke Holes	32 / 36
Hole P.C.D.	45mm
Material & Finish	Aluminum/Buff (hub shell)

Features
Uni-Balance System

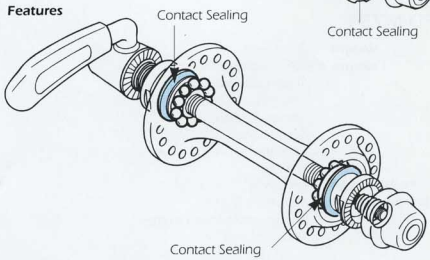


Front Hub

HB-M730-F

Weight	213g (w/QR)
Over Locknut	100mm
Axle Length	108mm (QR type)
Axle Dia	9mm
Spoke Holes	32 / 36
Hole P.C.D.	38mm
Material & Finish	Aluminum/Buff (hub shell)

Features



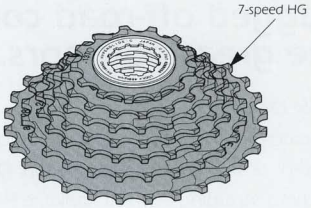
Cassette Sprockets

CS-HG90-7 (7-speed HG)

Weight 309g (E group & spacers)
Compatibility Shimano Total Integration
7-speed SIS
Narrow Chain
Chain Size 1/2" x 3/32" (Narrow Chain)
Material & Finish Steel/Chrome Plated
Sprocket Combinations

E	12	14	16	18	21	24	28T
F	14	16	18	21	24	28	32T
G	13	15	17	20	23	26	30T
H	13	15	17	19	21	23	26T
I	13	14	15	17	19	21	23T
J	13	14	15	16	17	19	21T
K	13	15	17	20	24	29	34T
L	12	13	14	15	17	19	21T

Feature



HG Chain

CN-HG90

Compatibility Shimano Total Integration
Features Narrow HG Chain
Size 1/2" x 3/32"
Material & Finish Black (roller links)
Silver (pin links)

HG Chain

CN-HG91

Compatibility Shimano Total Integration
Features Narrow HG Chain
Size 1/2" x 3/32"
Material & Finish Grey (roller links)
Silver (pin links)

Cr-Mo Seat Post

SP-M730

Weight 296g (330mm)
Features High Strength Design
Light Weight
Extra Length
Diameter 26.4 / 26.6 / 26.8 / 27.0 / 27.2mm
Length 280/330mm
Material Cr-Mo Steel (pipe)

Seat Post Quick Release

SQ-M730

Weight 75g
Features Position Set Spring
QR Length 36-43mm / 26-33mm
Shaft Dia 6 / 8mm
Material Steel/Chrome-Plated

Chain Deflector

DF-M730

Weight 9 g
Features Aerodynamic Style
Prevents chain from jamming between tyre and chainstay.
Material Resin

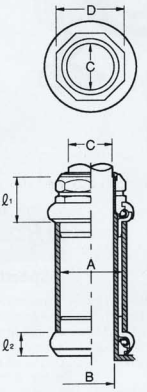
Head Set

HP-M735
HP-M736
HP-M737

Weight 150g (HP-M735)
179g (HP-M736)
170g (HP-M737)
Type Off-Road
Material & Finish Aluminum/Anodized (nut)
Steel (upper cup)
Stainless Steel/Black (lower cup)

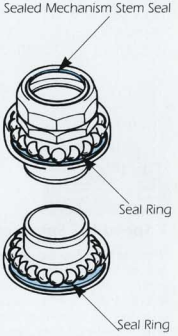
Variation & Dimensions

Type	HP-M735		HP-M736	HP-M737
Thread	BC1"x24T.P.I.	M25xP1.0	BC1-1/8"x26T.P.I.	BC1-1/4"x26T.P.I.
A	30.2/30.0mm JIS	30.2mm	34.0mm	37.0mm
B	26.4/27.0mm JIS	26.4mm	30.0mm	33.0mm
C	22.1mm		25.5mm	28.7mm
D	32.0mm		36.0mm	40.0mm
L1	22.0mm		22.0mm	27.3mm
L2	11.5mm		11.5mm	13.0mm



Features

Sealed Mechanism Stem Seal



Rugged off-road components ready to take on the great outdoors.

Deore DX provides quality and performance for high-end mountain bikes ridden by everyone from budding off-road enthusiasts to aspiring dirt racers. Incorporating the "hands-on-bars" control concept of Shimano Total Integration, Deore DX offers the full range of advanced Shimano functions including 7-speed Rapidfire Plus shifting, SLR Plus brakes, and quick-shifting HG sprockets. Deore DX delivers performance you can trust.

7-Speed Rapidfire Plus ST-M075
Keep your hands on the grips - even when you shift. Stress-reducing Rapidfire Plus lever gives you lightning-fast 7-speed SIS shifting at the touch of the thumb or trigger lever.



Optional front SIS function
Optional Dual SIS is available on Deore DX. FC-MT60-A crankset uses SG-X chain ring for indexed front SIS shifting.



All-weather M-system brakes
Optional BR-M650-M and BR-M651-M cantilevers, M-System cables, and servo wave lever combine to provide amazing all-weather braking performance. M-System stops faster and surer in any environment.





DUAL SIS

7 sprockets, 3 chainwheels - all SIS

SIS shifting from both Rapidfire levers! Dual SIS finally brings precision indexed shifting to the front derailleur. Virtually any gear you want is now just a clickstop away.

SHIMANO M SYSTEM

Improved Braking

Servo-wave cam mechanism provides modulated power multiplication ratios at the brake lever. The result is faster pad-rim contact with more braking power and control. Lever is light and compact 2-finger type. Optional M-System brake shoes and cables can be used for enhanced all-weather performance.

HG

7-Speed HG Sprockets

Shimano DX's 7-speed gear cassette features HG sprockets. The special tooth contours of HG sprockets permit fast and smooth shifts regardless of pedal torque or cadence. It's the state-of-the-art shifting system for the off-road bike.

THE SHIMANO FREEHUB

7-Speed Freehub

Shimano DX combines the rear hub and freewheel into a single unit - the famous Shimano freehub. The result is increased wheel strength, upgraded durability, and improved power transfer efficiency.

SHIMANO DEORE DX

SHIMANO TOTAL INTEGRATION

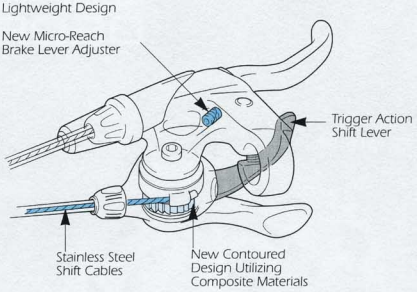


Rapidfire Plus Lever Set

ST-M075 (Servo-Wave / 2-Finger)

Weight	405g (pair)
Compatibility	Shimano Total Integration M-System Brakes SLR (Shimano Linear Response) Plus
Clamp Dia	22.2mm
Material & Finish	Aluminum/Paint (bracket) Aluminum/Paint (lever)
Note	For proper M-System and Dual SIS operation use with M-System cable housing and SIS-SP cable housing for shift lever.

Features
Lightweight Design

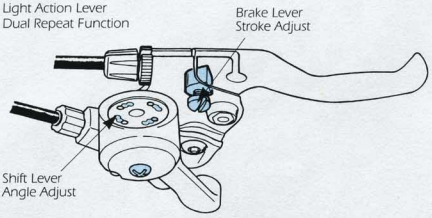


Rapidfire Lever Set

ST-M071 (2-Finger)
ST-M070 (4-Finger)

Weight	535g (ST-M071 pair)
Compatibility	Shimano Total Integration 7-speed SIS SLR (Shimano Linear Response)
Clamp Dia	22.2mm
Material & Finish	Aluminum/Anodized (bracket) Aluminum/Paint (lever)
Note	To maintain proper SLR & SIS operation, use SLR brake cable housing and SIS-SP shift cable housing.

Features
Light Action Lever
Dual Repeat Function

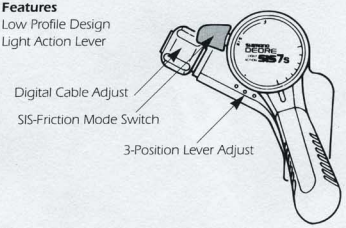


Shift Lever Set

SL-MT62

Weight	232g
Compatibility	7-speed SIS
Material & Finish	Steel/Paint (bracket) Aluminum/Barrel Finish (lever)
Clamp Diameter	22.2mm
Mount	Handlebar

Features
Low Profile Design
Light Action Lever

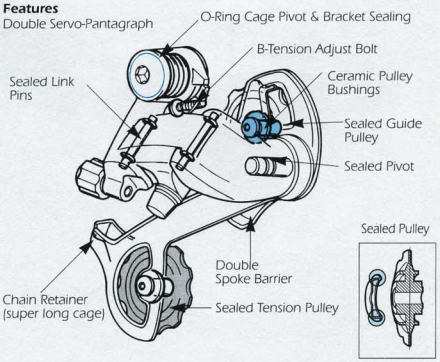


Rear Derailleur

RD-M650-SGS (super long cage)
RD-M650-SS (short cage)

Weight	320g (super long cage) 257g (short cage)	
Compatibility	Shimano Total Integration 6/7-speed SIS	
Capacity	Max. Sprocket	32T(super long cage) 28T (short cage)
	Min. Sprocket	12T
	F/Difference	20T
	Total capacity	38T (super long cage) 28T (short cage)
Material & Finish	Aluminum/Barrel Finish (bracket & plate) Aluminum/Paint (right link) Steel/Pearl Bright (left link)	

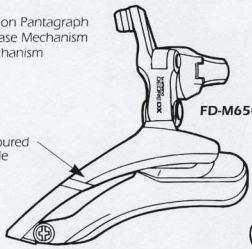
Features
Double Servo-Pantagraph



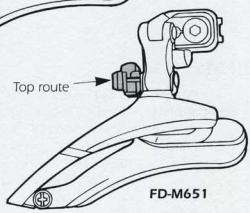
Front Derailleur

FD-M650
FD-M651 (top-route)

Features
Trailing Action Pantagraph
New Trapease Mechanism
Sealed Mechanism



Weight	117g (normal band type)
Compatibility	Shimano Total Integration Shimano SG Gear Narrow Chain
Capacity	24T (Biopace HP) 26T (round)
Clamp Dia	28.0mm-28.6mm / 31.8mm / 34.9mm
Material & Finish	Aluminum/Barrel Finish (F&R band) Aluminum/Paint (right link) Steel/Chrome-Plated (chain guide)



Chainwheel

FC-MT60-A (SG-X Gear Triple / MD Type)

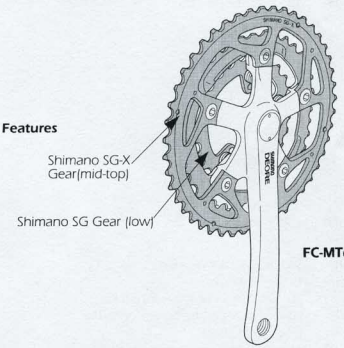
Compatibility	Shimano Total Integration Shimano HyperDrive Dual SIS Narrow Chain
Chain Size	1/2" x 3/32"
Gearing	46-36-26T (round SG-X)
Crank Length	170 / 175mm
Pedal Thread	BC 9/16" x 20T.P.I.
Material & Finish	Aluminum/Barrel Finish (crank) Aluminum/Anodized (chainring)

Chainwheel

FC-MT60-SG (SG Triple / MD Type)

Weight	740g (48-38-28T / 170mm)
Compatibility	Shimano Total Integration Narrow chain
Features	Shimano SG Gear
Chain Size	1/2" x 3/32"
Gearing	48-38-28T / 46-36-26T (Biopace SG) 48-38-28T / 46-36-24T (round SG)
Crank Length	170 / 175mm
Pedal Thread	BC 9/16" x 20 T.P.I.
Material & Finish	Aluminum/Barrel Finish (crank) Aluminum/Anodized (chainring)

Features



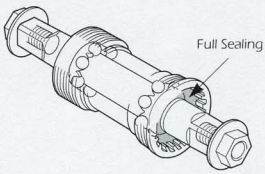
Sealed Cartridge Bottom Bracket

BB-UN51

Specifications

Chain Line	47.5mm	50mm
Spindle Length	122.5mm	127.5mm
Shell Width	68(BC) 70(M36) 73(BC)	68(BC) 70(M36) 73(BC)
Spindle Marking	D-NL	D-EL

Features
Lightweight Design
Maintenance Free Construction
Easy-Assembly
Extended Service Life



Pedal

PD-M650

Weight	385g (pair)
Features	32° Road Clearance Super Low Profile Design Parallelogram Form Contact Sealing Steel Grip Pins Toe Clip / Reflector Mount
Crank Thread	BC 9/16" x 20 T.P.I.
Material & Finish	Aluminum (body) Steel (plate) Resin (toe clip)

Pedal

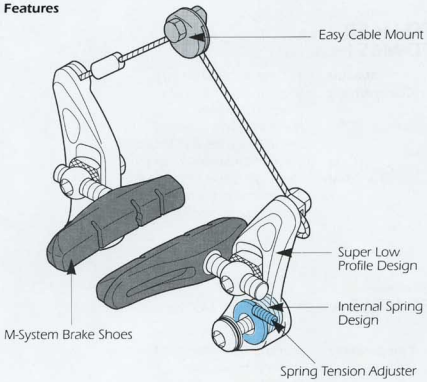
PD-MT60

Weight	212g (pair)
Features	26° Road Clearance Low Profile Design Parallelogram Form Contact Sealing Steel Grip Pins Toe Clip / Reflector Mount
Crank Thread	BC 9/16" x 20 T.P.I.
Material & Finish	Aluminum (body) Steel (plate)

Cantilever Brake
BR-M650-M (M size)

Compatibility Shimano Total Integration
M-system Brake
SLR (Shimano Linear Response) Plus
Material & Finish Aluminum/Barrel Finish
Note Use with M-system brake lever and M-system cable housing for top performance.

Features



Cantilever Brake
BR-M650 (M size)

Weight 398g (F&R set)
Compatibility Shimano Total Integration
SLR (Shimano Linear Response) Plus
Features Super Low Profile Design
Easy Cable Mount
Spring Tension Adjuster
Internal Spring Design
Material & Finish Aluminum/Barrel Finish
Note Use with SLR brake lever and SLR cable housing for top performance.

Cantilever Brake
BR-M651-M (L size)

Compatibility Shimano Total Integration
M-System Brake
SLR (Shimano Linear Response) Plus
Features Long arm design for fender clearance
Low Profile Shape
Easy Cable Mount
Spring Tension Adjuster
Internal Spring Design
Material & Finish Aluminum/Barrel Finish
Note Use with M-System brake lever and
M-System cable housing for top performance.

Cantilever Brake
BR-M651 (L size)

Compatibility Shimano Total Integration
SLR (Shimano Linear Response)
Features Long arm design for fender clearance
Low Profile Shape
Easy Cable Mount
Spring Tension Adjuster
Internal Spring Design
Material & Finish Aluminium/Barrel Finish
Note Use with SLR brake lever and SLR cable housing for top performance.

U-II Brake
BR-MT63

Weight 338g (1 piece)
Compatibility Shimano Total Integration
SLR (Shimano Linear Response)
Features Spring Tension Adjuster
Power Plate w/Shark Tooth
Material & Finish Forged Aluminum/Anodized
Note Use with SLR lever and
SLR cable housing for top performance.

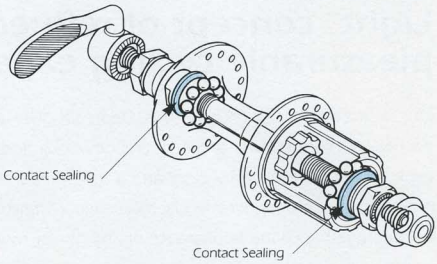
Brake Lever
BL-MT62 (4-Finger)
BL-MT63 (2-Finger)

Weight 274g (pair 2-Finger)
Compatibility SLR (Shimano Linear Response)
Features Integral Return Spring
Safety Clamp
4-Position Lever
Clamp Dia 22.2mm
Material & Finish Aluminum/Anodized (bracket)
Aluminum/Black (lever)
Note Use with SLR lever and
SLR cable housing for top performance.

Freehub

FH-M650 (7-speed)

Weight	445g (w/QR)
Compatibility	Shimano Total Integration 7-speed SIS HG/UG Gear
Over Locknut	135mm /130mm (QR & nut type)
Axle Length	146mm /141mm (QR mount) 185mm /180mm (nut mount)
Axle Dia	10mm
Spoke Holes	32 / 36
Hole P.C.D.	45mm
Material & Finish	Aluminum/Anodized (hub shell)

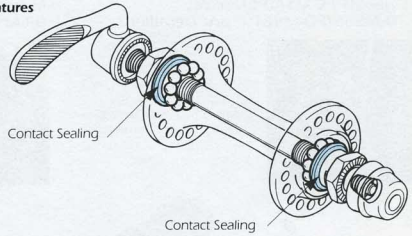


Front Hub

HB-M650-F

Weight	231g (w/QR)
Over Locknut	100mm
Axle Length	108mm (QR mount) 142mm (nut mount)
Axle Dia	9mm
Spoke Holes	32 / 36
Hole P.C.D.	38mm
Material & Finish	Aluminum/Anodized (hub body)

Features



Cassette Sprockets

CS-HG70 (7-speed HG)

Weight	309g (E group & spacers)
Compatibility	Shimano Total Integration 7-speed SIS Narrow Chain
Material & Finish	Steel/Silver

Sprocket Combinations

E	12	14	16	18	21	24	28T
F	14	16	18	21	24	28	32T
G	13	15	17	20	23	26	30T
H	13	15	17	19	21	23	26T
I	13	14	15	17	19	21	23T
J	13	14	15	16	17	19	21T
K	13	15	17	20	24	29	34T
L	12	13	14	15	17	19	21T
M	13	15	17	19	21	24	28T

HG Chain

CN-HG70

Compatibility	Shimano Total Integration
Features	Narrow HG Chain Chromized Pins
Size	1/2" x 3/32"
Material & Finish	Steel/Gray (Roller Links) Steel/Black (Pin Links)

Cr-Mo Seat Post

SP-M650

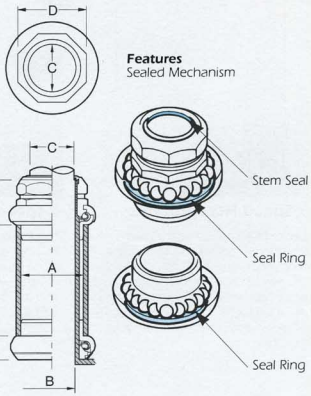
Weight	325g (360mm)
Features	High Strength Design Light Weight Extra Length
Pillar Dia	26.6 / 26.8 / 27.0 / 27.2mm
Length	280/330mm
Material	Cr-Mo Steel / Pearl Bright (pipe)

Head Set

HP-M650
HP-M651

Weight	168g (HP-M650) 199g (HP-M651)
Type	Off-Road
Material & Finish	Steel/Black
Variation & Dimensions	

Type	HP-M650		HP-M651
Thread	BC1"x24T.PI.	M25xP1.0	BC1-1/8"x26T.PI.
A	30.2/30.0mm JIS	30.2mm	34.0mm
B	26.4/27.0mm JIS	26.4	30.0mm
C	22.1mm		25.5mm
D	32.0mm		36.0mm
L1	22.0mm		22.0mm
L2	11.5mm		11.5mm



On or off the road ... experience the new "Ride Light" concept of refined control and a more pleasurable cycling experience.

On city streets or back country trails, Deore LX gives you more all-around performance and enjoyment. It's the result of a beautiful new look and enhanced functions. Based on the Ride Light concept of reduced weight and a lighter control feeling, Deore LX components make your mountain bike more rider-friendly than ever. Distinctive new component lines and black colour treatment enhance the appearance of any quality mountain bike.

Dual SIS FC-M560 Crankset FD-M560/FD-M561 Front Derailleur



The new FC-M560 crankset and FD-M560/FD-M561 front derailleur low-profile crank set bring click-stop SIS precision to chainwheel shifting. Shift chainwheels with complete confidence anytime, anywhere.

M-System Braking BR-M560/BR-M561 Cantilevers



All-weather M-System cantilever arms, cables, and special formulation shoes significantly improve braking under wet, muddy, or dusty conditions. Pro-Set adjustment tool makes precision installation fast and easy, assures top performance. Large and medium size cantilevers available.



DUAL SIS

7 sprockets, 3 chainwheels - all SIS

Now get advanced SIS shifting front and back. Rapidfire levers provide crisp reliable SIS shifting for rear sprockets and front chainwheels.

SHIMANO M SYSTEM

"Multi-Condition" concept for better braking performance

New cantilever, cable, and brake pad designs realize more powerful, predictable braking performance in dry, wet, and dusty environments.

HG

7-Speed HG Sprockets

Deore LX's 7-speed gear cluster features HG sprockets. The special tooth contours of HG sprockets help provide fast and smooth shifts regardless of pedal torque. SIS with HG sprockets is the recognized state-of-the-art shifting system for the off-road bike.

THE SHIMANO FREEHUB

7-speed freehub

The freehub integrates freewheel boss and hub body into a single rigid one-piece unit. The result is more power transfer efficiency, reduced axle stress, and more uniform spoke tension. The Shimano Freehub makes a stronger, better-performing rear wheel.

SHIMANO HYPERDRIVE

Enhanced chainwheel shifting

New low-profile crankset with a combination of SG&SG-X chainwheels improves shifting control. You get faster, more positive chain transfer regardless of pedal load.

SHIMANO DEORE LX

SHIMANO TOTAL INTEGRATION

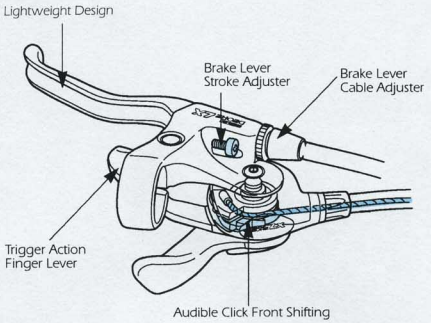


Rapidfire Plus Lever Set

ST-M560 (2.5-finger)

Weight	387 g (pair)
Compatibility	Shimano Total Integration Dual SIS (7-rear/3-front) M-System Brakes SLR (Shimano Linear Response) Plus
Clamp Dia	22.2mm
Material & Finish	Aluminum/Paint (bracket) Aluminum/High Lustre (lever)
Note	For proper M-System and Dual SIS operation use with M-System cable housing and SIS-SP cable housing for shift lever.

Features

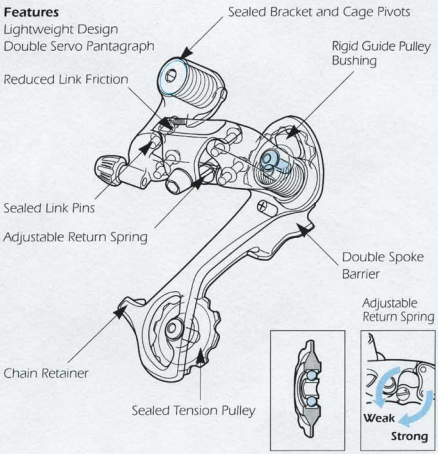


Rear Derailleur

RD-M560-SGS (super long cage)
RD-M560-GS (long cage)

Weight	304g (super long cage)	
Compatibility	Shimano Total Integration 7-speed SIS	
Capacities	Max. Sprocket	32T (super long cage) 30T (long cage)
	Min. Sprocket	12T
	F/Difference	20T
	Total Capacity	38T (super long cage) 36T (long cage)
Material & Finish	Aluminum/Paint (bracket & plate) Aluminum/Paint (right link) Steel/Black (left link)	

Features

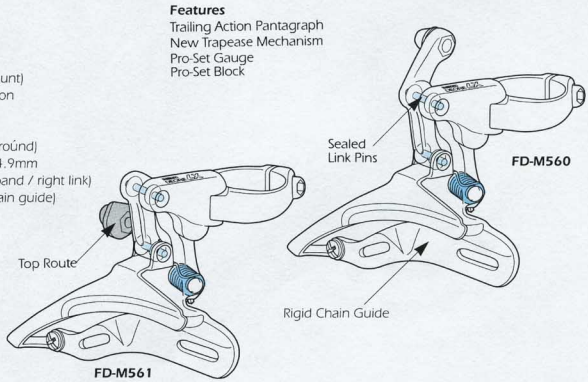


Front Derailleur

FD-M560
FD-M561 (top route)

Weight	121g (Ø31.8/band mount)
Compatibility	Shimano Total Integration Dual SIS Narrow Chain
Capacity	24T (Biopace HP) 26T (round)
Clamp Dia	28.0-28.6mm / 31.8-34.9mm
Material & Finish	Aluminum/Paint (F&R band / right link) Steel/Chrome Plate (chain guide)

Features

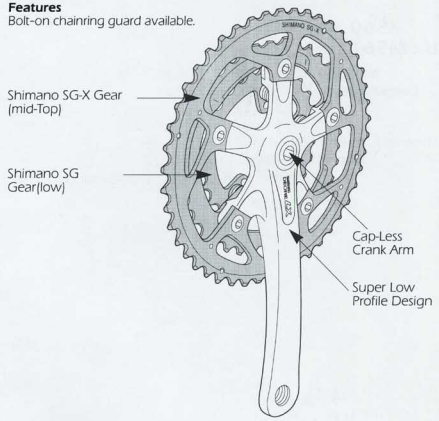


Front chainwheel

FC-M560 (SG-X Triple / MD Type)

Weight	701g (FC-M560)
Compatibility	Shimano Total Integration Shimano HyperDrive Dual SIS Narrow Chain
Chain Size	1/2" x 3/32"
Gearing	46-36-26T (round SG-X)
Bolt Circle	110mm (top/middle) 74mm (Inner)
Crank Length	170/175mm
Pedal Thread	BC 9/16" x 20T.P.I.
Material & Finish	Aluminum/Paint (crank) Aluminum/Anodized (chainring)

Features
Bolt-on chainring guard available.



Sealed Cartridge Bottom Bracket

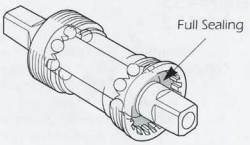
BB-UN51

Weight 312g (125mm)

Specifications

Chain Line	47.5mm	50mm
Spindle Length	113mm	118mm
Shell Width	68(BC) 70(M36)	68(BC) 70(M36) 73(BC)
Spindle Marking	LL113	XL118

Features
Lightweight Design
Easy Installation
Extended Service Life
Maintenance Free

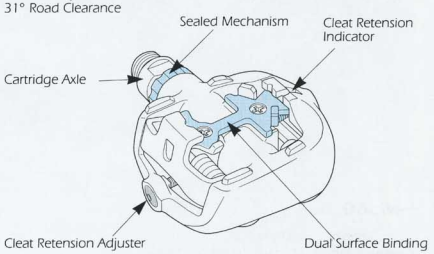


SPD Pedal

PD-M525

Weight	478g (pair)
Mounting Thread	BC 9/16" x 20 T.PI.
Material & Finish	Aluminum/Black (body) Cr-Mo Steel (axle)

Features
SPD Cleat System
31° Road Clearance

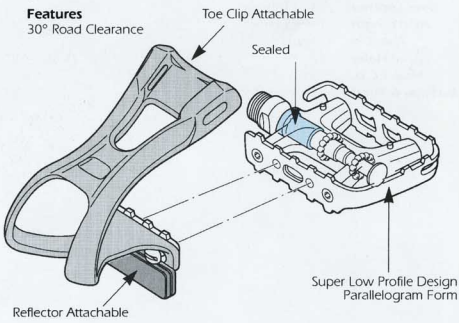


Pedal

PD-M550

Weight	326g (pair)
Axle Thread	BC 9/16" x 20 T.PI.
Material & Finish	Aluminum/Black (body) Steel (plate) Cr-Mo Steel (axle) Resin (toe clip)

Features
30° Road Clearance

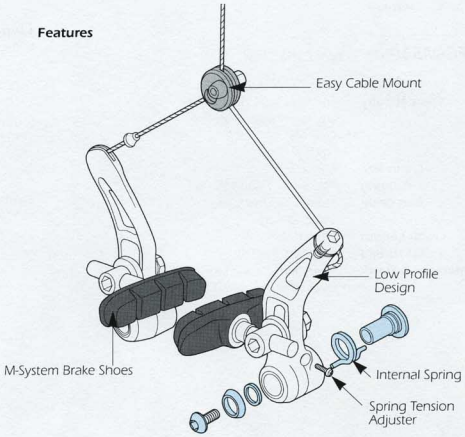


Cantilever Brake

BR-M560 (M-size)
BR-M561 (L-size)

Weight	168g (BR-M560 / F&R set)
Compatibility	Shimano Total Integration M-System Brakes SLR (Shimano Linear Response)
Material & Finish	Aluminum/Paint
Note	Use with M-system lever and M-system brake cable for top performance.

Features

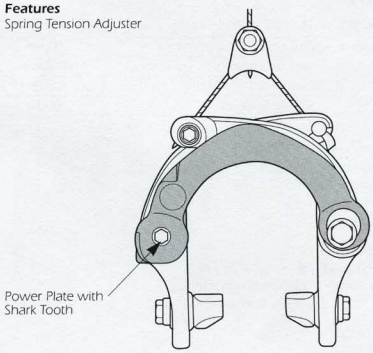


U-II Brake

BR-M453
BR-M452

Weight	368g (BR-M453/1 piece)
Compatibility	Shimano Total Integration SLR (Shimano Linear Response)
Material & Finish	Aluminum/Barrel
Note	Use with SLR lever and SLR cable housing for top performance.

Features
Spring Tension Adjuster

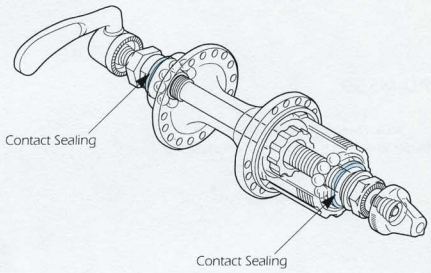


Freehub

FH-M560 (7-speed)

Weight	431g (w/QR)
Compatibility	Shimano Total Integration 7-speed SIS HG/UG Gear
Over Locknut	135 / 130mm
Axle Length	146 / 141mm
Axle Dia	10mm
Spoke Holes	32 / 36
Hole P.C.D.	45mm
Material & Finish	Aluminum/Anodized (hub shell)

Features
Uni-Balance Design



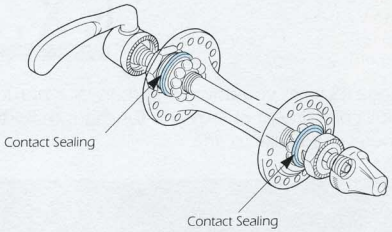
Front Hub

HB-M560-F

Weight	221g (w/QR)
Over Locknut	100mm
Axle Length	108mm (QR type) 142mm (nut type)
Axle Dia	9mm
Spoke Holes	32 / 36
Hole Circle	38mm
Material & Finish	Aluminum/Anodized (hub shell)

Features

Uni-Balance System

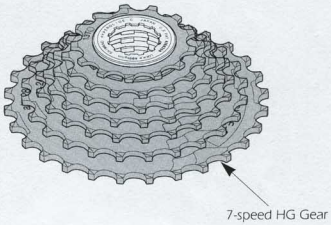


Cassette Sprockets

CS-HG70 (7-speed HG)
CS-HG50 (7-speed HG)

Weight	309g (CS-HG70 E group & spacers)							
Compatibility	Shimano Total Integration 7-speed SIS Narrow Chain							
Material & Finish	CS-HG70 Steel/Silver CS-HG50 Steel/Brown (silver low)							
Sprocket Combinations	**E**	12	14	16	18	21	24	28T
	F	14	16	18	21	24	28	32T
	G	13	15	17	20	23	26	30T
	H	13	15	17	19	21	23	26T
	I	13	14	15	17	19	21	23T
	J	13	14	15	16	17	19	21T
	K	13	15	17	20	24	29	34T
	L	12	13	14	15	17	19	21T
	M	13	15	17	19	21	24	28T

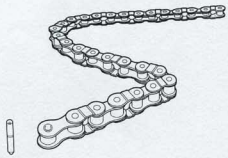
Features



HG Chain

CN-HG50

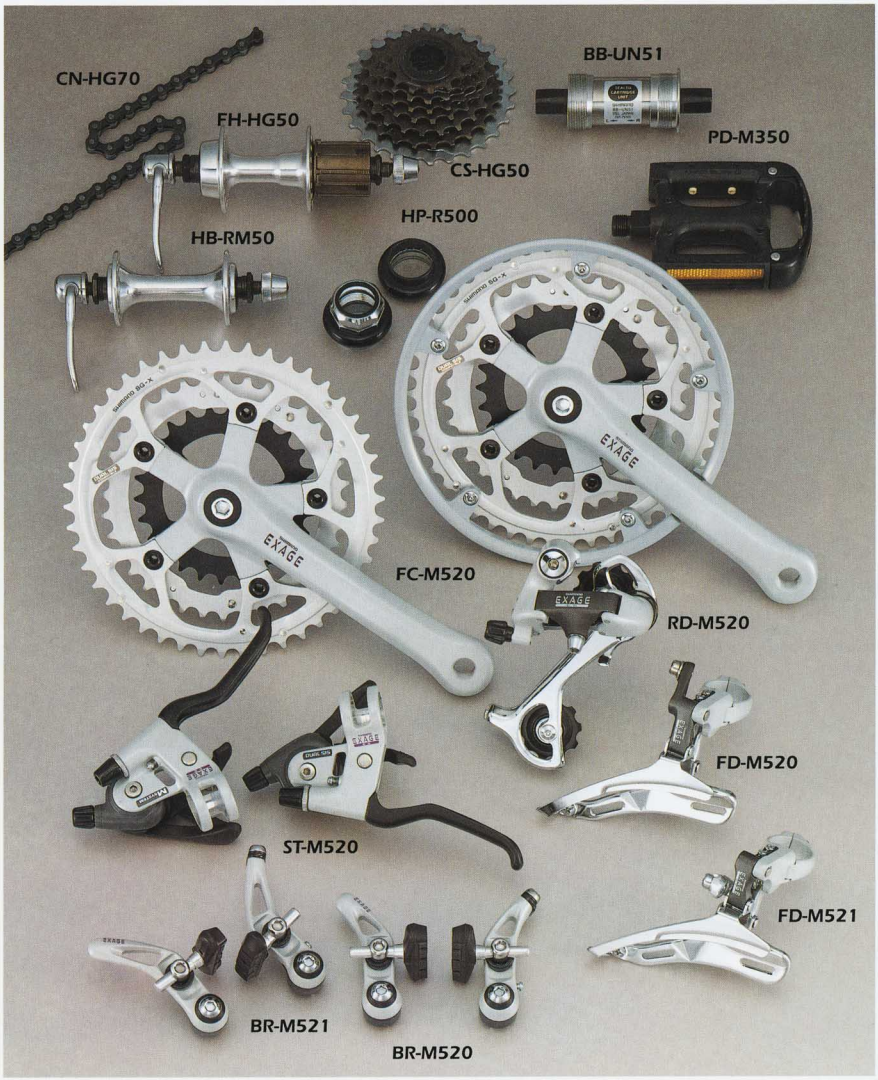
Weight	335g (114 link)
Compatibility	Shimano Total Integration
Features	Narrow HG Chain
Size	1/2" x 3/32"
Material & Finish	Steel/Black (roller links) Steel/Black (pin links)



SHIMANO
EXAGE
ES

SHIMANO
TOTAL
INTEGRATION

Exage ES takes you down an urban lane or rugged trail with equal style and performance. A full compliment of Shimano functions make the Exage ES-equipped bike a real performer wherever you like to ride.



Exage ES

Model No.	Specifications	Features	Material/Finish	Note
Rear Derailleur **RD-M520-SGS** (super long cage) **RD-M520-GS** (long cage)	7-sp SIS Compatible Max. Sprocket 32T (SGS), 30T (GS) Min. Sprocket 12T (SGS, GS) F/Difference 20T (SGS, GS) Capacity 38T (SGS) 36T (GS) Weight 301g (SGS)	Double Servo-Pantagraph Centeron Guide Pulley Double Spoke Barrier B-Tension Adjuster Sealed Mechanism Sintered Alloy Guide Pulley Bushing Chain Retainer	Bracket Body Aluminum/Paint Right Link Aluminum/Paint Left Link Steel/Pearl Bright Plate Body Aluminum/Paint	Direct dropout or separate hanger mount available.
Front Derailleur **FD-M520** **FD-M521** (top route)	Compatibility Dual SIS Narrow Chain Capacity 24T (Biopace HP) 26T (round SG) Band Dia 28.0-28.6/31.8/34.9 mm Weight 119g (FD-M520/band type)	Trailing Action Pantagraph Rigid Chainguide New Trapease Mechanism	F/Band Aluminum/Paint R/Band Aluminum/Paint Right Link Aluminum/Paint Chainguide Steel/Chrome Plated	
Rapidfire Plus **ST-M520** (2.5-finger)	Compatibility Dual SIS (7-rear / 3-front) M-System Brakes Clamp Dia 22.2mm Weight 395g	Dual Repeat Function Digital Cable Adjust Light Action Anatomical Form Brake Lever Stroke Adjust	Bracket Aluminum/Paint Brake Lever Aluminum/Anodized	Use with SIS-SP cable housing. Can be used with M-System brake cable housing. Please use with SM-SP55, SM-SP25, SM-SP16, or SM-SP15 BB cable guide.
Cantilever Brake **BR-M520** (M size) **BR-M521** (L size)	Compatibility M-System Brakes Weight 169g (BR-M520 For R) 10g (Unit-Link)	Unit-Link Dynamic Type Rigid CAD Shape Internal Spring Easy Cable Mount Spring Tension Adjuster	Cantilever Aluminum/Paint	For SLR System use Rapidefire or SLR type brake Lever and SLR cable houding.
Front Chainwheel **FC-M520** (SG-X Gear triple / MD Type)	Compatibility Shimano HyperDrive Dual SIS Narrow Chain Crank Length 165/170/175mm Gearing 46-36-26T Crank Thread BC 9/16" x 20 Weight 706g (170mm)	Low-Profile Form Shimano SG-X Gear	Crank Aluminum/Paint Chain Ring Aluminum/Paint	
Sealed Cartridge Bottom Bracket **BB-UN51**	Chain Line / Axle Length / Shell Width / Spindle Marking 47.5mm 113mm 68 70 LL 113 50.0mm 118mm 68 70 73 XL 118 Weight 317g (113mm)	Easy Assembly Extended Service Life Full Sealing Maintenance Free Lightweight		Shell Width / Thread 68 BCI.37 70 M36 73 BCI.37
Freehub **FH-HG50**	Compatibility 7-sp SIS UG/HG Spoke Holes 36/32 Hole P.C.D. 45mm Over Locknut 135/130mm Axle Length 146/141mm Mount QR/Nu Axle Dia 10mm Weight 435g (7-sp w/QR)	Uni-Balance Design Resin Sealed Mechanism (available) One-Piece Forged Hub Body	Aluminum/Diamond-Cut Finish	
Front Hub **HB-RM50-F**	Spoke Holes 36/32 Hole P.C.D. 38mm Over Locknut 100mm Axle Length 108mm Mounting QR Axle Dia 9mm Weight 228g	Resin Sealed Mechanism (available) One-Piece Forged Hub Body	Aluminum/Diamond-Cut Finish	
Cassette Sprockets **CS-HG50** **CS-HG70-7**	Compatibility 7-sp SIS Narrow Chain Weight 309g (CS-HG70 **E**-group)	7-speed HG	CS-HG70 Steel/Silver CS-HG50 Steel/Brown (silver low gear)	Cassette Sprocket Combinations **E** 12 14 16 18 21 24 28 T **F** 14 16 18 21 24 28 32 T **G** 13 15 17 20 23 26 30 T **K** 13 15 17 20 24 29 34 T **M** 13 15 17 19 21 24 28 T
Chain **CN-HG50** **CN-HG70**	Compatibility 7-sp SIS 7-HG Narrow Chain (1/2" x 3/32") Weight 335g (114 link)	Chromized Pins Connecting Pin Bushingless Design	CN-HG50 Steel/Black (roller links) Steel/Black (pin links) CN-HG70 Steel/Gray (roller links) Steel/Gray (pin links)	
Head Set **HP-R500** **HP-R501** (1-1/8")	Stack Height 22.0mm (top) 11.5mm (bottom) Weight 121g (HP-R500) Variation Model / Type / Thread / Race Diameter Upper / Lower HP-R500 JIS BCI" x 24 30.0mm 27.0mm HP-R500 English/Italian BCI" x 24TPI 30.2mm 26.4mm HP-R500 French M25 x P1.0 30.2mm 26.4mm HP-R501 1-1/8" BC1-1/8" x 26TPI 34.0mm 30.0mm	Sealed Mechanism	Locknut Steel/Pearl Bright Upper Cup Resin/Steel Lower Cup Resin/Steel Colours White/Silver/Black (HP-R500) Black (HP-R501)	

SHIMANO
EXAGE
LT

SHIMANO
TOTAL
INTEGRATION

As the number two component group in the Exage family, Exage LT is just the thing for the fat tyre city bike, but is still tough enough to go off-road whenever you're ready. Exage LT gives you all the quality, performance, and functionality you except from Shimano.



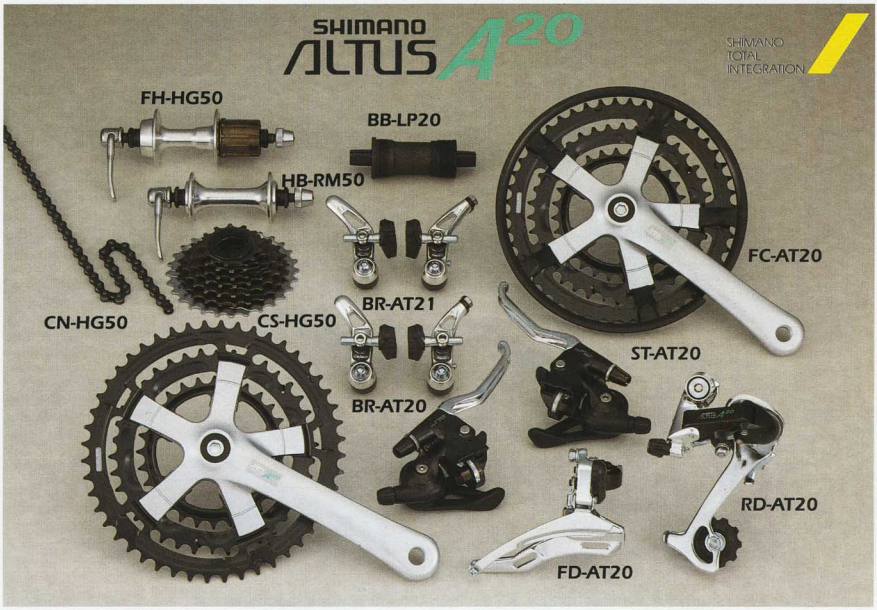
Exage LT

Model No.	Specifications	Features	Material/Finish	Note
Rear Derailleur **RD-M320-SGS** (super long cage) **RD-M320-GS** (long cage)	Compatibility 7-sp SIS Max. Sprocket 32T (SGS), 30T (GS) Min. Sprocket 12T (SGS, GS) F/Difference 20T (SGS, GS) Capacity 38T (SGS), 36T (GS) Weight 300g (SGS)	Double Servo-Pantagraph Centeron Guide Pulley Double Spoke Barrier B-Tension Adjuster Sealed Mechanism Sintered Alloy Guide Pulley Bushing Chain Retainer	Bracket Body Aluminum/Barrel Finish Right Link Steel/Paint Left Link Steel/Zinc Plated Plate Body Aluminum/Barrel Finish	Direct dropout or separate hanger mount available.
Front Derailleur **FD-M320** **FD-M321** (top route)	Compatibility Dual SIS Narrow Chain Capacity 24T (Biopace HP) 26T (round SG) Band Dia. 28.0-28.6/31.8/34.9 mm Weight 119g (band type)	Trailing Action Pantagraph Rigid Chainguide New Trapease Mechanism	F/Band Aluminum/Barrel Finish R/Band Aluminum/Barrel Finish Right Link Aluminum/Paint Chainguide Steel/Chrome Plated	
Rapidfire Plus **ST-M320** (2.5-finger)	Compatibility Dual SIS M-System Brakes Clamp Dia 22.2mm Weight 398g	Dual Repeat Function Digital Cable Adjust Light Action Lever Anatomical Form Brake Lever Stroke Adjust Brake Lever Cable Adjust	Bracket Aluminum/Paint Brake Lever Aluminum/Paint	Use with SIS-SP shift cable housing and M-System brake cable housing.
Cantilever Brake **BR-M320** (M size) **BR-M321** (L size)	Compatibility M-System Brakes Weight 132g (BR-M320 For R) 10g (Unit-Link)	Unit-Link Dynamic Type Rigid CAD Cantilever Sealed Internal Spring Easy Cable Mount Spring Tension Adjuster	Cantilever Aluminum/Paint	Use with Rapidefire or SLR brake lever and M-System cable houding.
Front Chainwheel **FC-M320** (SG-X Gear Triple / MD Type)	Compatibility Shimano HyperDrive Dual SIS Narrow Chain Crank Length 165/170/175 Gearing 46-36-26T Crank Thread BC 9/16" x 20 Weight 877g (170mm)	Low-Profile Design Shimano SG-X Gear	Crank Aluminum/Paint Chain Ring Steel	
Sealed Cartridge Bottom Bracket **BB-LP20** **BB-LP30**	Chain Line / Spindle Length / Shell Width / Spindle Marking 47.5mm 113mm 68 / 70 LL113 50.0mm 118mm 68 / 73 XL118 Weight 341g (BB-LP20/113mm)	Easy Assembly Extended Service Life Full Sealing Maintenance Free Lightweight	BB-LP20 Steel/Black Finish BB-LP30 Steel/C.P. Finish	Shell Width / Thread 68 BC1.37 70 M36 73 BC1.37
Freehub **FH-HG-50**	Compatibility 7-sp SIS UG/HG Spoke Holes 36/32 Hole P.C.D. 45mm Over Locknut 135/130mm Axle Length 146/141mm Mount QR/nut Axle Dia 10mm Weight 435g (7-sp w/QR)	Uni-Balance Design Resin Sealed Mechanism (available) One-Piece Forged Hub Body	Hub Body Aluminum/Diamond-Cut	
Front Hub **HB-RM50** •	Spoke Holes 36/32 Hole P.C.D. 38mm Over Locknut 100mm Axle Length 108mm Mounting QR Axle Dia 9mm Weight 228g	Resin Sealed Mechanism (available) One-Piece Forged Hub Body	Body Aluminum/Diamond-Cut	
Cassette Sprockets **CS-HG50**	Compatibility 7-sp SIS Narrow Chain Weight 329g (**M**-group)	HG Gear	Steel/Silver Silver (Low Gear)	Cassette Sprocket Combinations **E** 12 14 16 18 21 24 28 T **F** 14 16 18 21 24 28 32 T **G** 13 15 17 20 23 26 30 T **K** 13 15 17 20 24 29 34 T **M** 13 15 17 19 21 24 28 T
Chain **CN-HG50**	Compatibility 7-sp SIS 7-sp HG Narrow Chain (1/2" x 3/32") Weight 335g (114 links)	Chromized Pins Connecting Pin Bushingless Design	Roller Links Steel/Black Pin Links Steel/Black	
Pedal **PD-M350**	MTB Type Pedal Thread BC 9/16" x 20T.P.I. Toe Clip 2-screw mount Weight 445g (pair)	26° Road Clearance Sealed Mechanism Low Profile Design Reflector	Body Resin/Steel Plate Steel/Paint	
Head Set **HP-R500** **HP-R501** (1-1/8")	Stack Height 22.0mm (top) 11.5mm (bottom) Weight 121g (HP-R500) Variation Model / Type / Thread / Race Diameter (Upper & Lower Cup / Lower Cone) HP-R500 JIS BC1" x 24TPI 30.0mm 27.0mm HP-R500 English/Italian BC1" x 24TPI 30.2mm 26.4mm HP-R500 French M25 x P1.0 30.2mm 26.4mm HP-R501 1-1/8" BC1-1/8" x 26TPI 34.0mm 30.0mm	Sealed Mechanism	Locknut Steel/Pearl Bright Upper Cup Resin/Steel Lower Cup Resin/Steel Colours White/Silver/Black (HP-R500) Black (HP-R501)	



Model No.	Specifications		Features	Material/Finish		Note
Rear Derailleur **RD-AT10-SGS** (super long cage) **RD-AT10-GS** (long cage)	Compatibility Max. Sprocket Min. Sprocket F/Difference Total Weight	7-sp SIS 32T (SGS), 30T (GS) 12T (SGS, GS) 20T (SGS, GS) 38T (SGS), 36T (GS) 307g (SGS)	Double Servo Panta Mechanism Centeron Guide Pulley Double Spoke Barrier B-Tension Adjust Bolt Sealed Mechanism Sintered Alloy Guide Pulley Bushing Chain Retainer	Bracket Body Right Link Left Link Plate Body	Aluminum/Paint Steel/Paint Steel/Plated Resin	Direct dropout or separate hanger mount available.
Front Derailleur **FD-AT10** **FD-AT11** (top route)	Compatibility Capacity Clamp Dia Weight	Dual SIS Narrow Chain 24T (Biopace HP) 26T (round) 28.0mm - 28.6mm / 31.8mm 138g (FD-AT10/band type)	Trailing Action Pantagraph Mechanism Rigid Chain Guide New Trapease Mechanism	Front Band Rear Band Right Link Chain Guide	Steel/Pearl Plating Aluminum/Barrel Finish Steel/Painted Steel/Chrome Plated	
Rapidfire Plus **ST-AT10** (2.5-finger)	Compatibility Clamp Dia Weight	Dual SIS (7-rear, 3-front) M-System 22.2mm 419g	Dual Repeat Function Digital Cable Adjust (shift lever) Light Action Anatomical Form Brake Lever Stroke Adjust Brake Lever Cable Adjust	Body Brake Lever	Aluminum/Paint Aluminum/Paint	Use with SIS-SP cable housing for shift lever and M-system cable housing for brake lever.
Cantilever Brake **BR-AT10** (M size) **BR-AT11** (L size)	Compatibility Weight	M-System Brakes 173g (BR-AT10 pair) 12'g (Unit-Link)	Unit-Link Alignment Type Rigid CAD Arm Sealed Internal Spring Easy Cable Mount Spring Tension Adjuster	Aluminum		Use with Rapidfire or SLR type brake lever and M-system Outer Cable.
Front Chainwheel **FC-AT10** (SG-X-Gear Triple - MD-Type)	Compatibility Crank Length Gearing Crank Thread	Shimano HyperDrive Dual SIS Narrow Chain 165mm/170mm/175mm 46/36/26 BC9/16" x 20TPI	Low-Profile Design Shimano SG-X-Gear	Crank Chain Ring	Aluminum/Lustre Finish Steel	
Chain **CN-HG50**	Compatibility Weight	7-sp SIS 7-sp HG Narrow Chain (1/2" x 3/32") 335g (114 links)	Chromized Pins Connecting Pin Bushingless Design	Roller Links Pin Links	Steel/Black Steel/Black	

Please see page 33 for additional specifications.



Model No.	Specifications	Features	Material/Finish	Note
Rear Derailleur **RD-AT20-SGS** (super long cage) **RD-AT20-GS** (long cage)	Compatibility 7-sp SIS Max. Sprocket 32T (SGS), 30T (GS) Min. Sprocket 12T (SGS, GS) F/Difference 20T (SGS, GS) Total 38T (SGS) 36T (GS) Weight 307g (SGS)	Double Servo-Panta Mechanism Centeron Guide Pulley Double Spoke Barrier B-Tension Adjust Bolt Sealed Mechanism Sintered Alloy Guide Pulley Bushing Chain Retainer	Bracket Body Aluminum/Barrel Finish Right Link Steel/Paint Left Link Steel/Zinc Plated Plate Body Resin/Molded	Direct dropout or separate hanger mount available.
Front Derailleur **FD-AT20**	Compatibility Dual SIS Narrow Chain Capatiy 20T (Biopace HP) 22T (round) Band Dia 28.0mm–28.6mm Weight 158g (band type)	Rigid Chainguide	Front Band Steel/Paint Rear Band Aluminum/Paint Right Link Aluminum/Barrel Finish Chainguide Steel/Chrome Plated	
Rapidfire Plus **ST-AT20** (2.5-finger)	Compatibility Dual-SIS (7-rear, 3-front) M-System Brakes Clamp Dia 22.2mm Weight 419g	Dual Repeat Function Digital Cable Adjust (shift lever) Light Action Anatomical Form Brake Lever Stroke Adjust Brake Lever Cable Adjust	Bracket Aluminum/Paint Brake Lever Steel/High Lustre	Use with SIS-SP cable housing with shift lever and M-system cable housing for brake lever.
Cantilever Brake **BR-AT20** (M size) **BR-AT21** (L size)	Compatibility M-System Brakes Weight 174g (BR-AT20 one pair) 12 g (Unit-Link)	Unit-Link Alignment Type Rigid CAD Arm Sealed Internal Spring Easy Cable Mount Spring Tension Adjuster	Aluminum/Barrel Finish	Use with Rapidfire or SLR type brake lever and M-system cable casing.
Front Chainwheel **FC-AT20** (SG-X Triple -MD Type)	Compatibility Shimano HyperDrive Dual SIS Narrow Chain Crank Length 170mm/175mm Gearing 48/38/28T Crank Thread BC9/16" x 20TPI	Low Profile Design Shimano SG-X Gear	Crank Arm Aluminum/Paint Chain Ring Steel	
Chain **CN-HG50**	Compatibility 7-sp SIS 7-fach HG Narrow Chain (1/2" x 3/32") Weight 335g (114 links)	Chromized Pins Connecting Pin Bushingless Design	Roller Links Steel/Black Pin Links Steel/Black	

Please see page 33 for additional specifications.



Model No.	Specifications	Features	Material/Finish	Notes
Rear Derailleur **RD-CT10-SGS** (superlong cage) **RD-CT10-GS** (long cage)	Compatibility 7-sp SIS Max. Sprocket 32T (SGS), 30T (GS) Min. Sprocket 12T (SGS, GS) F/Difference 20T (SGS, GS) Total Capacity 38T (SGS) 36T (GS) Weight 307g (SGS)	Double Servo-Panta Mechanism Centeron Guide Pulley Double Spoke Barrier B-Tension Adjust Bolt Sealed Mechanism Sintered Alloy Guide Pulley Bushing Chain Retainer	Bracket Body Aluminum/Barrel Finish Right Link Steel/Chrome Plated Left Link Steel/Zinc Plated Plate Body Resin/Molding	Direct dropout mount or separate hanger mount types available.
Front Derailleur **FD-CT10**	Compatibility Dual SIS Narrow Chain Capazity 20T (Biopace HP) 22T (round) Band Dia 28.0mm - 28.6mm Weight 160g (band type)	Rigid Chainguide	Front Band Steel/Paint Finish Rear Band Steel/Paint Finish Right Link Steel & Resin/Zinc Plated Chainguide Steel/Chrome Plated	
Rapidfire Plus **ST-CT10**	Compatibility Dual-SIS (7-rear, 3-front) M-System Brakes Clamp Dia 22.2mm Weight 198g	Dual Repeat Function Cable Adjuster (front)	Bracket Steel/Paint Finish Lever Steel & Resin	Use with SIS-SP cable casing at Lever Side) and B.B. Guide.
Rapidfire Plus **ST-CT15**	Compatibility Dual-SIS (7-rear, 3-front) Clamp Dia 22.2mm Weight 270g	Gear Indicator Dual Repeat Action Digital Cable Adjuster (F) Light Action Lever Anatomical Form	Bracket Steel/Black Lever Resin/Steel Plate	Single action 2-gear down shifting for rear.
Brake Lever **BL-CT10** (2.5-finger)	Compatibility M-System-Brakes Clamp Dia 22.2mm	Cable Adjuster Stroke Adjuster	Bracket Steel/Painted Lever Steel/Resind Covered	Use with M-system cantilevers and cable casings for top performance.
Cantilever Brake **BR-CT10** (M size) **BR-CT11** (L size)	Compatibility M-System Brakes Weight 174g (BR-CT10 F or R pair) 124g (Unit-Link)	Unit-Link-Alignment Type Rigid CAD Shape Sealed Internal Spring Easy Cable Mount Spring Tension Adjuster	Aluminum/Barrel Finish	Use with SLR Lever and M-System cable casing for top performance.
Front Chainwheel **FC-CT10** (SG-X Gear Triple / MD Type)	Compatibility Dual SIS Narrow Chain Crank Arm 170mm Gearing 48/38/28T Crank Thread Eng BC 9/16" x 20 TPI Weight 930g (170mm) 27g (Clamp Bolts)	Shimano SG-X Gear	Crank Arm Aluminum/Paint Chain Ring Steel	
Sealed Cartridge Bottom Bracket **BB-CS21** **BB-CS11**	Chain Line: 47.5mm; Spindle Length: 122.5mm; Shell Width: 68 70 73; Spindle Marking: D-NL	Easy Assembly Extended Service Life Full Sealing Maintenance Free Lightweight Design	BB-CS21 Silver Finish BB-CS11 Black Finish	Shell Width / Thread: 68 / BC1.37; 70 / M36; 73 / BC1.37
Chain **CN-HG50**	Compatibility 7-sp SIS 7-sp HG Narrow Chain (1/2" x 3/32") Weight 335g (114 links)	Chromized Pins Connecting Pin Bushingöess Design	Roller Links Steel/Black Pin Links Steel/Black	

Please see page 33 for additional specifications.



Model No.	Specifications	Features	Material/Finish	Notes
Rear Derailleur **RD-CT20-GS** (long cage)	Compatible 6-sp SIS Max. Sprocket 28T Min. Sprocket 14T F/Difference 20T Capacity 34T Weight 283g	Servo-Panta Mechanism Double Spoke Barrier Chain Retainer	Bracket Body Steel/Paint Finish Right Link Steel/Paint Left Link Steel/Paint Plate Body Steel/Paint	Direct dropout or hanger mounts type available.
Front Derailleur **FD-CT20**	Compatibility Dual-SIS Narrow Chain Capacity 20T (Biopace HP) 22T (round) Band Dia 28.0mm - 28.6mm Weight 159g	Rigid Chainguide	Front Band Steel/Paint Rear Band Steel/Paint Right Link Steel & Resin/Zinc Plated Chainguide Steel/Chrome Plated	
Rapidfire **ST-CT20** (Uni-Lever)	Compatibility Dual-SIS (6-rear, 3-front) Clamp Dia 22.2mm Weight 249g (pair)	Repeat Function Cable Adjuster	Bracket Steel/Paint Lever Steel w/Resin Overlay	Use with SIS-SP cable housing at derailleur and SIS cable housing at lever and BB guide.
Shifting Lever **SL-CT20**	Compatibility Dual-SIS (6-rear, 3-front) Camlp Dia 22.2mm Gewicht: 135 g (pair)	Sealed Mechanism Anatomical Form Digital Cable Adjust (front) Gear Indicator	Band Steel/Paint Lever Resin	Use with SIS cable housing and BB guide.
Brake Lever **BL-CT20** (2.5-finger)	Compatibility M-System Brakes Clamp Dia 22.2mm Weight 183g (pair)	Cable Adjuster Stroke Adjuster	Bracket Steel w/Resin Overlay Lever Aluminum	Use with M-system cantilever and housing.
Cantilever Brake **BR-CT20** (M size) **BR-CT21** (L size)	Compatibility M-System Brakes Weight 177g	Unit Link Alignment Type Rigid CAD Shape Sealed Internal Spring Easy Cable Mount Spring Tension Adjuster	Aluminum/Barrel Finish	Use with SLR type brake Lever and M-System cable housing, und M-System-Kabelaußenhülle.
Front Chainwheel **FC-CT20** (Triple SG-X Gear / MD Type)	Compatibility Dual SIS Narrow Chain Crank Length 170mm Gearing 48-38-28T Crank Thread Eng BC9/16" x 20TPI Weight 930g	Shimano-SG-X-Gear	Crank Aluminum/Paint Chain Ring Steel	
Sealed Cartridge Bottom Bracket **BB-CS11**	Chain Line: 47.5mm; Spindle Length: 122.5mm; Shell Width: 68 70 73; Spindle Marking: D-NL	Easy Assembly Extended Service Life Fully Sealed Maintenance Free Lightweight Design		Gehäusebreite: 68, 70, 73 Gewinde: BC1.37, M36, BC1.37
Multiple Freewheel **MF-HG20**	Compatibility 6-sp SIS Narrow Chain Weight 460g (**Y** Group)	6-speed HG	Steel/Brown (Silver Low gear)	Sprocket Combinations **X** 14 16 18 20 22 24 T **Y** 14 16 18 21 24 28 T **Z** 14 17 20 14 28 32 T
Multiple Freewheel **CN-UG50**	Compatibility 7-sp SIS Narrow Chain (1/2" x 3/32") Weight 335g (114 links)	Chromized Pins Connecting Pin Bushingless Design	Roller Links Steel/Black Pin Links Steel/Black	

Please see page 33 for additional specifications.



Model No.	Specifications		Features	Material/Finish		Note
Rear Derailleur **RD-TY20-GS** (long cage) **RD-TY20-SS** (short cage)	Compatibility Max. Sprocket Min. Sprocket F/Difference Capacity	6-sp SIS 24-28T (SS double gear) 24-32T (SS Single Gear) 28T (GS) 14T (SS, GS) 20T (GS) 13T (SS) 34T (GS) 28T (SS)	Servo Pantagraph Double Spoke Barrier Chain Retainer (GS)	Bracket Body R/Link L/Link Plate Body	Zinc Plated Steel Chrome Plated Steel Zinc Plated Steel Zinc Plated Steel	Direct dropout or hanger mount type available.
Front Derailleur **FD-TY21-GS**	Compatibility Capazity Clamp Dia	Dual SIS Narrow Chain 20T (Biopace HP) 22T (round SG) 28.0 - 28.6mm.	Rigid Chain Guide	F/Band R/Bande R/Link Chain Guide	Painted Steel Painted Steel Painted Steel/Resin Chrome Plated Steel	
Front Derailleur **FD-TY20-B** (band mount)	Compatibility Capacity Clamp Dia	Narrow Chain 14T 28.0 - 28.6mm	Rigid Chain Guide New Trapease Mechanism Cable Stopper	F/Band R/Band R/Link Chain Guide	Zinc Plated Steel Zinc Plated Steel Zinc Finish Steel/Resin Steel/Chrome Plated	
Front Derailleur **FD-TY25-B** (band mount)	Compatibility Capacity Clamp Dia	HG-Kette 20T (Biopace HP) 22T (round SG) 28.0 - 28.6mm	Rigid Chain Guide Trapease Mechanism Cable Stopper	F/Band R/Band R/Link Chain Guide	Zinc Plated Steel Zinc Plated Steel Painted Steel/Resin Chrome Plated Steel	
Shifting Lever **SL-MY21**	Compatibility Clamp Dia	Dual SIS (6-rear/3-front) 22.2mm	Digital Cable Adjust (Front) Gear Indicator	Band Lever	Painted Steel High Impact Resin	Use with Shimano SIS shift cable housing and BB guide.
Shifting Lever **SL-MY21**	Compatibility Clamp Dia	6-speed 22.2mm	Sealed Mechanism Anatomical Form	Band Lever	Zinc Plated Steel Resin	Use with SIS cable housing and BB guide.
Brake Lever **BL-TY20** (band mount)	Compatibility Clamp Dia	M-System Brakes 22.2mm.	Cable Adjuster Stroke Adjuster	Bracket Lever	Zinc Plated Steel Steel/Resin	Use with M-System brake lever and cable housing.
Cantilever Brake **BR-TY20** (M size) **BR-TY21** (L size)	Compatibility	M-System Brakes	Unit Link Alignment Type Rigid CAD Shape Sealed Internal Spring Easy Cable Mount Spring Tension Adjuster	Barrel Finish Aluminum		Use with Rapidfire or SLR brake lever and M-System Cable housing.
Front Chainwheel **FC-TY20** (SG-Gear Triple) **FC-TY21** (SG-X-Gear Triple)	Compatibility Arm Length Gearing FC-TY21 Crank Thread	Dual SIS (FC-TY21) Narrow Chain 170mm FC-TY20 / 48-38-28T (Biopace) 48-38-28T (round) BC9/16" x 20TPI	Shimano SG-X-Gear (FC-TY21) Shimano SG-Gear (FC-TY20)	Crank Chain Ring	Painted/Aluminum Steel	
Multiple Freewheel **MF-HG20**	Compatibility	6-sp SIS Narrow Chain	6-speed HG	Brown Finish Steel Silver Low Gear		Sprocket Combinations X 14 16 18 20 22 24 T Y 14 16 18 21 24 28 T Z 14 17 20 24 28 32 T
Chain **CN-UG50**	Compatibility Weight	7-sp SIS Narrow Chain (1/2" x 3/32") 335g (114 links)	Chromized Pins Connecting Pin Bushingless Design	Roller Links Pin Links	Steel/Black Steel/Black	

Please see page 33 for additional specifications.

SHIMANO TOURNEY

TY15 SERIES





Model No.	Specifications		Features	Material/ Finish		Note
Rear Derailleur **RD-TY15-GS** (long cage) **RD-TY15-SS** (short cage)	Compatibility Max. Sprocket Min. Sprocket F/Difference Capacity	5-speed SIS 28T (GS) 24-28T (SS) 14T(SS/GS) 20T(GS) 13T(SS) 34T(GS) 28T(SS)	Servo Pantagraph Double Spoke Barrier Chain Retainer (GS)	Bracket R/Link L/Link Plate	Zinc Plated Steel Chrome Plated Steel Steel/Zinc Plated Zinc Plated Steel	
Front Derailleur **FD-TY15-GS**	Compatibility Capacity Clamp Dia	Narrow Chain 20T (Biopace HP) 22T (round SG) 28.0-28.6mm	Rigid Chain Guide Cable Stopper	F/Band R/Band R/Link Chain Guide	Zinc Plated Steel Zinc Plated Steel Painted Steel & Resin Chrome Plated Steel	
Front Derailleur **FD-TY15-SS** (band mount)	Compatibility Capacity Clamp Dia	Narrow chain 14T 28.0-28.6mm	Rigid Chain Guide Cable Stopper	F/Band R/Band R/Link Chain Guide	Zinc Plated Steel Zinc Plated Steel Painted Steel & Resin Chrome Plated Steel	
Shifting Lever **SL-MY15**	Compatibility Clamp Dia	5-speed SIS 22.2mm	Sealed Mechanism Anatomical Form Gear Indicator (rear)	Bracket Lever	Zinc Plated Steel High-Impact Resin	Use with SIS-SP cable housing and BB guide.
Brake Lever **BL-TY20** (2.5-finger)	Compatibility Clamp Dia	M-System Brakes 22.2mm	Cable Adjuster Stroke Adjuster	Bracket Lever	Aluminum Steel/Resin	Use with M-System brake lever and cable housing.
Cantilever Brake **BR-TY20** (M size) **BR-TY21** (L size)	Compatibility	M-System Brakes	Unit Link Alignment Type Rigid CAD Shape Sealed Internal Spring Easy Cable Mount Spring Tension Adjuster	Barrel Finish Aluminum		Use with Rapidfire or SLR brake lever and M-System cable housing.
Front Chainwheel **FC-TY20** (SG Gear Triple)	Compatibility Arm Length Gearing Crank Thread	Narrow chain 170mm 48-38-28T (Biopace) BC9/16" x 20T P.I.	Shimano SG Gear	Crank Chain Ring	Painted Aluminum Steel	
Multiple Freewheel **MF-Z015**	Compatibility	5-speed SIS	Uni-Glide Teeth	Brown Finish Steel		Sprocket Combinations 14 17 20 24 28T 14 17 19 21 24T

Mountain bike durability in a component group for the hybrid bicycle. Nothing beats the utility of the 700CX equipped bicycle for fitness, touring, or commuting. 700CX... a beautiful combination of style, elegance and design fully incorporating the Ride Light concept.

Shimano 700CX gives the hybrid bicycle the rugged durability of a mountain bike with a feeling of liveliness and precision control. All alloy construction, silver colour treatment, and compact design combine to enhance both the appearance and performance of the quality hybrid.

CS-HG70-C Cassette Sprockets



New cassette sprocket cluster features an 11-tooth top gear. Compact 11-19 cassette sprockets and smaller chainrings reduce weight without any sacrifice in gear range. Improves bicycle appearance too.

BR-C700 Cantilever Brakes



Compact cantilever brakes designed especially for the hybrid. Set up tool simplifies and speeds up precision adjustment. New M-System design offers improved all-weather braking performance.



DUAL SIS

7-speed freewheel, triple crank - all SIS

Click-stop SIS shifting precision for the front as well as the rear. Compact cassette sprocket and Hyperdrive crankset with easy SIS click-stop shifting. Rapidfire plus lever gear indicators are a great help to newcomers to the cycling world.

SHIMANO M SYSTEM

Multi-Condition Brake Concept

Refinements in cable and cantilever design plus new pad formulation dramatically improve wet weather braking performance.

HG-C

7-speed HG for the hybrid

Compact computer-designed 11-19T HyperGlide cassette improves SIS shifting, allows the use of smaller chainrings, and reduces chain length. The result is reduced weight, better shifting, and enhanced appearance.

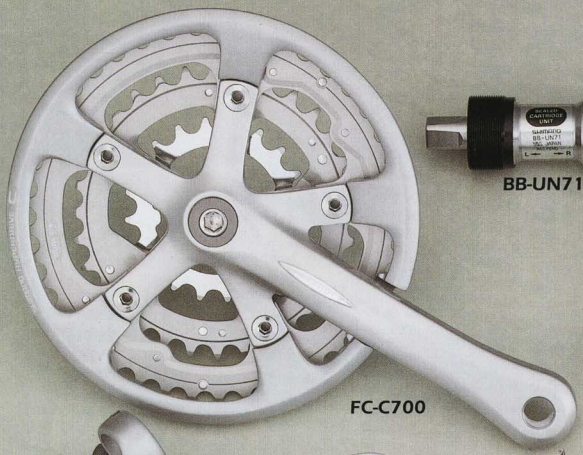
SHIMANO HYPERDRIVE-C

Just for the hybrid

Smaller rear sprocket sizes allow the use of smaller Hyperdrive triple chainrings for reduced drivetrain weight and size. No sacrifice in gear ratios.

SHIMANO 700CX

SHIMANO TOTAL INTEGRATION



FC-C700

BB-UN71



RD-C700



ST-C070



HB-C700



FH-C070





CS-HG70-C



FD-C700



BR-C700



CN-HG70

700CX

Model No.	Specifications	Features	Material/ Finish	Note
Rear Derailleur **RD-C700** (long cage)	7-speed SIS Compatible Max. Rear Sprocket 21T Min. Rear Sprocket 11T Front Difference 22T Total Capacity 32T Weight 250g	Adjustable Return Spring Double Servo Panta Mechanism Centeron Guide Pulley Double Spoke Barrier B-tension Adjust Bolt Sealed Mechanism Sintered Alloy Guide Pulley Bushing Chain Retainer	Bracket Body painted aluminum Right Link painted aluminum Left Link pearl bright steel Plate Body painted aluminum	
Front Derailleur **FD-C700** **FD-C701** (top route)	Compatibility Dual SIS Narrow Chain Capacity 22T (round 3G) Clamp Dia 28.0mm - 28.6mm 31.8mm / 34.9mm Weight 121g (FD-C700)	Trailing Action Pantagraph Rigid Chain Guide New Trapease Mechanism	Front Band painted aluminum Rear Band painted aluminum Right Link painted aluminum Chain Guide chrome plated steel	Set chainstay angle to 63-66°.
Rapidfire Plus **ST-C070** (2.5-finger)	Compatibility Dual SIS (7-rear, 3-front) M-System Brakes Clamp Diameter 22.2mm Weight 386g	Dual Repeat Function Gear Indicator Digital Cable Adjuster Light Action Anatomical Form Brake Stroke Adjust	Bracket painted aluminum Brake Lever anodized aluminum	Use with SIS-SP Outer Cable (shift) M-system Outer Cable (brake)
Cantilever Brake **BR-C700** (S size) **BR-C701** (M size)	Compatibility M-System Brakes Weight 168g (BR-C700 Set) 10g (Unit Link)	Unit Type Cantilever Rigid CAD Design Sealed Internal Spring Easy Attach Cable Spring Tension Adjust	Anodized Aluminum	Use with Rapidfire or SLR Brake Lever and Shimano M-system outer cable.
Front Chainwheel **FC-C700** (SG-X Gear, Triple)	Compatibility Shimano HyperDrive Dual SIS Narrow Chain Crank Length 170mm / 175mm Gearing 42-32-20T Bolt Circle 110/58mm Crank Thread BC 9/16" x 20TPI Weight 730g (170mm w/o chain guard)	Low Profile Design Shimano SG-X Gear	Crank high lustre aluminum Chainring aluminum (42T, 32T) steel (20T)	
Sealed Bottom Bracket **BB-UN71**	Chain Line / Spindle Length / Shell Width / Spindle Marking 45.0mm / 113mm / 68 70 / LL113 47.5mm / 118mm / 68 70 73 / XL118	Easy Assemble Extended Life Fully Sealed Maintenance-Free Lightweight		Shell Width / Thread 68 / BC1.37 70 / M36 73 / BC1.37
Free Hub **FH-C070**	Compatibility 7-speed SIS HG Gears Only Holes 36/32 Hole P.C.D 45mm Over Locknut 130mm Axle Length 141mm Mount OR Axle Dia 10mm Weight 427g (7-sp OR)	11T Gear Compatible Uni Balance Design Contact Sealing One Piece Forged Hub Body	Aluminum/Anodized	
Front Hub **HB-C700**	Spoke Holes 36/32 Hole P.C.D 38mm Over Locknut 100mm Axle Length 108mm Mount OR Axle Dia 9mm Weight 228g	Contact Type Sealed Mechanism One Piece Forged Hub Body	Aluminum/Anodised Finish	
Cassette Sprockets **CS-HG70-C**	Compatibility 7-sp SIS Narrow Chain Weight 183g	7-speed HG	Steel/Silver	Sprocket Combinations **ab** 11 12 13 14 15 17 19T
Chain **CN-HG70**	Compatibility 7-sp SIS 7-sp HG Narrow Chain (1/2"x 3/32") Weight 325g (114 links)	Chromized Pins Bushingless Design	Roller Links Steel/Grey Pin Links Steel/Black	
Pedal **PD-M737**	SPD Cleat System Crank Thread Eng BC 9/16" x 20TPI Weight 450g (pair)	Cartridge Axle Cleat Tension Indicator Low Profile Design Dual Surface Binding Cleat Tension Adjust 31° Road Clearance Sealed Mechanism	Body Resin/Black Axle Cr-Mo Steel	
Pedal **PD-M650**	Crank Thread Eng BC 9/16" x 20 TPI Weight 385g (pair)	32° Road Clearance Super Low profile Design Parallelogram Shape Contact Sealing Steel Grip Pins Toe Clip/Reflector Mounts	Aluminum Body Steel Plate w/anodised Resin Toe Clip	
Head Set **HP-M650** **HP-M651** (1 - 1/8")	Upper Stack 22.0mm Lower Stack 11.5mm Weight 168g (HP-M650) 199g (HP-M651) Variations	Sealed Mechanism	Lock Nut Steel/Pearl Bright Upper Cup Resin Lower Cup Resin	

Model	Type	Thread	Race Diameter	
			Upper & Lower Cup	Lower Cone
HP-M650	JIS	BC1" x 24TPI	30.0mm	27.0mm
	Eng./Ita.	BC1" x 24TPI	30.2mm	26.4mm
	French	M25 x P1.0	30.2mm	26.4mm
HP-M651	1-1/8"	BC1-1/8" x 26TPI	34.0mm	30.0mm



Model No.	Specifications	Features	Material/Finish	Notes
Rear Derailleur **RD-C400** (long cage)	7-speed SIS Compatible Max. Rear Sprocket 21T Min. Rear Sprocket 11T Front Difference 22T Total Capacity 32T	Adjustable Return Spring Centeron Guide Pulley Double Servo Pantagraph Double Spoke Barrier B-Tension Adjust Bolt Sealed Mechanism Sintered Alloy Guide Pulley Bushing Chain Retainer	Bracket Barrel Finish Aluminum Right Link Barrel Finish Aluminum Left Link Steel/Zinc Plated Plate Bracket Barrel Finish Aluminum	
Front Derailleur **FD-C400** **FD-C401** (top route)	Compatibility Dual SIS Narrow Chain Capacity 22T (round SG) Clamp Dia 28.0mm - 28.6mm 31.8mm / 34.9mm	Trailing Action Pantagraph Mechanism Rigid Chain Guide New Trapease Mechanism	Front Band Barrel Finish Aluminum Rear Band Barrel Finish Aluminum Right Link Painted Aluminum Chain Guide Steel/Chrome Plate	Set chainstay angle from 63 to 66°
Rapidfire Plus Lever Set **ST-C040** (2.5-finger)	Compatibility Dual SIS (7-rear/3-front) M-System Brakes Clamp Dia 22.2mm	Dual Repeat Function Gear Indicator Digital Cable Adjust Light Action Lever Anatomical Form Brake Lever Stroke Adjust	Bracket Painted Aluminum Brake Lever High Lustre Aluminum	Use with SIS-SP cable casing on shift lever side, and M-System cable outer on brake lever side.
Cantilever-Bremse **BR-C400** (S size) **BR-C401** (M size)	Compatibility M-System Brakes	Unit-Link Dynamic Type Rigids CAD Design Sealed Internal Spring Easy Cable Mount Spring Tension Adjust	Aluminum/hochglänzend	Use with Rapidfire or SLR Compatible brake Lever set and Shimano M-System cable casing.
Front Chainwheel **FC-C400** (SG-X Gear Triple)	Compatibility Dual SIS Narrow Chain Crank Length 170mm / 175mm Gearing 42-32-20 Bolt Circle 110/58 mm Crank Thread English BC 9/16" x 20TPI	Low-Profile Design SG-X Gear	Crank High Lustre Aluminum Chainring Aluminum (42T, 32T) Steel (20T)	
Sealed Cartridge Bottom Bracket **BB-UN51**	Chain Line: 45.0mm / 47.5mm Spindle Length: 113mm / 118mm Shell Width: 68 70 / 73 Spindle Marking: LL 113 / XL 118	Easy Assembly Full Sealing Extended Life Maintenance Free Lightweight Design		Shell Width: 68, 70, 73 Thread: BC1.37, M36, BC1.37
Free Hub **FH-C040**	Compatibility 7-sp SIS HG Gear Only Spoke Holes 32H / 36H. Hole P.C.D.: 45mm Over Locknut 130mm Axle Length 141mm Axle Dia 10mm	Uni-Balance Design One-Piece Forged Hub Body	Aluminum/Diamond Cut	
Front Hub **HB-C400**	Spokes 36H / 32H. Hole P.C.D. 38mm Over Locknut 100mm Axle Length 108mm/140mm Mount Quick Release/Nut Axle Dia 9mm Weight 228g	One-Piece Forged Hub Body	Aluminum/Diamond Cut Finish	
Cassette Sprockets **CS-HG70-C**	Compatibility 7-sp SIS Narrow Chain Weight 183g	7-speed-HG	Steel/Brown Finish Steel/Silver Finish (low gear)	Available Combinations ab 11 12 13 14 15 17 19 T

Please see page 65 for additional specifications.

The standard by which all other road racing components are judged.

The name Dura-Ace has become synonymous with advanced technology, quality, and performance. The advanced functions of Dura-Ace provide a real competitive advantage to the road racer. Thanks to Shimano Total Integration, Dura-Ace lets you steer, brake, and shift without changing your hand position on the bars - a real performance advantage. Also a new Dura-Ace SPD pedal is now available to give more off-bike mobility before and after races. When Dura-Ace is in the peloton, the others are just racing for second place.

SPD competition pedal for the road!
PD-7410



The versatile performance of Shimano Pedaling Dynamics is now available for the serious road racing cyclist. Weighing only 310g and offering 36° (34° of PD-7401) of cornering clearance, the compact Dura-Ace SPD pedal brings new convenience to the racing cyclist.



SIS

8-Speed SIS

Eight-speed SIS gives a wider gear selection with Shimano Index System precision. Just a tap on the Dual-Control Lever (dual-purpose braking and shifting lever) delivers the desired gear without removing hands from the bars.

SUPER SLR

Super SLR

Side pull SLR calipers feature offset pivot points that increase the power multiplication factor. The result is increased stopping power under highly modulated control.

SHIMANO SG

Shimano SG

Chainwheels feature Shimano SG design. Cutouts and special contours guide the chain quickly and smoothly from one chainwheel to the next. It's the closest thing yet to SIS performance for the front derailleur.

HG

8-Speed HG Sprockets

Dura-Ace's 8-speed gear cassette utilizes HG sprockets. Hyperglide means that the sprockets are computer-profiled and strategically positioned to provide fast, direct, and smooth chain transfer between cogs - regardless of pedal torque or cadence.

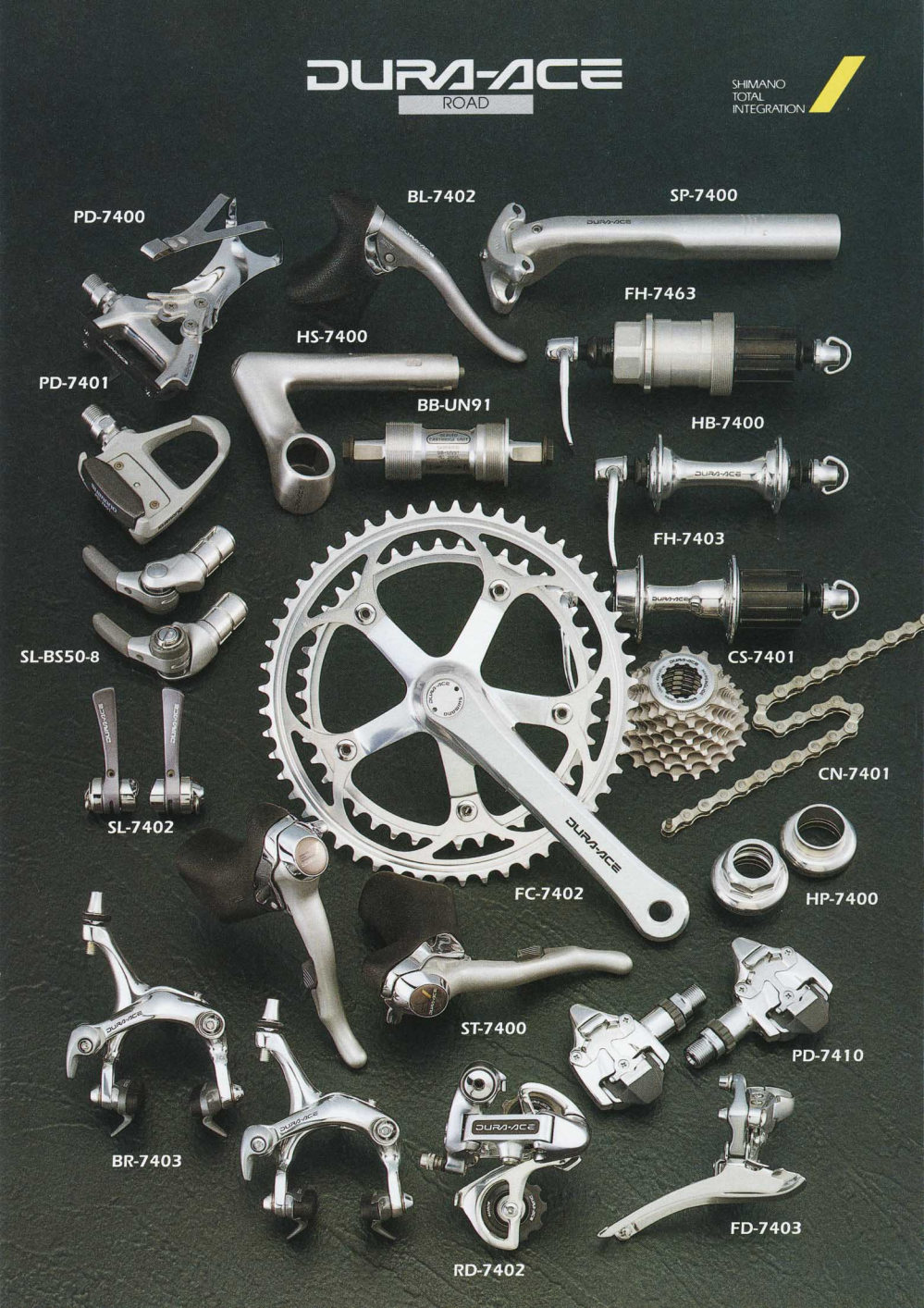
THE SHIMANO FREEHUB

8-Speed Freehub

The rear hub and freewheel assembly are combined to form a rigid single piece unit called the freehub. The freehub provides for a stronger rear wheel, less spoke breakage, decreased rim offset, and increased power transfer efficiency.

DURA-ACE
ROAD

SHIMANO
TOTAL
INTEGRATION

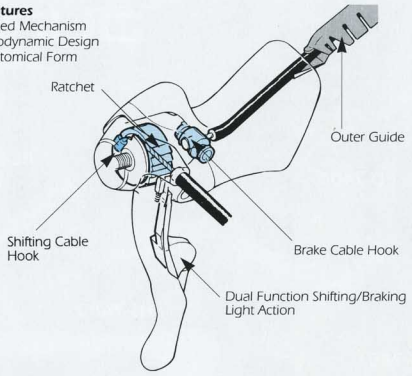


Dual Control Lever

ST-7400

Weight	480g (pair)
Compatibility	Shimano Total Integration 8-speed SIS Super SLR (Shimano Linear Response)
Bar Dia	23.8-24.2mm
Material & Finish	Aluminum/Chrome Plate (bracket) Forged Aluminum/Anodized (lever)
Note	Use SIS-SP cable housing at shift lever and lined SIS cable housing at rear derailleur. Use ST-7400 lever set with BR-7403 caliper and SLR brake cable housing.

Features
Sealed Mechanism
Aerodynamic Design
Anatomical Form



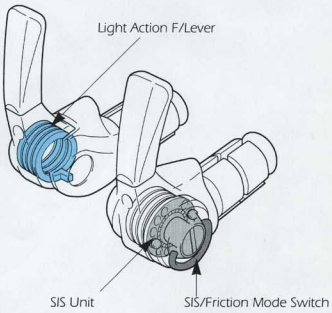
Downtube Shift Lever

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

(*C Indicates Italian 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 Cable Housing
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 cable housing for top performance.

Features
Sealed Mechanism
Human Engineered Form
Sealed SIS-SP Outer Casing



Bar End Shift Levers

SL-BS50-8

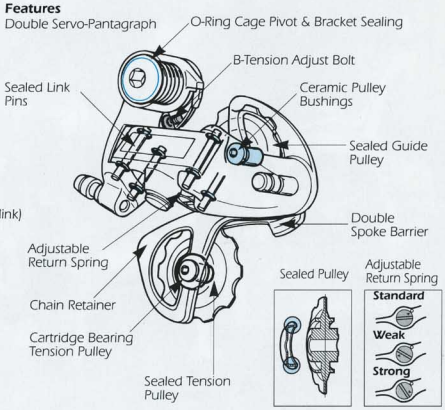
Weight	183g
Mount	Bar End
Bar Inner Dia	19.0-22.0mm
Material & Finish	Aluminum/Paint (lever)
Note	For best SIS operation use with Shimano Dura-Ace rear derailleur, freehub, cassette sprockets, and Shimano SIS-SP cable casing.

Rear Derailleur

RD-7402

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

Features
Double Servo-Pantagraph



Front Derailleur

FD-7403-B (band mount)
FD-7403-F (braze-on mount)

Weight	93g (band mount)
Compatibility	Shimano Total Integration Shimano SG Gear Narrow Chain
Features	Sealed Link Pins Rigid Chainguide Adjustable Return Spring
Capacity	15T
Clamp Dia	28.0-28.6mm (band mount)
Material & Finish	Forged Aluminum/Anodized (F&R band) Forged Aluminum/Color Anodized (right link) Forged Aluminum (left link) Steel/Chrome Plated (chain guide bolt)

Front Chainwheel

FC-7402-SG (Shimano SG Double / LD Type)

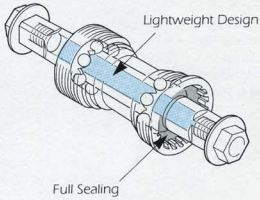
Weight	643g (52-42T/170mm)
Compatibility	Shimano Total Integration Narrow Chain
Features	Shimano SG Gear
Chain Size	1/2" x 3/32"
Gearing	A-53-42 / A-52-42 / B-53-39 (round SG)
Crank Lengths	165/167.5/170/172.5/175/177.5/180mm
Crank Thread	BC 9/16" x 20T.P.I.
Cup Thread	English BC 1.37 x 24T.P.I. French M35 x1.0 Italian M36 x 24T.P.I.
Material & Finish	Forged Aluminum/Anodized (crank/chainring) Aluminum/Etched-Anodized (cap) Nickel Cr-Mo/Axle

Sealed Cartridge Bottom Bracket

BB-UN91

Weight	255g
Compatibility	Narrow Chain
Specifications	Chain Line: 43.5mm Spindle Length: 115mm Shell Width: 68 (BC) 70 (M36) Spindle Marking: D-H
Note	Use with FC-7402 chainwheel.

Features
Easy Assembly
Extended Service Life
Maintenance Free

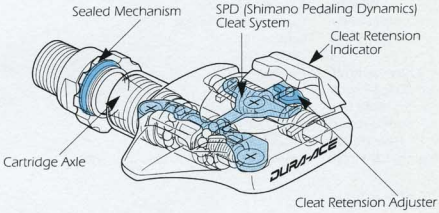


SPD Pedal

PD-7410

Weight	313g (pair)
Mounting Thread	BC 9/16" x 20T.P.I.
Material & Finish	Aluminum/Anodized Finish (body) Cro-Mo Steel (axle)

Features
36° Road Clearance
Creat Option System
Low-Profile Design



Clipless Pedal

PD-7401

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

Pedal

PD-7400

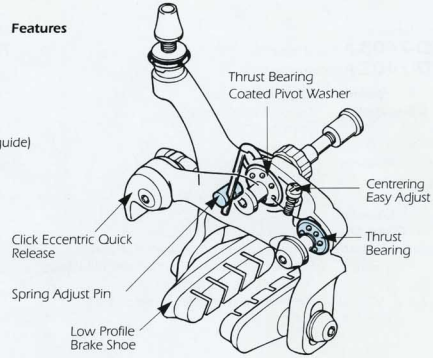
Weight	372g (pair w/L toe clips)
Features	34° Road Clearance Compound Needle/Ball Bearings Aerodynamic Form Sealed Mechanism
Mounting Thread	BC 9/16" x 20T.P.I.
Toe Clip Size	M/L/LL
Material & Finish	Aluminum/Buff (body) Aluminum/Anodized (front plate) Aluminum/Black Anodized (rear plate) Nickel Cr-Mo Steel/ Chrome-Plated/Polished (axle) Steel/Chrome-Plated (toe clip) Alloy/Anodized (toe clip)

Dual Pivot Brake

BR-7403-49 (49mm reach)

Weight	432g (F&R)
Compatibility	Shimano Total Integration Super SLR (Shimano Linear Response)
Material & Finish	Forged Aluminum/Anodized (caliper) Aluminium/Colour Anodized (shoe holder & tyre guide)
Note	BR-7403-49 must be used with Shimano SLR cable housing.

Features

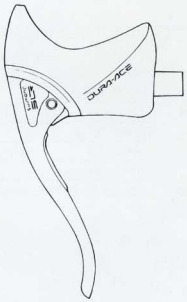


Brake Lever

BL-7402 (Aero Type)

Weight	240g (pair)
Compatibility	SLR (Shimano Linear Response)
Clamp Dia	23.8-24.2mm
Lever Stroke	88mm
Material & Finish	Aluminum/Anodized (lever) Aluminum/Chrome-Plated (bracket) Soft Resin (hood)
Colour	Black/White (hood)
Note	Use with SLR brake caliper and Shimano SLR cable housing for top SLR performance. Can be used with dual-pivot calipers.

Features
Aerodynamic Design
Anatomical Form

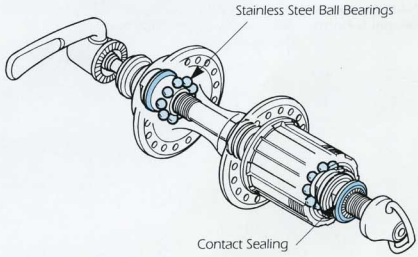


Freehub

FH-7403-HG (8-speed)

Weight	439g Rear (w/QR)
Compatibility	Shimano Total Integration 8-speed SIS HG/UG Gear
Over Locknut	130mm
Axle Length	141mm
Axle Dia	10mm
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

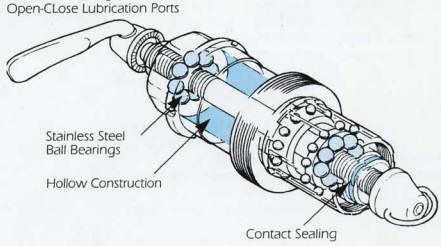


Freehub for Disk Wheels

FH-7463-HG (8-speed)

Weight	646g (w/QR)
Compatibility	Shimano Total Integration 8-speed SIS HG/UG Gear
Over Lock Nut	130mm
Axle Length	141mm
Axle Width	10mm
Chain Line	42.65mm
Material & Finish	Aluminum/Buff Anodized (hub shell)

Features
Exclusively Designed for Disk Wheels
Uni-Balance Design
Open-CLose Lubrication Ports

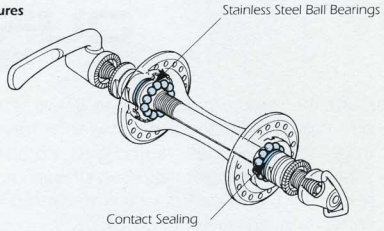


Front Hub

HB-7400-F

Weight	228g (w/QR)
Over Lock Nut	100mm
Axle Length	108mm
Axle Dia	9mm
Spoke Holes	28/32/36/
Hole P.C.D.	38mm
Material & Finish	Forged Aluminum/Anodized (hub shell)

Features



Cassette Sprockets

CS-7401-8 (8-speed HG)

Weight	255g (5-group & spacers)
Compatibility	Shimano Total Integration 8-speed SIS Narrow Chain
Feature	8-speed HG
Material & Finish	Steel/Champagne Gold
Sprocket Combinations	**S** 12 13 14 15 16 17 19 21T **T** 13 14 15 16 17 19 21 23T **U** 12 13 14 15 17 19 21 23T **V** 13 14 15 17 19 21 23 26T **W** 12 13 15 17 19 21 23 25T

HG Chain

CN-7401

Compatibility	Shimano Total Integration
Feature	Narrow HG Chain, Boron Finish Pins
Size	1/2" X 3/32"
Material & Finish	Nickel Finish (roller links ,pin link s) Borron Finish Pins

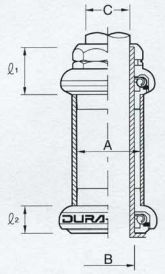
Head Set

HP-7400

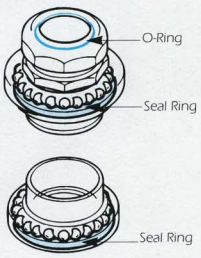
Weight	113g
Type	Road Racing
Stack Height	Upper 22.8mm / Lower 13.5mm
Material & Finish	Forged Aluminum/Anodized (nut, cups, top cone) Forged Aluminum/Titanium-Plated (bottom cone)

Variations & Dimensions

Type	Standard	JIS	ISO	French
Thread	BC1" x 24T.P.I			M26 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			



Feature
Sealed Mechanism
Steel Bearing Races

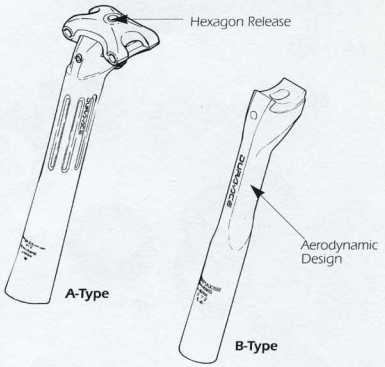


Seat Post

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

Weight	224g (A-type) 244g (B-type)
Features	Aerodynamic Design 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 27.2/27.4mm
Material & Finish	Aluminum/Anodized

Features



Bar Stem

HS-7400

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

DURA-ACE TRACK

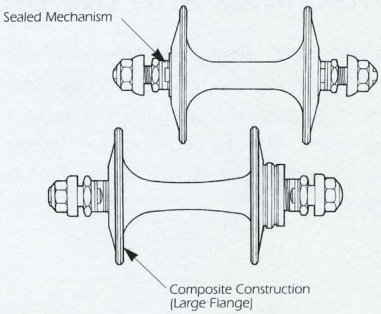
Dura-Ace Track was designed to give the track racer a fraction-of-a-second advantage that often spells the difference between victory and defeat in the highly competitive world of track racing. Besides offering great durability and rigidity, Dura-Ace Track provides a range of sophisticated features including 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.



Hub
HB-7600

Weight	313g (rear LF w/lock ring) 241g (front LF)
Over Locknut	Front: 100mm Rear: 120mm
Spoke Holes	24/28/32/36
Hole P.C.D.	24mm
Dropout Width	Front: 9mm (hollow axle) Rear: 10mm (hollow axle)
Material & Finish	Forged Aluminum/Anodized (hub body) Compound Poly-Carbonate Resin (hub shell)

Features
Precision Ground Cones
Diamond-Polished Mirror Finish (Cup & Cones)



Sprocket
SS-7600

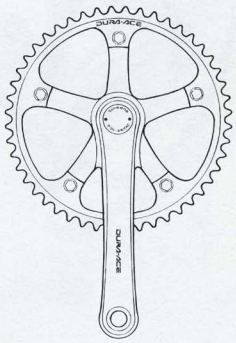
Thread	BC 1.37 x 24T.P.I.
Size	1/2"x1/8" 1/2"x3/32"
Teeth	13/14/15/16T
Material & Finish	Cr-Mo Steel
Weight	(1/2" x 1/8" sprocket) 13T 31g 14T 38g 15T 44g 16T 53g



Chainwheel & Bottom Bracket
FC-7600
BB-7600 (B.B. Set)

Weight	605g (48T/170mm) 305g (B.B. set)
Teeth	42 - 55T
Crank Length	165/167.5/170/172.5/175mm
Pedal Thread	BC 9/16" x 20
Cup Thread	English BC 1.37 x 24T.P.I. French M35 x 1.0T.P.I. Italian M36 x 24T.P.I.
Axle Length	68-S-109 / 70-S-109
Material & Finish	Forged Aluminum/Anodized (crank) Aluminum/High-Tech Gray Anodized (chainring) Steel/Chrome-Plated (axle bolt) Nickel Cr-Mo (axle)

Features
Exclusively Designed for Track
Removable Sealed Mechanism (B.B.)
Available for 1/2"x1/8" or 1/2"x3/32" chain



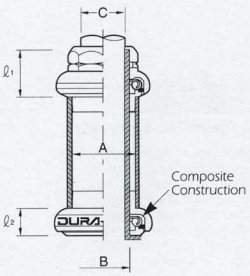
Head Set
HP-7600

Weight	90g
Type	Track Racing
Material & Finish	Aluminum/Anodized (nut, upper cone) High Impact Resin (top cone, lower cup covers) Steel Bearing Races (upper & lower cups)

Variation & Dimensions

Type	Standard	JIS	ISO	French
Thread	BC1" x 24T.PI			M25 x P1.0
A	30.2mm	30.0mm	30.2mm	30.2mm
B	26.4mm	27.0mm	27.0mm	26.4mm
C	22.0mm			
L1	19.5mm			
L2	11.5mm			

Features
Sealed Mechanism
Super Light Weight



Quality racing components for competition machines and the best sport bicycles.

Shimano 600 Ultegra offers the quality and high-style appearance that upgrades the value and performance of the quality racing bicycle. Features include increased durability, an 8-speed freehub, polished bearing races, compact aerodynamic design, and a high-tech pearl gray colour treatment. New for 600 Ultegra in 1992, was Shimano Total integration - the breakthrough control system that allows the cyclist to both shift gears and brake without releasing the handlebars.



8-Speed SIS

Eight-speed SIS gives a wider gear selection with Shimano Index System precision. Just a tap on Ultegra's Dual-Control Lever (dual-purpose braking and shifting lever) delivers the desired gear without removing hands from the bars.

Super SLR

Side pull SLR caliper features offset pivot points that increase the power multiplication factor. The result is increased stopping power with highly sensitive control.

Shimano SG

Ultegra's chainwheels feature Shimano SG design. Cutouts and special contours guide the chain quickly and smoothly from one chainwheel to the next. It's the closest thing yet to SIS performance for the front derailleur.

8-Speed HG Sprockets

600 Ultegra's 8-speed gear cluster utilizes HG sprockets. HG means that the sprockets are computer-profiled and strategically positioned to provide fast, direct, and smooth chain transfer between cogs regardless of pedal torque or cadence.

8-Speed Freehub

600 Ultegra's rear hub and freewheel assembly are combined to form a rigid single piece unit called the freehub which results in a stronger rear wheel, less spoke breakage, decreased rim offset, and increased power transfer efficiency.

SHIMANO 600 ULTEGRA

SHIMANO TOTAL INTEGRATION

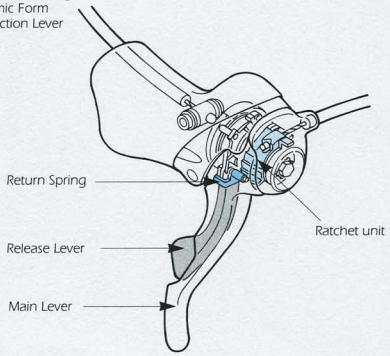


Dual Control Lever

ST-6400

Weight	542g (Pair)
Compatibility	Shimano Total Integration 8-speed SIS Super SLR (Shimano Linear Response)
Bar Dia	23.8mm - 24.2mm
Material & Finish	Aluminium / Barrel Finish (bracket) Aluminium / Paint (lever)
Note	To maintain proper SIS operation use lined SIS-SP cable casing at lever side and lined cable casing at derailleur side.

Features
Sealed Mechanism
Aerodynamic Design
Anatomic Form
Light Action Lever



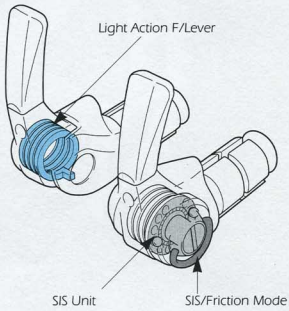
Shifting Lever

SL-6401-F*CAI (8-speed SIS Brazed-on A Type)

("*"C" indicates Italian spec. 5mm mounting bolt)

Weight	67g
Compatibility	8-speed SIS
Features	SIS-Friction Mode Switch Light Action (front) Sealed Mechanism Human Engineered Design 30°Lever Stopper Offset Sealed SIS Outer Casing
Mount	Down Tube
Clamp Dia	28.6mm
Material & Finish	Aluminum/gray paint(lever)
Note	Use with RD-6401 or RD-1056 rear derailleur.

Features
Sealed Mechanism
Human Engineered Form
Sealed SIS-SP Outer Casing



Shifting Lever

SL-BS64-8

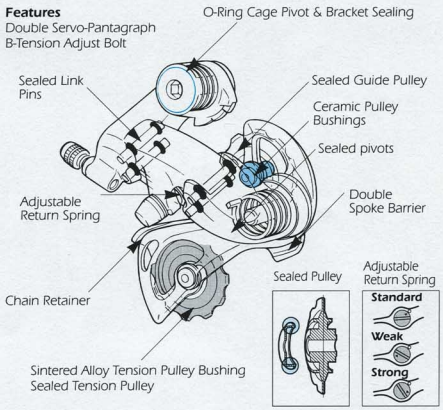
Weight	180g
Compatibility	8-speed SIS
Mount	Bar End
Bar Inner Dia	19.0mm - 22.0mm
Material & Finish	Alnminum/gray paint(lever)
Note	The SL-BS64-8 lever must be used with the RD-6401 rear derailleur for correct 8-speed SIS operation.

Rear Derailleur

RD-6401

Weight	215g	
Compatible with	Shimano Total Integration 6/7 & 8-speed SIS	
Capacity	Max. Sprocket	28T
	Min. Sprocket	12T
	F/Difference	13T
	Total Capacity	28T
Material & Finish	Aluminum/Dark Gray Paint (bracket & plate body) Aluminum/Silver Paint (right link) Aluminum/Barrel Finish (pulley cage & left link)	
Note	RD-6401 must be used with narrow chain.	

Features
Double Servo-Pantagraph
B-Tension Adjust Bolt

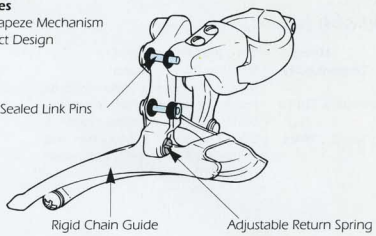


Front Derailleur

FD-6401-B (band mount)
FD-6401-F (Italian brazed-on A type)

Weight	107g (band mount)
Compatibility	Shimano Total Integration Shimano SG Gear Narrow Chain
Capacity	14T
Clamp Dia	28.0mm - 28.6mm (band mount)
Material & Finish	Aluminum/Dark Gray Paint (F & R bands) Aluminum/silver paint (right link) Steel/Chrome Plated (chainguide)

Features
New Trapeze Mechanism
Compact Design



Front Chainwheel

FC-6400-SG (Shimano SG Double / LD type)

Weight	650g (42T-52T / 170mm)
Compatibile with	Shimano Total Integration Narrow Chain
Features	Shimano SG Gear Low Profile Aerodynamic Form
Chain Size	1/2" x 3/32"
Gearing	52T-42T (Biopace SG) 53T - 42T / 52T - 42T (Round SG)
Crank Length	165 / 167.5 / 170 / 172.5 / 175mm
Crank Thread	English BC 9/16" x 20 TPI
Material & Finish	Aluminum / Anodized (crank/chainring) Nickel Cr-Mo Steel (axle)

Sealed Cartridge Bottom Racket

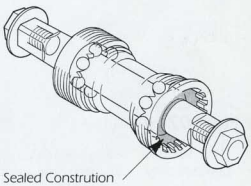
BB-UN71

Weight 272g (115mm)

Specifications

Chain Line	43.5mm
Axle Length	115mm
Shell Width	68 (BC) 70 (M36)
Spindle Marking	D-H

Features
Easy-Assemble Construction
Full Sealing
Maintenance Free
Lightweight Design
Improved Durability

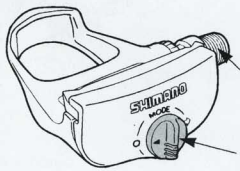


Clipless Pedal

PD-6402

Weight	450g (pair) 92g (cleat & hardware)
Compatibility	Look® Cleats
Crank Thread	English BC 9/16" x 20 TPI.
Material & Finish	Aluminum (body) Anodized aluminum (Front Plate) Nickel Cr-Mo steel (axle) Steel/Chrome (toe clip) Anodized / Aluminum (toe clip)

Features
Sealed Mechanism
34° Road Clearance
Aerodynamic No-Dustcap Design
Adjustable Cleat Lock Tension
Low-Profile Design



Pedal

PD-6400

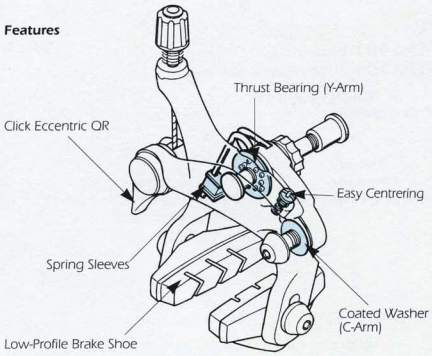
Weight	478g (pair w/L toe clip)
Features	Positive Grip Cleat 34° Road Clearance Easy-Maintenance Cartridge Axle Durocon Bushing/Cup & Cone Bearings Aerodynamic Design Sealed Mechanism
Crank Thread	English BC 9/16" x 20 TPI.
Toe Clip Size	M / L / LL
Material & Finish	Aluminum (body) Anodized / Aluminum (front plate) Nickel Cr-Mo steel (axle) Steel / Chrome (toe clip) Anodized / Aluminum (toe clip)

Dual Pivot Brake

BR-6403-49 (short 49mm reach)

Weight	424g (F&R 49mm reach)
Compatibility	Shimano Total Integration Super SLR (Shimano Linear Response)
Material & Finish	Forged Aluminum / Paint (caliper) Steel / Chrome Plated (pivot bolt/QR)
Note	Use BR-6403 with ST-6400 lever and Shimano SLR outer cable to maintain proper SLR operation.

Features

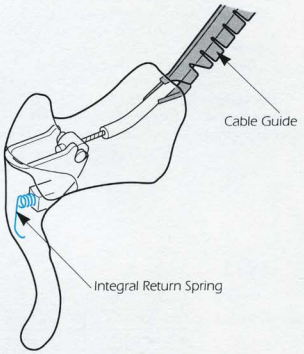


Brake Lever

BL-6403 (Aero Type)

Weight	272g (pair)
Compatibility	Super SLR (Shimano Linear Response)
Lever Clamp Dia	23.8mm - 24.2mm
Lever Stroke	84mm
Material & Finish	Aluminum / Paint (lever) Aluminum / Bawel Finish (body) Soft Resin (hood)
Hood	Black / White
Note	Use BL-6403 with BR-6403 caliper and Shimano SLR cable housing to maintain SLR operation.

Features
Aerodynamic Design
Anatomical Form

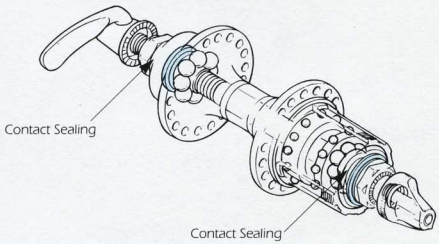


8-Speed Freehub

FH-6402-HG

Weight	426g (W / QR)
Compatibility	Shimano Total Integration 8-speed SIS HG/UG Gears
Over Lock Nut	130mm
Axle Length	141mm
Axle Thread	10mm
Spoke Holes	28 / 32 / 36
Hole P.C.D.	44mm
Material & Finish	Aluminum/Buff Anodized (hub shell) Resin/Black (cust cap) Steel/Chrome Plated (QR housing)

Features
Uni-Balance Design

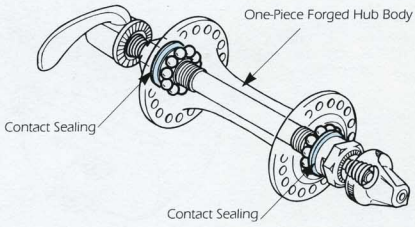


Front Hub

HB-6400-F

Weight	212g (W / QR)
Over Lock Nut	100mm
Axle Length	108mm
Axle Thread	9mm
Spoke Holes	28 / 32 / 36
Hole P.C.D.	38mm
Material & Finish	Forged Aluminum / Anodized (hub shell)

Features



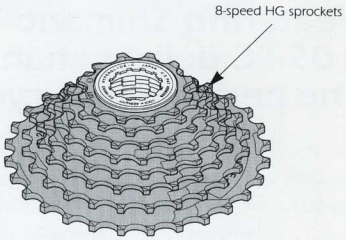
8-Speeed Cassette Sprockets

CS-HG90-8

Weight 250g (sprockets S group & spacers)
Compatibility Shimano Total Integration
8-speed SIS
Narrow Chain
Chain Size 1/2" x 3/32"
Material & Finish Steel / Chrome Plated
Sprocket Combinations

S	12	13	14	15	16	17	19	21T
T	13	14	15	16	17	19	21	23T
U	12	13	14	15	17	19	21	23T
V	13	14	15	17	19	21	23	26T
W	12	13	15	17	19	21	23	25T

Feature



7-Speeed Cassette Sprockets

CS-HG90-7

Weight 286g (sprockets I group & spacers)
Compatibility Shimano Total Integration
7-speed SIS
Narrow Chain
Chain Size 1/2" x 3/32"
Material & Finish Steel / Chrome Plated
Sprocket Combinations

E	12	14	16	18	21	24	28T
H	13	15	17	19	21	23	26T
I	13	14	15	17	19	21	23T
J	13	14	15	16	17	19	21T
L	12	13	14	15	17	19	21T
M	13	15	17	19	21	24	28T

HG Chain

CN-HG90

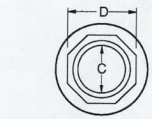
Compatible with Shimano Total Integration
Feature Narrow HG Chain
Size 1/2" x 3/32"
Material & Finish Steel/Black (roller links)
Steel/Silver (pin links)

Head Set

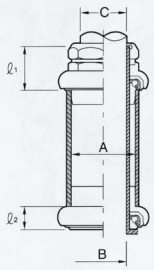
HP-6400

Weight 100g
Type Road Type
Material & Finish Aluminum (upper/lower cup)
Stainless Steel (lower cone)
Cr-Mo Steel (races)
Stack Height upper 22.0mm / lower 11.5mm
Variation & 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			
D	32.0mm			
L1	22.0mm			
L2	11.5mm			



Features
Sealed Mechanism
Compact & Light Weight
Burnished-Polished Finish





Seat Post

SP-6400-A (round tube)
SP-6400-B (semi oval tube)

Weight 284g (B Type 27.2mm)
Features Aerodynamic Design Hexagon Release
Material & Finish Aluminum/Alumite Anodized
Sizes 25.0mm 25.4mm 25.8mm
26.0mm 26.2mm 26.4mm
26.6mm 26.8mm 27.0mm
27.2mm

Bar Stem

HS-6400

Weight 286g (100mm)
Features Aerodynamic Design
Flush Hexagon Release
Extensions 70 / 80 / 90 / 100
110 / 20 / 130mm
Stem Dia 22.2mm
Clamp Dia 25.4 / 26.0mm
Material & Finish Aluminum/Alumite Anodized

Featuring Shimano Total Integration for 1993, 105-SC delivers hands-on-the-bars control for the performance cycling enthusiast.

Shimano 105-SC is the racing component group that satisfies every cycling enthusiast's demand for durability, light weight, and high-performance. Now incorporating Shimano Total Integration and front SIS, 105-SC has created a new performance standard for the racing-style sport bike. Everyone from first-time riders to sport-fitness cyclists and triathletes will appreciate the hight level of quality, value, and performance that 105-SC delivers for 1993.

ST-1055 Dual Control Lever



Real racing performance. Just like Dura-Ace and Ultegra, the 105-SC dual control lever combines braking and shifting functions in a single lever. Feel more confidence and get more performance from SIS shifting that lets you keep your hands on the bars.

FC-1056 Low Profile Crankset



HyperDrive Chain wheels feature leading teeth configurations and shift pins that help realize fast and smooth Dual SIS front shifting. Dual SIS includes front derailleur and bottom bracket.



DUAL SIS

8 sprockets and 2 chainwheels - all SIS

It's almost like an automatic transmission. Precision indexed SIS shifting for the 8-speed rear cassette and the two front chainrings. Now every gear is just a click-stop away.

SUPER SLR

Super SLR

105-SC's side pull SLR calipers feature offset pivot points that increase the power multiplication factor. The result is increased stopping power with a feeling of highly modulated control.

SHIMANO HYPERDRIVE

Shimano HyperDrive

The unique design of HyperDrive chain rings helps to control and guide the chain from the small to the large chain ring. The result is fast, smooth, error-free SIS chainwheel shifting.

HG

8-Speed HG Sprockets

Unique Hyperglide sprockets feature special teeth configurations, cutout section, and alignment that prevents chain over-ride during shifting. The result is faster, positive SIS shifting, even under high pedal loads.

THE SHIMANO FREEHUB

8-Speed Freehub

Aluminum hub body and freewheel mechanism are integrated into a rigid one-piece unit for greater strength, less rim offset, and reduced axle stress. Cassette sprockets slide on and off easily.

SHIMANO 105 SC

SHIMANO TOTAL INTEGRATION

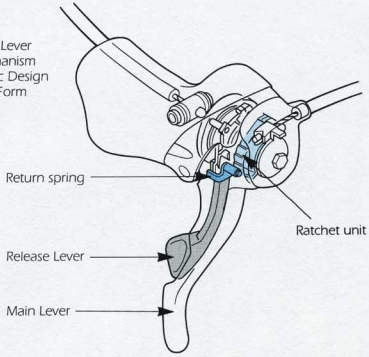


Dual Control Lever Set

ST-1055

Compatibility	Shimano Total Integration Dual SIS (8-rear, 2-front) Super-SLR
Clamp Dia	23.8-24.2mm
Material & Finish	Aluminum/Barrel Finish (body) Aluminum/Paint (lever)
Note	Use SIS-SP outer casing with liner at lever and SIS sealed outer casing at derailleur end. ST-1056lever must be used with BR-1055 caliper and SLR outer casing to maintain STI function.

Features
Light Action Lever
Sealed Mechanism
Aerodynamic Design
Anatomical Form



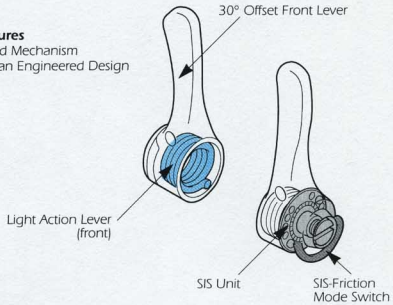
Shifting Lever

SL-1056-F*CAI (8-speed SIS braze-on A-type)
SL-1056-BCAI (8-speed SIS band mount A-Type)
SL-1055-F*CAI (7-speed SIS braze-on A-type)
SL-1055-BCAI (7-speed SIS band mount A-Type)

(*"C"denotes Italian spec 5mm mounting bolt)

Weight	70g (SL-1055-FCAI)
Compatibility	8-speed SIS (SL-1056) 7-speed SIS (SL-1055)
Clamp Dia	28.6mm
Mount	Down Tube
Material & Finish	Aluminum/Paint (Lever)

Features
Sealed Mechanism
Human Engineered Design

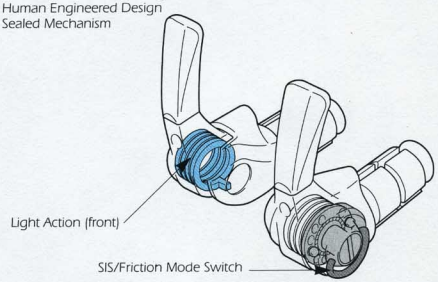


Shifting Lever

SL-BS64-8 (8-speed)
SL-BS50-7 (7-speed)

Weight	183g (SL-BS50-7)
Compatibility	8-speed SIS (SL-BS64-8) 6/7-speed SIS (SL-BS50-7)
Mount	Bar End
Bar Inner Dia	19.0mm - 22.0mm
Material & Finish	SL-BS64-8 / Aluminum / Gray Paint (lever)

Features
Sealed SIS-SP Cable Housing
Human Engineered Design
Sealed Mechanism

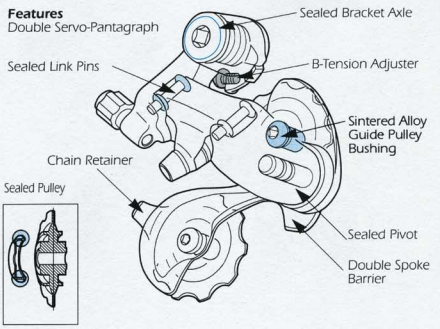


Rear Derailleur

RD-1056

Weight	247g	
Compatibility	7 / 8-speed SIS	
Capacity	Max. Rear Sprocket	28T
	Min. Rear Sprocket	12T
	F/ Difference	13T
	Total Capacity	28T
Material & Finish	Aluminum/Paint (bracket, plate, right link) Steel/Pearl Bright (left link)	
Note	Use in combination with narrow chain. Do not use with standard chain.	

Features
Double Servo-Pantagraph

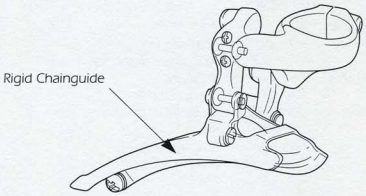


Front Derailleur

FD-1056-B (band mount)
FD-1056-F (Italian braze-on A-type)

Compatibility	Shimano Total Integration Dual SIS Shimano SG-X Narrow Chain
Capacity	15T
Clamp Diameter	28.0-28.6mm (band mount)
Material & Finish	Aluminum/Paint (right link, F&R band) Steel/Pearl Bright (chain guide)

Features
Compact Design
Sealed Mechanism

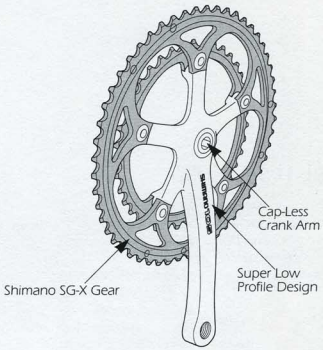


Front Chainwheel

FC-1056 (SG-X Gear Double/LD Type)

Compatibility	Shimano Total Integration Shimano HyperDrive Dual SIS Narrow Chain
Chain Size	1/2" x 3/32"
Gearing	52-42T (Shimano SG-X) 53-42T/53-39T (Shimano SG-X)
Arm Length	165/167.5/170/172.5/175mm
Crank Thread	English BC 9/16" x 20T.P.I.
Material & Finish	Aluminum/Paint (crank)

Features

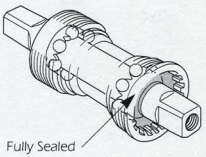


Sealed Cartridge Bottom Bracket

BB-UN71
BB-UN51

Weight	272g (BB-UN71 / 107mm)	
Specifications	Chain Line	43.5mm
	Spindle Length	107mm
	Shell Width	68(BC)/70(M36)
	Spindle Marking	MM107

Features
Lightweight Design
Easy Installation
Extended Service Life
Maintenance Free

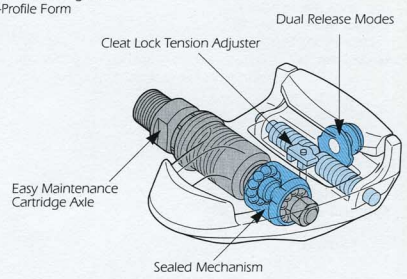


Clipless Pedal

PD-1056

Weight	460g (pair) 105g (cleat & hardware)
Compatibility	Shimano/Look® Cleats
Pedal Thread	BC 9/16" x 20 T.P.I.
Material	Aluminum (body) Cr-Mo Steel (axle)

Features
34° Road Clearance
Aerodynamic No-Dustcap Design
Adjustable Binding Tension
Low-Profile Form



Pedal

PD-1055

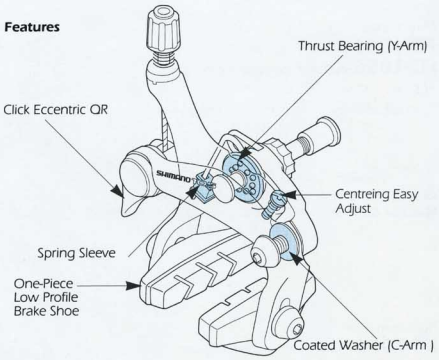
Weight	433g (pair w/L toe clip)
Features	34° Road Clearance Easy Maintenance Cartridge Axle Aerodynamic Design Sealed Mechanism
Axle Thread	BC 9/16" x 20 T.P.I.
Toe Clip Size	M/L/LL
Material & Finish	Aluminum (body) Steel (front plate) Cr-Mo Steel (axle) Dark Gray Resin (toe clip)

Dual Pivot Brake

BR-1055-49 (49mm reach)
BR-1055-57 (57mm reach)

Weight	360g (F&R 49mm)
Compatibility	Shimano Total Integration Super SLR (Shimano Linear Response)
Material & Finish	Aluminum/Paint (caliper) Steel/Chrome Plate (pivot bolt)
Note	Use BR-1055 with BL-1055 brake lever and SLR cable housing. Performance will be impaired if other combinations are used.

Features

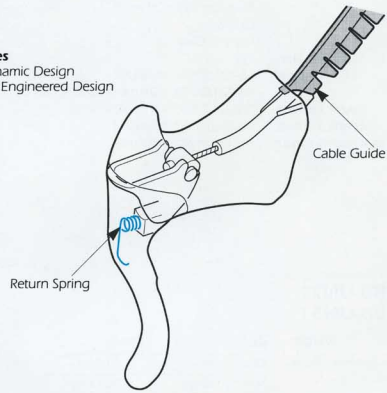


Brake Lever

BL-1055 (Aero Type)

Weight	252g (pair)
Compatibility	Super-SLR (Shimano Liner Response)
Clamp Dia	23.8-24.2mm
Lever Stroke	84mm
Material & FInish	Aluminum/Paint (lever) Aluminum/Barrel Finish (bracket) Soft Resin (hood) Hood available in black, white, or gray
Note	Use BL-1055 lever with BR-1055 calipers and SLR cable housing. Using other components will impair braking performance.

Features
Aerodynamic Design
Human Engineered Design

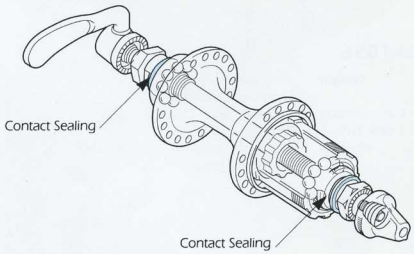


8-Speed Free Hub

FH-1056-HG

Weight	427g (w / QR)
Compatibility	8-speed SIS HG/UG Gear
Over Locknut	130mm
Axle Length	141mm
Axle Dia	10mm
Spoke Holes	32 / 36
Hole P.C.D.	45mm
Material & FInish	Forged Aluminum/Buff Anodized (hub shell) Resin/Black (dust cap)

Features
Uni-Balance Design



7-Speed Freehub

FH-1055-HG

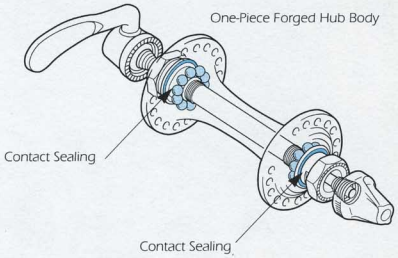
Weight	415g (w/QR)
Compatibility	7-speed SIS HG/UG Convertible
Features	Contact Sealing Uni-Balance Design One-Piece Forged Hub Body
Over Lock Nut	126mm
Axle Length	137mm
Axle Dia	10mm
Spoke Holes	32/36
Hole P.C.D.	45mm
Material & Finish	Aluminum/Buff Anodized (hub shell)

Front Hub

HB-1055-F

Weight	216g (w/QR)
Over Locknut	100/96mm
Axle Length	108/104mm
Axle Dia	9mm
Spoke Holes	32/36
Hole P.C.D.	38mm
Material & Finish	Aluminum/Buff Anodized (hub shell)

Features

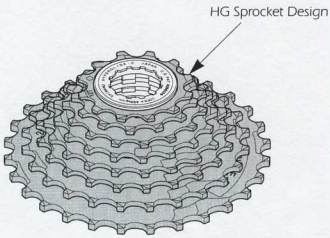


Cassette Sprocket Sets

CS-HG70-7 (7-speed)
CS-HG70-8 (8-speed)

Weight	278g (CS-HG70-8 U-group & spacers)							
Compatibility	7 / 8-speed SIS							
Material & Finish	Steel / Silver							
Sprocket Combinations								
CS-HG70-7	**E**	12	14	16	18	21	24	28T
	H	13	15	17	19	21	23	26T
	I	13	14	15	17	19	21	23T
	J	13	14	15	16	17	19	21T
	L	12	13	14	15	17	19	21T
	M	13	15	17	19	21	24	28T
CS-HG70-8	**S**	12	13	14	15	16	17	19 21T
	T	13	14	15	16	17	19	21 23T
	U	12	13	14	15	17	19	21 23T
	V	13	14	15	17	19	21	23 26T
	W	12	13	15	17	19	21	23 25T

Features

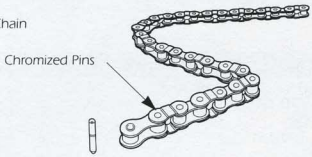


HG Chain

CN-HG70

Size	1/2" x 3/32"
Material & FInish	Steel/Gray (roller links) Steel/Black (pin links)

Features
Narrow HG Chain



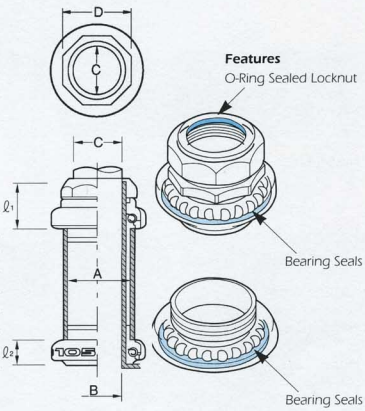
Head Set

HP-1055

Weight	101g
Type	Road
Material & FInish	Aluminum/Silver (cups) Stainless Steel (fork cone) Cr-Mo Steel (races)
Stack Height	Upper 21.2mm / Lower 11.5mm

Variation & Dimensions

Type	Standard	JIS	French
Thread	BC1" x 24TPI		M26x P1.0
A	30.2mm	30.0mm	30.2mm
B	26.4mm	27.0mm	26.4mm
C	22.3mm		
D	32.0mm		
L1	21.2mm		
L2	11.5mm		





Model No.	Specifications	Features	Material/ Finish	Notes
Rear Derailleur **RD-A550-GS** (long cage) **RD-A550-SS** (short cage)	Compatibility 6/7-speed SIS Weight 280g (short cage) Long Cage Max. Sprocket 30T Min. Sprocket 12T F/Difference 20T Capacity 36T Short Cage Max. Sprocket 28T Min. Sprocket 12T F/Difference 13T Capacity 28T	Double Servo-Pantagraph Centeron Guide Pulley Double Spoke Barrier B-Tension Adjuster Sealed Cage Pivot Sealed Link Pivots Sintered Alloy Guide Pulley Bushing	Bracket Body Barrel Finish Aluminum Right Link Barrel Finish Aluminum Left Link Pearl Bright Steel Plate Body Barrel Finish Aluminum	Separate bracket mount available (SIS compatible).
Front Derailleur **FD-A550-B** (band Mount) **FD-A550-F** (Brazed-on mount)	Compatibility SG Gear Narrow Chain Capacity 14T Band Dia 28.0-28.6 mm Stroke 37-51mm (band mount) Weight 100g (band mount)	Leading Action Pantagraph Rigid Chainguide Compact Design	F/Band Barrel Finish Aluminum R/Band Barrel Finish Aluminum R/Link Barrel Finish Aluminum Chain Guide Pearl Bright Steel	
Front Derailleur **FD-A553-GS** (band mount)	Compatibility SG Gear Narrow Chain Capacity 24T (Biopace HP) 26T (round) Band Dia 28.0-28.6 mm Stroke 37-51mm (band mount) Weight 121g	Leading Action Pantagraph Rigid Chainguide Compact Design	F/Band Barrel Finish Aluminum R/Band Barrel Finish Aluminum R/Link Barrel Finish Aluminum Chain Guide Chrome Plated Steel	For triple use.
Shift Lever **SL-A550-FCAI** (braze-on A-type) **SL-A550-BCAI** (side band A-type) **SL-A550-T-FCAI** (braze-on A-type for triple chainwheel) **SL-A550-T-BCAI** (side band A-type for triple chainwheel)	Compatibility 7-speed SIS Mount Down Tube Clamp Dia 28.6 mm Weight 72g (SL-A550-F CAI)	SIS-Friction Mode Switch Light Action Lever Sealed Mechanism 30° Offset Lever (Except for SL-A550-T)	Lever Body Painted Aluminum	"C" indicates Italian type 5mm mount bolt.

Model No.	Specifications	Features	Material/Finish	Notes
Dual Pivot Brake **BR-A550-49** (49mm reach) **BR-A550-57** (57mm reach)	Compatibility: Super-SLR, SLR Flush Nut: F/27.5mm, R/12.8mm Exposed Nut: F/47.0mm, R/30.0mm Weight: 348g (F&R 49mm)	Easy Adjust Synchronizer Spring Sleeve Coated Pivot Washer One Piece Low Profile Brake Shoe	C-Arm: Anodized Aluminum Y-Arm: Anodized Aluminum Bridge: Anodized Aluminum	Assemble BR-A550 with BL-A550 lever and Shimano SLR cable housing. Avoid mixing non-compatible components.
Brake Lever **BL-A550** (Aerodynamic)	Compatibility: Super-SLR Clamp Dia: 23.8-24.2mm Stroke: 84mm Weight: 252g (pair)	Aerodynamic Design	Lever: Anodized Aluminum Bracket: Barrel Finish Aluminum Hood: Soft Molded Resin/ Black / White	Use BL-A550 leber with BR-A550 caliper and cable housing. Avoid mixing non-compatible components.
Front Chainwheel **FC-A550-SG** (SG Double / LD Type) **FC-A550-T** (SG Triple / LD Type)	Compatibility: Narrow Chain Arm Length: 165mm (Double Only) 170mm/175mm Gearing: FC-A550-SG: Biopace SG / Round SG; FC-A550-T: Round SG Top: 52T / 53T 52T / 52T Middle: – / – / 42T Low: 42T / 42T 42T / 30T Pedal Thread: BC 9/16" x 20 Weight: 700g (42-52T / 170mm)	CAD Crank Arm	Crank Arm: Barrel Finish Aluminum Chain Ring: Anodized Aluminum	
Sealed Cartridge Bottom Bracket **BB-UN51**	Model No. 43.5mm: Chain Line 115mm; Axle Length 68 70; Spindle Marking D-H Weight: 374g (115mm)	Easy Assembly Extended Service Life Full Sealing Maintenance Free Lightweight		Shell Width: 68 / 70 Thread: BC1.37 / M36
Freehub **FH-A550**	Compatibility: 7-sp SIS, UG/HG Spoke Holes: 36/32H Hole P.C.D.: 45mm Over Locknut: 126mm Achslänge: 137mm Mount: QR Axle Dia: 10mm Weight: 420g	Uni-Balance Design Resin Sealed Mechanism One-Piece Forged Hub Body	Polished Aluminum	
Vorderradnabe **HB-A550-F**	Spoke Holes: 32/36 Hole P.C.D.: 38mm Over Locknut: 100mm Axle Length: 108mm Axle Dia: 9mm Mount: QR Weight: 202g	Resin Sealed Mechanism One-Piece Forged Hub Body	Polished Aluminum	
Cassette Sprockets **CS-HG50** **CS-HG70-7**	Compatibility: 7-sp SIS, Narrow Chain Weight: 309g (CS-HG70 **E**-group)	7-speed HG	CS-HG70: Steel/Silver CS-HG50: Steel/Brown (silver low gear)	Cassette Sprocket Combinations **E** 12 14 16 18 21 24 28 T **H** 13 15 17 19 21 23 26 T **I** 13 14 15 17 19 21 23 T **J** 13 14 15 16 17 19 21 T **L** 12 13 14 15 17 19 21 T **M** 13 15 17 19 21 24 28 T
Chain **CN-HG50** **CN-HG70**	Compatibility: 7-sp SIS, 7-sp HG, Narrow Chain (1/2" x 3/32") Weight: 335g (114 links)	Chromized Pins Connecting Pin Bushingless Design	CN-HG50: Steel/Black (roller links), Steel/Black (pin links) CN-HG70: Steel/Gray (roller links), Steel/Gray (pin links)	
Pedal **PD-A550**	Axle Thread: Englisch BC 9/16" x 20 Toe Clip Size: M/L/LL Toe Clip: 3-screw mount Weight: 400g (pair w/L toeclips)	32° Road Clearance Easy Maintenance Cartridge Axle Seal Mechanism Aerodynamic Design Optional Reflector	Body: Barrel Finish Aluminum Toe Clip: High Impact Resin	
Pedal **PD-A525**	Compatibility: SPD Creat System Axle Thread: Englisch BC 9/16" x 20 Weight: 390g (pair)	31° Road Clearance Cartridge Spindle Cleat Retension Indicator Clear Retension Adjust Low Profile Design Seal Mechanism	Body: Aluminum Spindle: Cr-Mo Steel Binding: Steel & Aluminum	
Head Set **HP-R500** **HP-R501** (1-1/8")	Stack Height: 22.0mm (top) 11.5mm (bottom) Weight: 121g (HP-R500) Variation: HP-R500: JIS, BC1" x 24, Upper 30.0mm, Lower 27.0mm HP-R500: Eng./Ita., BC1" x 24TPI, Upper 30.2mm, Lower 26.4mm HP-R500: French, M25 x P1.0, Upper 30.2mm, Lower 26.4mm HP-R501: 1-1/8", BC1-1/8" x 26TPI, Upper 34.0mm, Lower 30.0mm	Sealed Mechanism	Locknut: Steel/Pearl Bright Upper Cup: Resin/Steel Lower Cup: Resin/Steel Colours: White/Silver/Black (HP-R500) Black (HP-R501)	

SIS shifting precision comes to the front derailleur.

DUAL SIS

For many years the Shimano Index System has been helping cyclists to shift faster and more accurately. While beginners, sport riders, and casual cyclists all appreciate the convenience of fast, error-free SIS shifting, racing cyclists especially value SIS because it improves performance by relieving them of the burden of searching for gears under the stress of competition. Seven and eight-speed SIS systems were eventually developed to give competitive cyclists a wider gear selection which improves performance.

While significant improvements were made to chainwheel shifting through the SG and XTR SG-X chainring, technical problems prevented the full application of SIS to chainwheel shifting.

Front SIS has become a reality in 1993. Various innovations plus integrated design of the shift lever, front derailleur, crankset, and bottom bracket have resulted in a front SIS function that finally makes shifting the front derailleur as easy as the rear. Click-stop front SIS shifting opens a new era of precision chainring shifting performance.

Dual SIS - total shifting precision from Shimano.



SHIMANO HYPERDRIVE

Faster, smoother chainwheel shifting than ever before.

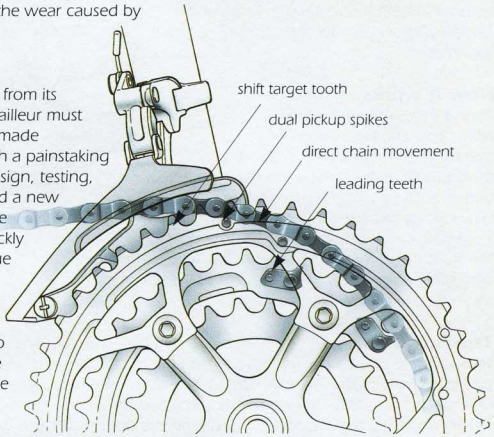
XTR	DEORE XT	DEORE DX	DEORE LX
EXAGE ES	EXAGE LT	ALTUS A10	ALTUS A20
ALTUS C10	ALTUS C20	TY20	TY15
DURA-ACE	600 ULTEGRA	105 SC	RX100
700CX	400CX		

What is HyperDrive?

The shift from the small to the middle chainring has always been difficult. HyperDrive and SIS now make this shift faster, smoother, and more precise than ever before. The front SIS function has been made possible through the carefully integrated design of the Rapidfire shift lever, front derailleur, and a new low-profile crankset and bottom bracket. Besides delivering faster more precise shifts, front SIS also increases derailleur and chainring life by reducing the wear caused by imprecise shifting.

SG-X chainring helps realize front SIS

Unlike the rear derailleur where the chain is shifted from its unloaded side beneath the sprockets, the front derailleur must shift the chain on its loaded side. This is what has made development of a front SIS system difficult. Through a painstaking development process based on computer aided design, testing, modification and re-testing, Shimano has developed a new SG-X chainring for front SIS. SG-X chainrings feature special leading teeth and shift pins that help to quickly release and guide the chain even under high torque loads.

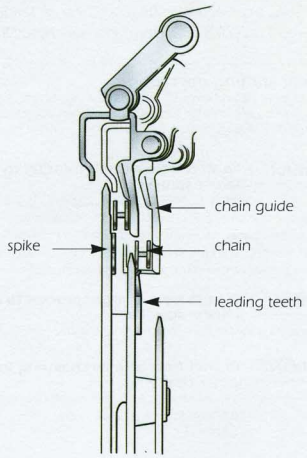


Modified middle & top chainrings

In triple cranksets, the large chainring only needs to accept the chain from the middle gear. The middle chainring has the more complex job of releasing the chain to both a large and smaller gear while also picking up the chain from the smaller gear.
The leading-teeth on the middle gear determine release points from which the chain can move smoothly and directly to the large or smaller gear. The special shift pins on the large gear pickup and pull the chain to the drop-on point. The result is the improved chain control necessary for SIS shifting.

Shift pins on the triple crankset large chainwheel.

The top chainring of the triple crankset incorporates two shift pins at each of four designated shifting points on the chainring. Precise positioning of the spike teeth in relation to the middle chainring results in a fast and direct chain pickup when a shift is executed.



The Advantages

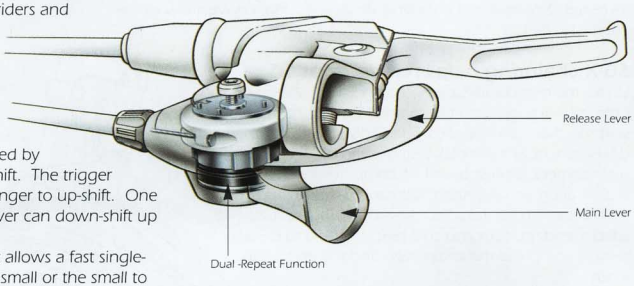
Front up-shifts become more difficult as chain tension increases. As a result, cyclists have become used to letting up on pedal pressure, over-shifting the front derailleur, and then tuning the shift to eliminate chain-derailleur contact. Front SIS has completely eliminated the need for this kind of lever tuning. Just like SIS at the rear derailleur, front SIS allows fast, smooth, indexed chainring shifting regardless of chain tension. Every cyclist, from racers to casual riders, will appreciate the performance, convenience, and safety benefits of front SIS.

Rapidfire and Rapidfire Plus let you keep your grip while you brake, steer, and shift.

Rapidfire / Rapidfire Plus

Rapidfire and Rapidfire Plus are Shimano's off-road shift lever sets that position the shift levers under the handlebars for easier operation. Unlike Rapidfire which uses two below-the-bar thumb shifters, Rapidfire Plus uses thumb and fore finger shifters that help reduce shifting stresses on the hand by dividing shifting duties between the thumb and fore finger. It's a fast, simple, and stress-reducing shifting action that both mountain bike riders and casual cyclist are sure to appreciate.

XTR	DEORE XT	DEORE DX	DEORE LX
EXAGE ES	EXAGE LT	ALTUS A10	ALTUS A20
ST-CT15	ALTUS C20	TY20	TY15
700CX	400CX		



How it works

Rapidfire Plus utilizes a highly efficient two-finger shifting action. The thumb lever is pressed by the thumb to execute a down-shift. The trigger lever is pulled back by the fore finger to up-shift. One extended push on the thumb lever can down-shift up to three gears at one stroke.

The front derailleur shift lever set allows a fast single-stroke shift from the large to the small or the small to the large chainring (triple cranksets).

The Advantages

Thanks to the under-bar lever position and the dual-repeat mechanism, you can shift Rapidfire without moving, or even loosening your grip on the bars. Rapidfire lets you shift anytime and anywhere - on rough terrain, downhills, uphills, or during extreme manoeuvres. Punch with your thumb to down-shift. Pull the trigger lever with your fore finger for a quick up-shift. The unique Rapidfire Plus shifting action divides the load between two fingers to lessen fatigue - a valuable feature for off-road racers and performance-oriented MTB riders.

RAPIDFIRE

XTR	DEORE XT	DEORE DX	DEORE LX
EXAGE ES	EXAGE LT	ALTUS A10	ALTUS A20
ST-CT10	ALTUS C20	TY20	TY15
700CX	400CX		

Gear shifting operation

Both lever (A) and lever (B) always return to the initial position when they are released after shifting. When operating one of the levers, always be sure to turn the crank arm at the same time.

REAR **To shift from a small sprocket to a larger sprocket**

To shift one step only, press to the (1) position; to shift two steps at one time, press to the (2) position. With the Rapidfire Plus, a maximum three-step shift can be made in this manner. With the ST-CT15 and ST-CT10, one-step shifting only is possible each time the Rapidfire is pressed.

REAR **To shift from a large sprocket to a smaller sprocket**

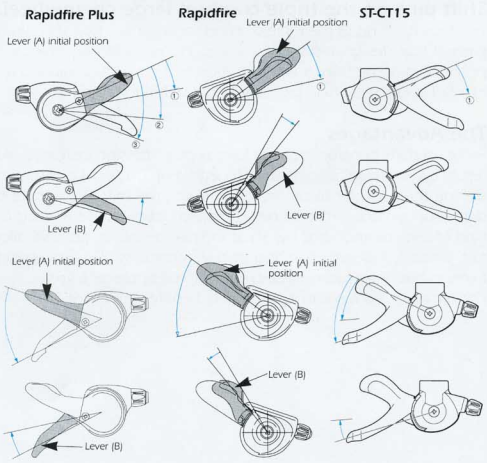
Press once to shift from a larger to one smaller sprocket.

FRONT **To shift from a small chainring to a larger chainring**

When lever (A) is pressed once, there is a shift of one step from a small chainring to a larger chainring.

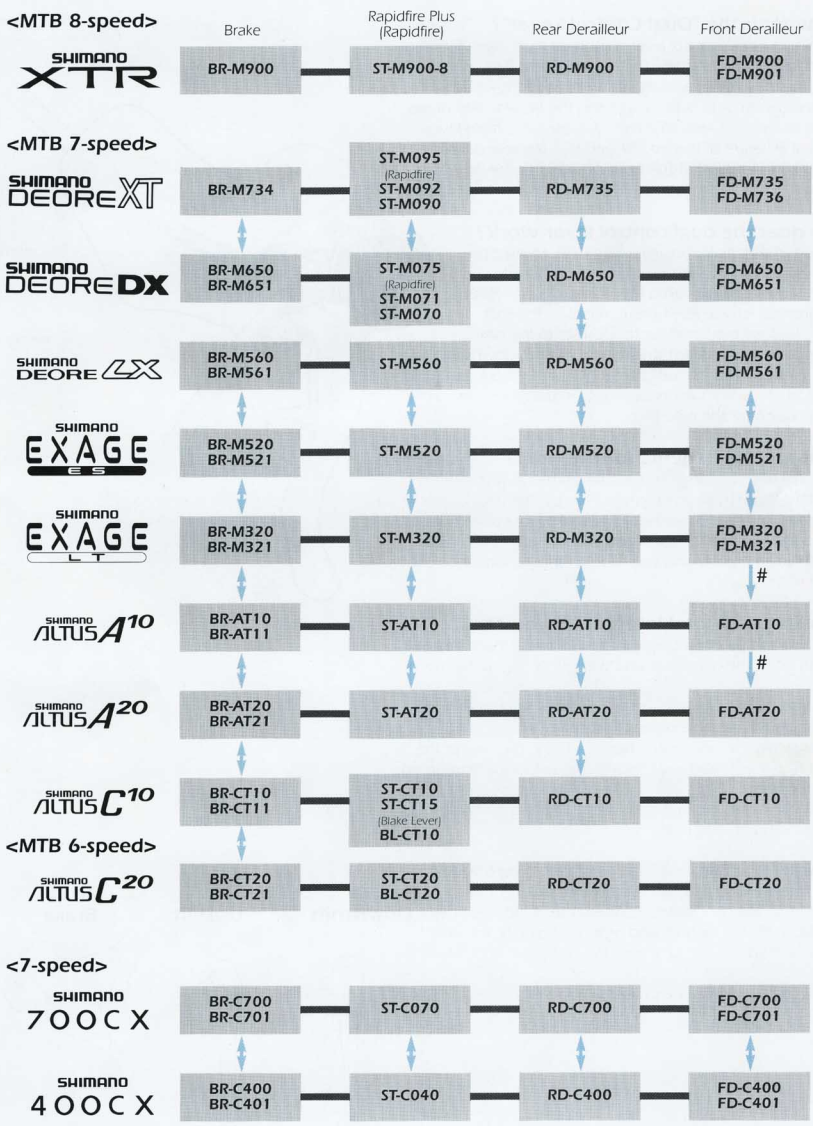
FRONT **To shift from a large chainring to a smaller chainring**

When lever (B) is pressed once, there is a shift of one step from a large chainring to a smaller chainring.



Some tips on Rapidfire applications ...

Rapidfire Combination Chart



# Denotes limited interchangeability depending on tube diameter and chainwheel centre line.

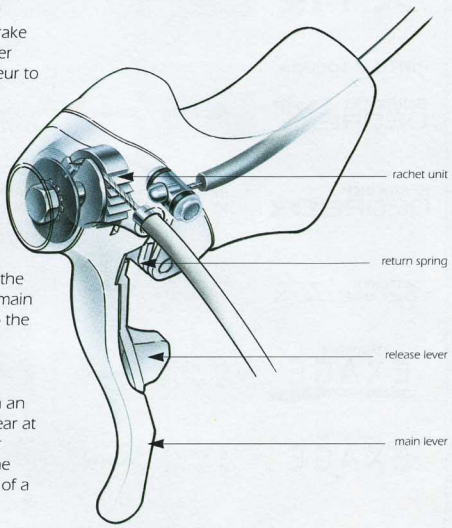
DUAL CONTROL LEVER

Shimano Total Integration redefines the racing bicycle.

DURA-ACE	600 ULTEGRA	105 SC	RX100

Just what is the "Dual Control Lever"?

The Shimano dual control lever is used on road bikes in order to combine the braking and shifting functions. The brake lever (called the main lever) actually has two functions - it now shifts the derailleur as well as applying the brakes. You brake in the conventional way, but then you push the main lever toward the centre of the bicycle, you shift the rear derailleur to a larger sprocket, or shift the front derailleur to the large chainring.



How does the dual control lever work?

Just push the dual control lever sideways, toward the centre of the bike, to downshift one gear. There's a smaller lever behind it called the "release lever". Push the right side release lever and it "releases" the shift cable, allowing the derailleur to "upshift" to the next higher gear. Push the left side release lever to downshift the front derailleur to the small chainring. Furthermore, the main lever upshifts with a ratchet action, so it always returns to the same position for the next shift.

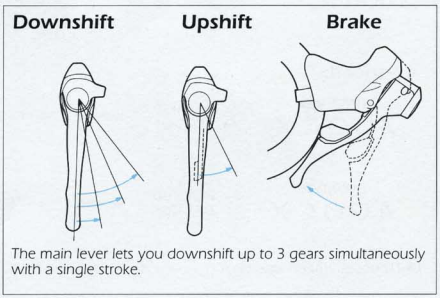
What are the benefits for the rider?

The ability to shift quickly and accurately has always been an important factor in bicycle racing. Being in the wrong gear at the wrong time has caused many a rider to lose a race or finish poorly. Shimano Total Integration has eliminated the adverse effect that shifting can have on the performance of a competitive cyclist.

With Shimano Total Integration you can.....

* shift fast and precisely under maximum pedal loads without letting go of the handlebar and without giving up hard-won speed.
* shift into the best gear to exit a turn while still cornering in order to save valuable seconds acceleration.
* instantly get the best gear when climbing, in or out of the saddle, without releasing the bars and without letting up on pedal speed.
* quickly shift into the best gear without letting go of the bars when riding on bad roads.

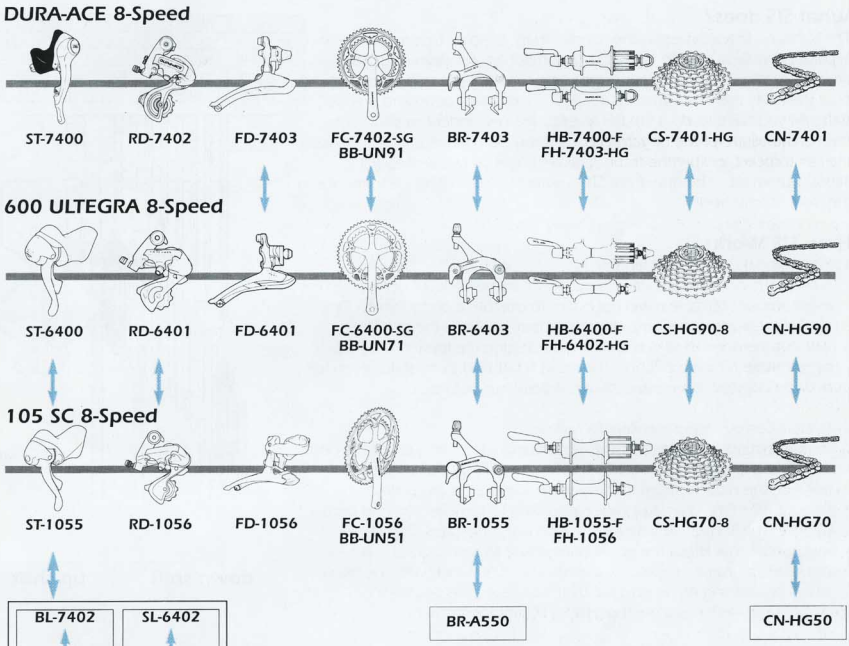
For the first time, Shimano Total Integration gives the racing cyclist total freedom in gear selection regardless of the terrain or racing conditions. Furthermore, it reduces rider indecision, lessens fatigue, and provides a significant competitive advantage for the racing cyclist.



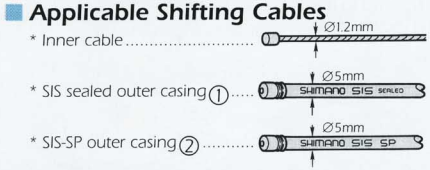
The main lever lets you downshift up to 3 gears simultaneously with a single stroke.

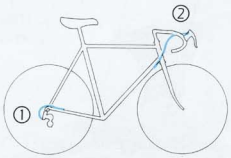
Some tips on dual control lever applications ...

Component Combinations and Interchangeability



Applicable Shifting Cables

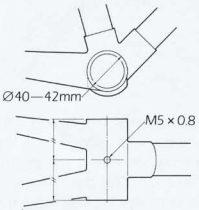




Recommended Small Parts

Cable Guides: **SM-SP55**
SM-SP25
SM-SP15





Cable guides are made of a special material to repel mud, water, sand, grit etc.The use of a cable guide is strongly recommended to promote smooth cable movement and precise shifting operation.

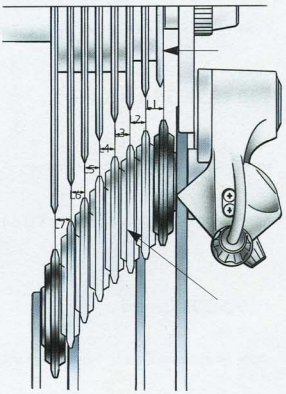
DUAL SIS

The high-performance shifting system that brings precision indexed shifting to the front and rear derailleurs.

What SIS does?

The Shimano Index System is the revolutionary concept that made fast and accurate derailleur shifting the result of component function - not rider skill. A precision shifting indent mechanism built into the shift lever body pulls the cable the exact amount needed to execute a clean and precise shift. All you have to do is tap the lever to the next indent to shift. This means virtually anybody, regardless of shifting experience, can shift SIS with the same speed and precision. SIS gear shifting is so fast and easy it's almost automatic. The new front SIS now brings SIS shifting performance to the front chainwheels.

XTR	DEORE XT	DEORE DX	DEORE LX
EXAGE ES	EXAGE LT	ALTUS A10	ALTUS A20
ALTUS C10	ALTUS C20	TY21	TY15
DURA-ACE	600 ULTEGRA	105 SC	RX100
700CX	400CX		



How SIS Works:

1) Integrated Indexing Mechanism

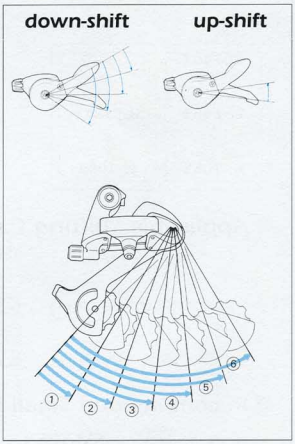
A precision indexed ratcheting mechanism in the SIS lever determines the exact amount of cable travel necessary to execute a perfect shift. One click of the lever to the next indent precisely positions the derailleur without the need to search for the gear or tune the lever in order to compensate for over-shifting. The result is fast and clean shifts, even for new cyclists who have never shifted a derailleur before.

2) Double Servo-Pantagraph Rear Derailleur

Precise shifting demands that the derailleur guide pulley be kept as close to the rear sprockets as possible. This is more difficult than it sounds because the distance from the freewheel sprocket to the pulley (L1 through L7 in the diagram) varies according to sprocket size and dropout design. The SIS rear derailleur uses a double servo-pantagraph mechanism that keeps the guide pulley close to the sprocket teeth regardless of frame or sprocket dimensions. Combined with the exact lateral positioning made possible by the SIS lever, the double servo-pantagraph design is a great aid to SIS shifting performance.

3) SIS Front Derailleur & SG-X Chainring

The new SIS front derailleur uses a special configuration chain guide that works in close coordination with the new SG-X chainring. The chain guide lifts the chain at one of the designated shift points on the SG-X chainring. Leading teeth and "spike teeth" move the chain smoothly and directly to the landing point on the next gear. Up-shifts to the large chainring are amazingly fast and crisp.





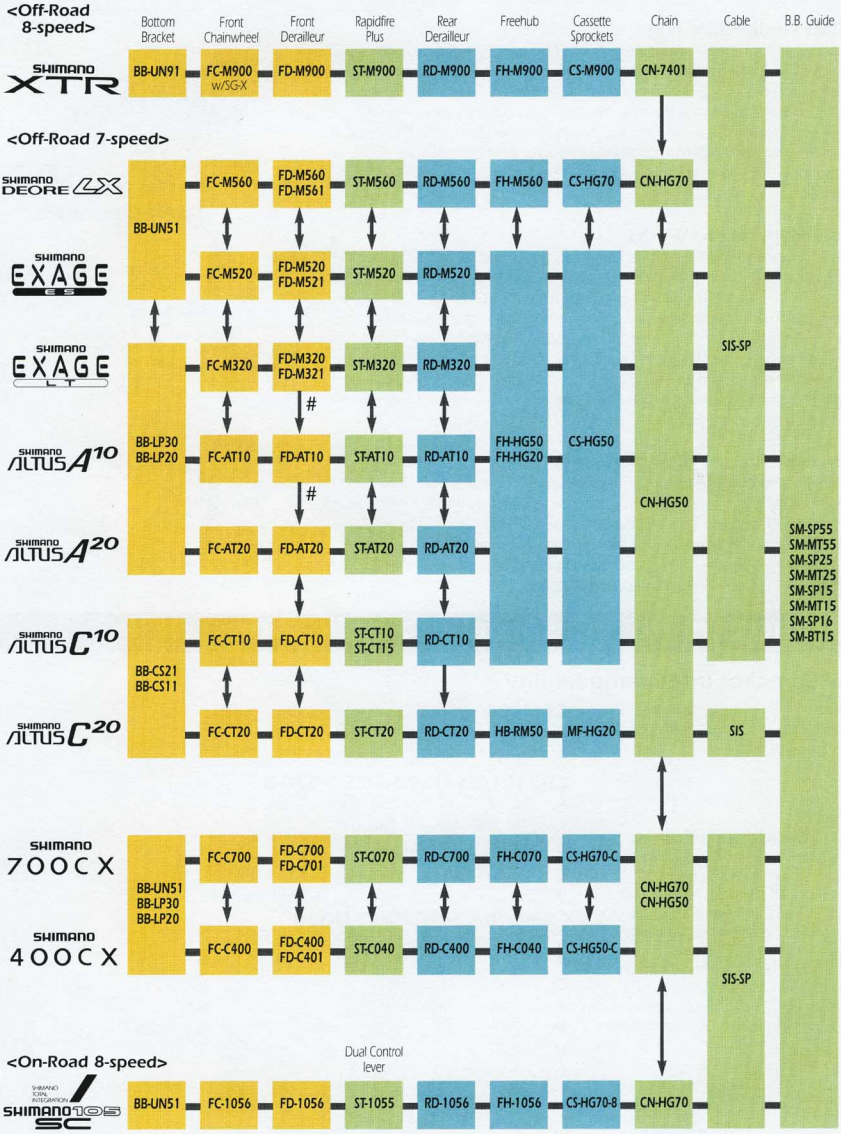
A special bulge cross section on the SIS front derailleur's chain cage helps push the chain onto the large chainring quickly and smoothly.

The Advantage:

For years derailleur shifting was a hit-or-miss operation. It took a deft touch and practice to get into the right gear without chain grinding or excessive over-shifting. In short, it took experience and skill to shift gears. The main advantage of SIS is that it makes fast and precise derailleur shifting the result of component operation - not rider skill. One quick click of the SIS lever gets you into gear. The derailleur is aligned automatically without the need to over-shift or tune. Positive dependable SIS shifting makes cycling more fun than ever.

Some Tips on Dual SIS applications...

■ Combinations & Interchangeability

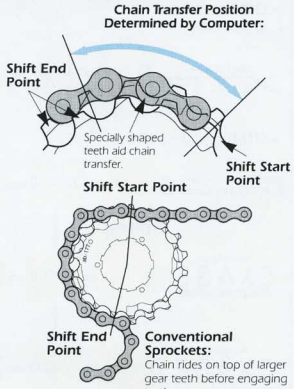


# Denotes limited interchangeability depending on tube diameter and chainwheel centre line.

HG Computer-Designed HyperGlide sprockets promote smoother, faster down-shifting regardless of pedal load.

What HyperGlide Does:

HyperGlide is a special computer-designed cassette sprocket cluster that improves SIS shifting speed and precision - especially with a high torque load on the chain. Special teeth configurations are mutually aligned between sprockets to set the chain release and pickup points. Gate indents provide a clear path for the chain to move through. The result is a shift in which the chain moves more directly, and quickly, to a larger sprocket without skipping or overriding. HyperGlide makes shifting almost instantaneous.

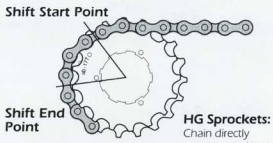


How HyperGlide Works:

With conventional rear sprocket cassettes, a down-shift to a larger sprocket causes the chain to ride up and over the teeth before completely engaging the gear. The sprocket rotates almost 180° before the shift is completed. Computer-designed HyperGlide sprockets use special tooth configurations and gate indents (thinner areas on the surface of the sprocket near the teeth) at pre-determined shift points which help to complete the shift within 60° of sprocket rotation. Shift points and gate indents are kept mutually "in phase" to provide a more direct path for the chain to move through.

The advantages of HyperGlide:

HyperGlide delivers fast and direct down-shifts regardless of chain tension. Shifting shocks are also reduced. This means you don't have to let up on pedal pressure to shift, even when climbing hills. HyperGlide gives you more freedom and confidence to shift anytime and anywhere you need a new gear. HyperGlide is appreciated by all cyclists because it significantly improves SIS shifting performance.



Some tips on HG sprocket applications ...

Sprocket Interchangeability

CS-M900

P	12		14	16	18	21	24	28	32
Q	12	13	14	16	18	21	24	28	

CS-7401/CS-HG90-8/CS-HG70-8

S	12	13	14	15	16	17	19	21					
T		13	14	15	16	17	19	21	23				
U	12	13	14	15		17	19	21	23				
V		13	14	15		17	19	21	23		26		
W	12	13		15		17	19	21	23	25			

CS-HG90/CS-HG70/CS-HG50

E	12		14		16		18		21		24		28				
F			14		16		18		21		24		28				32
G		13		15		17		20		23		26		30			
K		13		15		17		20			24		29				34
M		13		15		17	19		21		24		28				
H		13		15		17	19		21	23		26					
L	12	13	14	15		17		19	21								
I		13	14	15		17		19	21	23							
J		13	14	15	16	17		19	21								

CS-HG70-C/CS-HG50-C

ab	11	12	13	14	15	17	19

Cautionary Points:

- *HG gears should always be used in complete sets.
- *Sprockets enclosed in boxes are interchangeable (when cassette binder bolts are not utilized).
- *Some sprockets which are compatible with multiple sprocket groups are marked with letters denoting those groups.

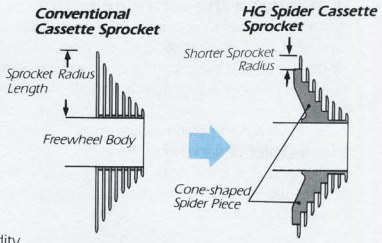


Spider-boss sprocket cluster reduces weight, increases precision and rigidity.

XTR	DEORE XT	DEORE DX	DEORE LX
EXAGE ES	EXAGE LT	ALTUS A10	ALTUS A20
ALTUS C10	ALTUS C20	TY20	TY15
DURA-ACE	600 ULTEGRA	105 SC	RX100
700CX	400CX		

What the spider boss sprocket cluster does:

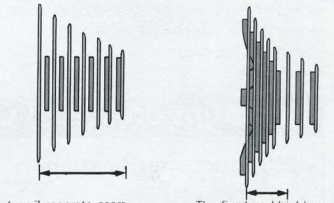
A special sprocket cluster utilizes a "spider" shaped support piece positioned between the sprockets and the freewheel boss. The spider boss carries the five (CS-M 900 **P**-group) or four (**Q**-group) largest sprockets. This unique design reduces freewheel weight, increases rigidity, and positions sprockets more precisely for improved shifting performance.



How The Spider Boss Works:

1) Upgraded rigidity with less gear teeth flex.
The spider boss support the sprockets much closer to their outer diameter than conventional freewheels. This increases sprocket rigidity which means there's flex under load. The result is improved SIS shifting because the sprocket teeth maintain their position with greater precision.

2) Spider Boss upgrades precision and durability.
The spider boss has a separate mounting face for each sprocket. This increases durability because pedaling loads are transferred to the wheel through the entire boss rather than a single sprocket. More precise sprocket spacing improves shifting by eliminating the wide variation in the assembled width of conventional sprocket clusters. The lightweight sprockets and light alloy spider boss weigh-in at a super-low 335 grams.



6 or 7 separate gears sandwiched on a freewheel boss often result in a varying cluster thickness dimension.

The fixed and highly precise dimension of the five spider sprockets upgrade freewheel spacing precision and improve shifting performance.

The Advantages

Competition-oriented MTB riders will appreciate the reduced weight of the spider boss cassette - 80 grams less than conventional 8-speed cassettes. The improved rigidity, excellent shifting characteristics, and upgraded strength are a real advantage to performance cyclists and racers.

THE SHIMANO FREEHUB

A stronger, better performing rear wheel.

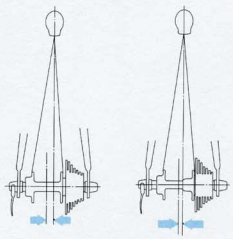
What the freehub does:

The Shimano freehub integrates the rear hub body and freewheel mechanism into a rigid one-piece unit. The cassette sprockets slide on and off the integrated freewheel boss for fast and easy gear replacement.

How the freehub works:

Hub and freewheel are integrated into a single unit. This allows the hub flanges to be positioned more symmetrically in relation to axle centre. It's called Unibalance. The result is less rim offset and more uniform spoke tension that reduce the chances of spoke breakage. Furthermore, the bending are positiond closer to the right dropout for better axle support.

Compare the Difference In Rim Offset



Rim offset with conventional rear hub.

Reduced rim offset with Shimano freehub.

The Advantages:

The freehub realizes a stronger, more rigid rear wheel that delivers more power transfer efficiency. The wheel stays in true longer and spokes need less adjustment over time. The freehub design also allows the use of an 8-speed sprocket cassette in the same dimension as 7-speed systems. Cassette sprockets simply slide on and off the freehub boss.

Simple installation and adjustment, upgraded durability with less maintenance.

Just what is the cartridge bottom bracket?

The separate ball bearings, cups, waterseal and axle of the conventional bottom bracket have been combined in a single integrated cartridge-type unit which eliminates the need for bearing adjustment and makes installation simple.

How does it work?

The fully sealed construction forms a highly effective seal against the invasion of water, mud, and dirt into the bottom bracket bearings.

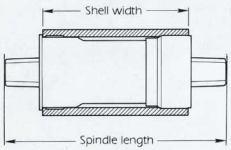
What are the benefits for the cyclist?

Bottom bracket installation is simplified and the need to adjust bearings is completely eliminated. Durability is also significantly upgraded.



Some tips on Sealed Cartridge Bottom Bracket applications...

Product specifications



Model No.	Crank Shape	Type	Spindle length	Shell Width	Tread dimensions	Stamped marking
BB-UN91	Low profile	Triple	107	68	BC1.37	MM107
				70	M36	
				73	BC1.37	
			113	68	BC1.37	LL113
				70	M36	
				73	BC1.37	
	Standard	Double	115	68	BC1.37	D-H
				70	M36	
BB-UN71	Low profile	Double	107	68	BC1.37	MM107
				70	M36	
		Triple	122.5	68	BC1.37	D-NL
				70	M36	
				73	BC1.37	
			127.5	68	BC1.37	D-EL
				70	M36	
				73	BC1.37	
	Standard	Double	115	68	BC1.37	D-H
				70	M36	
BB-UN51	Low profile	Double	107	68	BC1.37	MM107
				70	M36	
		Triple	113	68	BC1.37	LL113
				70	M36	
			118	68	BC1.37	XL118
				70	M36	
				73	BC1.37	
	Standard		122.5	68	BC1.37	D-NL
				70	M36	
				73	BC1.37	
			127.5	68	BC1.37	D-EL
				70	M36	
				73	BC1.37	
		Double	115	68	BC1.37	D-H
				70	M36	
BB-UN71 BB-UN51	Standard	Road Triple	122.5	68	BC1.37	D-NL
				70	M36	
				73	BC1.37	
BB-LP30 BB-LP20	Low profile	Triple	113	68	BC1.37	LL113
				70	M36	
			118	68	BC1.37	XL118
				73	BC1.37	
BB-CS21 BB-CS11	Standard	Double	115	68	BC1.37	D-H
				70	M36	
		Triple	122.5	68	BC1.37	D-NL
				70	M36	
				73	BC1.37	
			127.5	68	BC1.37	D-EL
				70	M36	
				73	BC1.37	

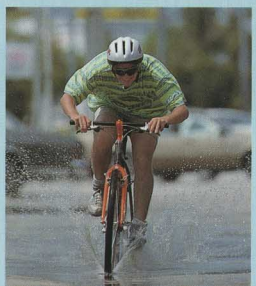
Notice: Please check the size of each screw prior to assembly.

The all-weather brake system that gives you more stopping power in less than ideal conditions.

SHIMANO M SYSTEM

All around cycling performance encompasses more than an efficient drive train and gear changing system. It also means the ability to stop the bike quickly and confidently. Shimano Linear Response (SLR) was born from this concept. SLR realized a great improvement in braking control through reduced friction and a lively responsive lever that gives a greater feeling of control feedback. Super SLR further improved SLR braking through a dual-pivot side-pull caliper that increased the power multiplication factor.

While all these improvements maximize the cyclist's ability to stop under ideal conditions, wet and dusty environments still have an adverse effect on braking performance. This is where M-System comes in. M-System was designed specifically to help the cyclist get maximum stopping power by minimizing the decrease in braking performance that has always been encountered when the rims get wet, dusty, or muddy. M-System is another step forward in high-performance braking technology from Shimano.



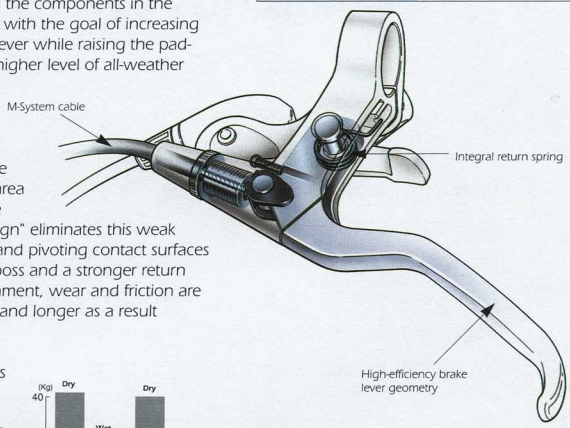
SHIMANO M SYSTEM

Dependable braking performance regardless of weather or road conditions.

XTR	DEORE XT	DEORE DX	DEORE LX
EXAGE ES	EXAGE LT	ALTUS A10	ALTUS A20
ALTUS C10	ALTUS C20	TY20	TY15
DURA-ACE	600 ULTEGRA	105 SC	RX100
700CX	400CX		

What M-System Does:

All cyclists know that braking performance suffers when the brakes and rims get wet, muddy, or dusty. M-System was developed to minimize the effects of weather and road conditions on braking performance. Careful engineering of all the components in the cantilever brake system was undertaken with the goal of increasing power transmission efficiency from the lever while raising the pad-rim frictional coefficient. The result is a higher level of all-weather braking performance for the bicycle.



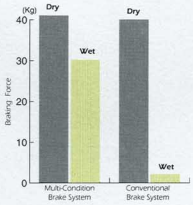
How M-System Works:

1) Unit Design

The weak point of the cantilever brake system has always been the contact area where the cantilever arm rides on the brake pivot boss. M-System "unit design" eliminates this weak point by enclosing the return spring and pivoting contact surfaces inside the cantilever arm. The pivot boss and a stronger return spring are protected from the environment, wear and friction are reduced, and the brakes work better and longer as a result

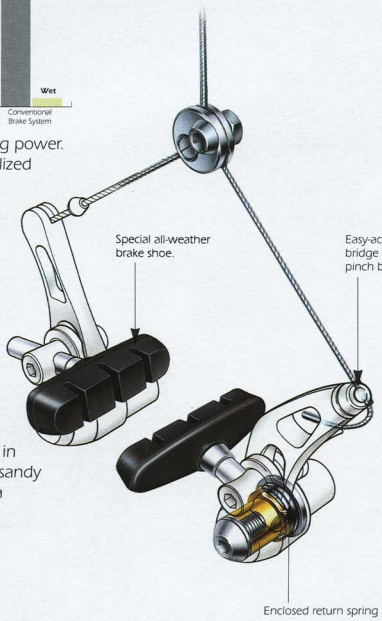
2) Special Formulation Brake Pads

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 uniform frictional coefficient that is largely unaffected by weather and road conditions.



3) A brake cable that makes the most of the shoe's stopping power.

The benefits of all-weather M-System brakes can't be realized without efficient power transmission to the shoes. The M-System lever is more rigid to reduce stress distortion losses. A durable non-stretch cable and newly developed friction-less liner help assure that all the power put into the brakes comes out again.

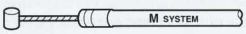
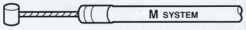


The Advantages:

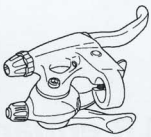
M-System is significant because it delivers more uniform braking power and control under all types of cycling conditions. M-System dramatically reduces the difference in stopping performance between dry and wet rims, or clean or dirty rims. Your brakes work at peak performance longer and are less affected 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 terrain. It's not just all-weather braking performance, but a significant improvement in overall cycling performance.

Some Tips on M-System applications ...

Multi-condition brake system lineup

Series	Brake lever	Cantilever brake	Cable
DEORE LX	ST-M560	BR-M561 BR-M561	
EXAGE ES	ST-M520	BR-M520 BR-M561	
EXAGE LT	ST-M320	BR-M320 BR-M321	
ALTUS A10	ST-AT10	BR-AT10 BR-AT11	
ALTUS A20	ST-AT20	BR-AT20 BR-AT21	
ALTUS C10	BL-CT10	BR-CT10 BR-CT11 BR-CT12	
ALTUS CT20	BL-CT20	BR-CT20 BR-CT21	
TY20	BL-TY20	BR-TY21	
700 CX	ST-C070	BR-C700 BR-C701	
400 CX	ST-C040	BR-C400 BR-C401	

Deore-XT, and Deore-DX brake levers are compatible with M-System brakes.

Series	M-System Cable	Rapidfire Plus	Cantilever brake with M-Shoe
			
DEORE XT		ST-M095	BR-M734-M
DEORE DX		ST-M075	BR-M650-M BR-M651-M

Because the servo-wave mechanism used in the Deore-XT and Deore-DX brake levers was designed in anticipation of the M-System, the brake systems for these groups can be optionally upgraded through installation of M-system cables, cantilever arms, and brake shoes.

SHIMANO LINEAR RESPONSE

Increased braking power with a more sensitive feeling of control.

Just what is the "Shimano Linear Response"?

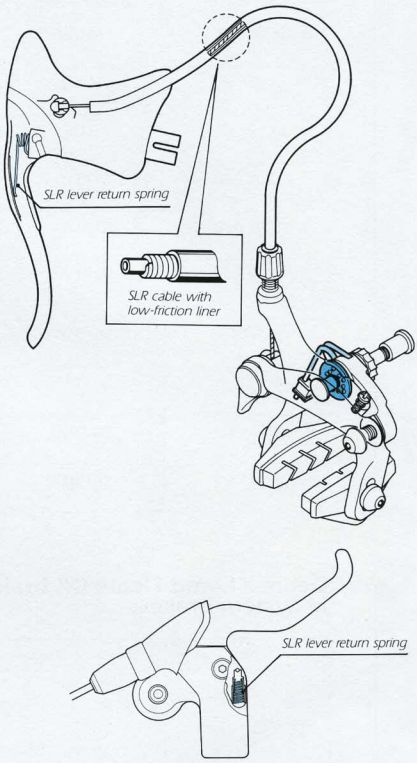
SLR utilizes special designs which eliminate a significant amount of friction from the levers, cables, and calipers of the brake system. The result is upgraded braking performance through a highly responsive lever feeling and strong, easily modulated stopping power.

How does SLR work?

SLR uses a return helper spring in the brake lever itself. Because the return movement of the lever action is not completely dependent on the strength of the spring at the caliper, a weaker caliper spring can be used. A thrust bearing and coated washer are used between the calipers arms, and a brake cable with a low-friction liner are also utilized to further reduce friction in the system. The result is a lighter and lively lever feeling and a more balanced system. Braking power is more efficiently transmitted to the wheel with greater feedback returned to the lever.

What are the benefits of SLR to the rider?

Balanced braking performance means a lot more than just strong braking power. If braking power cannot be effectively applied with optimum control, the brake system is inefficient and potentially dangerous. SLR delivers a higher level of braking control through a highly sensitive "linear response" feeling at the lever. Power input at the lever is efficiently converted into bike stopping power. You get improved stopping performance and a greater feeling of confidence in your ability to control the brakes. Racing cyclists use SLR to dive deeper into turns before braking and to finely control descending speeds. Sport and casual cyclists ride with more confidence and enjoyment knowing that the brake will always respond predictably.

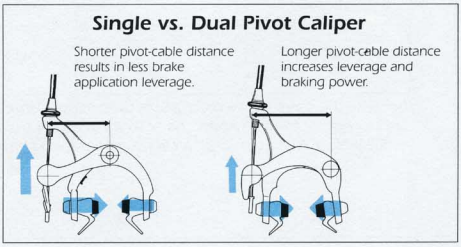


SUPER SLR
SHIMANO LINEAR RESPONSE

Super SLR enhances the braking power of Shimano Linear Response.

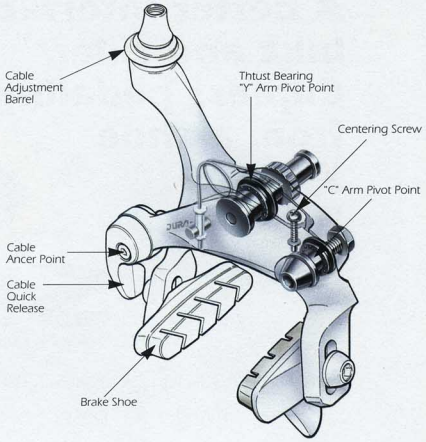
Just what is Super SLR?

Super SLR is a new type of sidepull brake caliper and lever. What makes the Super SLR caliper different is that it has an individual pivot point for each caliper arm. These separate pivot points increase the power multiplication factor which results in more braking power.



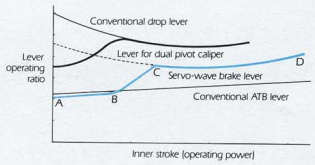
How does Super SLR work?

The main parts of the sidepull caliper are the "Y" arm and the "C" arm (named for their basic shape). With conventional brakes, both arms pivot on the same point. The Super SLR caliper, however, gives the "C" arm its own pivot point that's separate from the "Y" arm in order to increase leverage. The result is that the pressure applied to the rim increases in relation to the pressure applied at the lever. Furthermore, the increase in braking leverage at the "C" arm is transferred to the "Y" arm so that the increased leverage is applied equally between the two caliper arms. The increased power multiplication factor causes the shoes to move a shorter distance in relation to lever travel. To compensate for this shortened caliper movement the Super SLR brake lever has been designed to provide a 2-phase action. The 1st phase quickly brings the brake shoes into contact with the rim, while the 2nd phase applies increased leverage to enhance braking power.



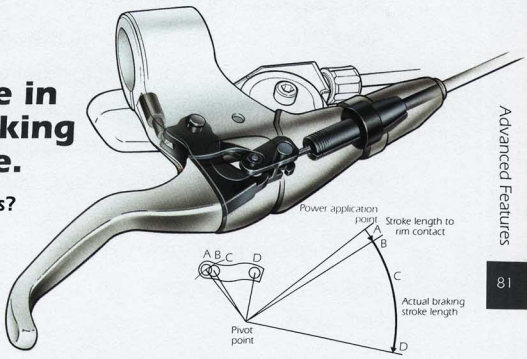
What are the benefits for the rider?

The benefit of Super SLR is that it provides the cyclist with greater braking power without the need to squeeze the lever harder. Coupled with the highly sensitive SLR mechanism, Super SLR provides even more braking power that can be easily modulated at the lever with a secure feeling of control. Super SLR is a significant improvement in overall braking performance.



SLR PLUS
SHIMANO LINEAR RESPONSE

The ultimate in off-road braking performance.



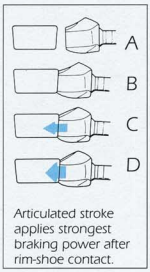
Just what is Shimano Linear Response Plus?

SLR Plus is a high performance braking system for the off-road bicycle. The heart of the system is the "servo-wave" brake lever which actually increases the power multiplication advantage as the lever is pulled.

How does the SLR Plus work?

SLR Plus utilizes a unique cam-type cable holder and servo-wave link. As the lever is pulled, the pivot point of the servo-wave link changes its position in relation to the cable holder. This results in a faster shoe-rim contact time and an increase in lever output when it's really needed - after the brake shoes come into contact with the rim.

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.



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

What are the benefits to the rider?

In off-road riding, there are many times when you've got to keep a firm grip on the bars while braking hard. Yet this makes it difficult to steer and use the brakes simultaneously when going over rough terrain. SLR Plus helps reduce fatigue and increase control with a soft modulated lever action. More lever travel is provided in the range where the brakes are in actual contact with the rim. The end result is that it becomes easier to maintain braking power and control, especially over rough terrain.

A better interface between bike and rider. Clipless pedaling performance from a shoe you can walk in.

SPD
SHIMANO PEDALING DYNAMICS

Shimano Pedaling Dynamics is a new concept in cycling shoes. The SPD shoe provides the best of both worlds - clipless pedaling performance from a cleated shoe that's safe and easy to walk or hike in when you get off the bike. SPD enhances the Shimano Ride Light concept by providing a more versatile, practical, and convenient shoe-pedal interface.

SPD was originally designed to give mountain bike racers the secure clipless pedaling performance plus the ability to get out of the pedals quickly to touch down or carry the bike. The growing popularity of SPD has prompted Shimano to expand the line-up to include a variety of MTB, touring, lightweight racing and sport cycling shoes - all providing the SPD advantage. Even road racers now have their choice of conventional Look style clipless racing shoes or the more versatile performance of SPD. The new SPD racing shoe and pedals are significantly lighter than their Shimano Look style counterpart and feature a more compact cleat mechanism and increased road clearance.

SPD - the first cycling shoe that works both on and off the bike.



A versatile application shoe-pedal interface with benefits for every cyclist

What SPD Does:

SPD is part of the Shimano Ride Light concept of making the bicycle a more user-friendly vehicle. The role of SPD is to give the cyclist the stability and efficiency of a clipless pedal interface with a shoe that can also be used for walking, or hiking off the bike. First offered as a competition-oriented MTB shoe, SPD is now available in our lightweight Dura-Ace racing model.

How SPD Works:

SPD shoes use a special SPD-type cleat that's recessed into the sole so it never comes in contact with the ground when walking. The result is a clipless cycling shoe that's safe and comfortable to walk in. To engage the SPD pedal, just press in and push down. Rotate the heel of your foot to the side and the binding releases.

SPD off-road models give off-road racers and MTB enthusiasts the pedaling efficiency and stability of a clipless racing shoe. Thanks to the recessed cleat and aggressive rubber outer sole, the SPD shoe also becomes a comfortable sure-footed hiking shoe off the bike.

SPD racing shoes use the standard SPD cleat design with a thinner and highly rigid outer sole. Because the SPD binding mechanism is lighter and more compact, pedal weight and size are reduced to provide the added benefit of greater road clearance. "Pontoon" cleat guards prevent cleat damage from walking, so competition cyclists have more freedom to move around before and after events without changing shoes or using separate cleat protectors.

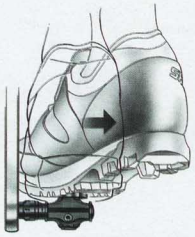
The Advantages:

The main advantage of SPD is that it's the first shoe-pedal system that doesn't sacrifice pedaling performance for walkability. On the bike you get the stability and power transfer efficiency of a racing shoe, yet off the bike you can walk safely and comfortably just as you would with a good pair of hiking shoes.

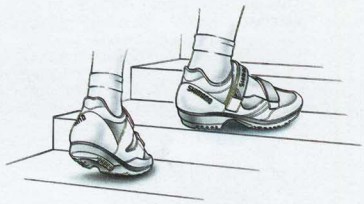
If you're an off-road racer, SPD gives you the pedaling performance you need to be competitive. You get better footing when carrying your bike up embankments or touching down to keep balance. Lateral play designed into the binding mechanism allows your feet to rotate to reduce stresses during violent maneuvers.

If you're a touring or sport cyclist, you'll appreciate SPD's clipless pedaling performance and the greater mobility you get off the bike.

New for 1993 is a super-light Dura-Ace SPD shoe and pedal for road racing use. This advanced new SPD shoe features the latest in lightweight materials plus integral "pontoon" cleat guards that make it safe and comfortable to walk in without damaging the cleat. It's significantly lighter than our conventional road model and the pedal provides 36° of road clearance for enhanced cornering performance.



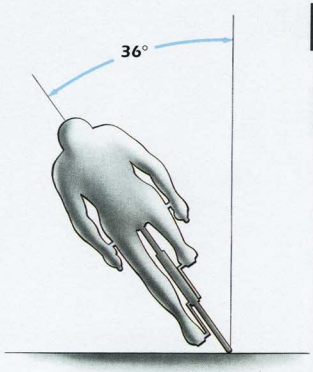
Twist-out



Recessed cleat



Step-in



SPD Racing Footwear

SH-R210

Weight: 640g (pair, size 44, w/cleats)
MATERIAL Upper: Vectran Synthetic Leather
Inner Sole: Cambrelle & EVA
Outer Sole: Carbon graphite
Sizes: 39-47 in 1/2 sizes & 48 only
Color: 1-style: Silver
Compatibility: SPD PD-7410 pedal
Shimano(Look) PD-7401,6402,1056 pedals

NEW



Racing/Performance Footwear

SH-R110

Weight: 643 g. (pair/size 43-1/2 with cleat)
MATERIAL Upper: Non-stretch synthetic leather
Inner Sole: Cambrelle & EVA
Outer Sole: High-impact resin
Sizes: 36, 37-47 in 1/2 sizes, 48 (23 sizes)
Color: 1-style: Bright Silver
Compatibility: Shimano(Look) PD-7401,6402,1056 pedals



Racing/Performance Footwear

SH-T110

Weight: 657 g. (pair/size 43-1/2 with cleats)
MATERIAL Upper: Polyurethane split leather and breathable nylon mesh
Inner Sole: Cambrelle & EVA
Outer Sole: High-impact resin
Sizes: 36, 37-47 in 1/2 sizes, 48 (23 sizes)
Color: 1-style: Black w/bright silver straps
Compatibility: Shimano(Look) PD-7401,6402,1056 pedals



SH-R210 SPD Racing Shoe

Bicycle racing is an exciting drama of speed, effort, and perseverance. The high-performance SPD SH-R210 racing shoe is the new weapon in the road racer's quest for victory. A new cleat retension system allows a fixed or rotational binding to match rider preference. Triple hook and loop type straps, new heel configuration, and other advanced features make the SH-R210 the super-performer in the SPD line-up.

Features:

*Compatible with SPD or Shimano/Look® cleat.
*New heel design provides a snug, comfortable, high-performance fit.
*Triple hook and loop type straps help contour the shoe to the foot for comfort and pedaling efficiency.
*Lightweight alloy strap rings reduce weight.



FEATURES	BENEFITS
1.Air Vents	Intake air vents at the toe area provide a cooling air flow to dissipate heat and evaporate sweat.
2.SPD/Look® Compatible	Mounting hole patterns for both SPD or Shimano/Look® cleats. Two types of SPD cleats allow fixed or rotational binding.
3.Adjustable Cleat Position	SPD cleat position can be set within a range of 15mm fore and aft and 5mm lateral.
4.Full Carbon Graphite Sole	Full carbon graphite sole provides the rigid lightweight strength that means top pedaling efficiency.
5.Polyethylene Pads	Polyethylene pads protect cleat, prevent sole abrasion, and help make the shoe safe and comfortable to walk in.
6.Vectran Mesh Upper	Shoe upper of super-strong non-stretch Vectran mesh (polyallylate graphite) helps ventilates the foot.
7.New Construction Heel	New heel configuration fits more comfortably reducing pressure points and makes a closer fit that reduces energy losses. Integral heel retension strap helps stabilize lateral foot movement.
8.Alloy Closure Rings	Lightweight alloy closure strap rings eliminate unnecessary weight.
9.Extra-Long Hook and Loop Type Closure Straps 	Three hook and loop type strap closures mate the shoe closely to foot contours. The result is more comfort and pedaling efficiency along with reduced fatigue. Extra-long closure straps allow easy one-hand adjustment on or off the bike. Straps can be trimmed at the vinyl tab, for a rider with narrow feet. (Be careful to cut outside of stitching.)
10.Cambrelle and EVA Molded Insole	Special properties of combined Cambrelle and EVA insole help wick away moisture and keep shoe fresh. Molded contour fits the sole of the foot better for enhanced comfort.
11.Integral Reflector	Reflector material on the heel and strap closures make you more visible from the rear and side at night.

SPD Footwear

SH-M200

Weight: 804 g. (pair/size 43 w/o cleats)

MATERIAL
Upper: Non-stretch synthetic leather and Cordura nylon
Inner Sole: Cambrelle & EVA
Mid Sole: Fibreglass reinforced nylon
Outer Sole: Rubber (treated)
Sizes: 36, 37-47 in 1/2 sizes, 48 (23 sizes)
Colour: 1-style: Black/Blue/Orange

Compatibility: PD-M737/PD-M525/PD-A525 SPD pedals
U.S. PAT 5, 125, 173



SPD Footwear

SH-M110

NEW

Weight: 795g (pair/size 44 w/o cleats)

MATERIAL
Upper: High-Strength Nylon Mesh, Polyurethane Split Leather
Inner Sole: Cambrelle & EVA
Mid Sole: Fibreglass reinforced nylon
Outer Sole: Rubber w/Sunflower Tread
Sizes: 36/37-47 in 1/2 sizes/48
Colour: 1-style: black/blue/green

Compatibility: PD-M737/PD-M525/PD-A525 SPD pedals
U.S. PAT 5, 125, 173



SPD Footwear

SH-M051

NEW

Weight: 872g (pair/size 44 w/o cleats)

MATERIAL
Upper: High-Strength Nylon Mesh, Polyurethane Split Leather
Inner Sole: Cambrelle & EVA
Mid Sole: Fibreglass reinforced nylon
Outer Sole: Rubber
Sizes: 36/37-47 in 1/2 sizes/48
Colour: 1-style: gray/blue/purple

Compatibility: PD-M737/PD-M525/PD-A525 SPD pedals
U.S. PAT 5, 125, 173



SPD Footwear

SH-M030

NEW

Weight: 810 g. (pair/size 43 w/o cleats)

MATERIAL
Upper: Split leather & breathable nylon mesh
Inner Sole: Cambrelle & EVA
Mid Sole: Fibreglass reinforced nylon
Outer Sole: Rubber (hiking tread design)
Sizes: 36-48 (no half sizes)
Colour: 1) blue/orange/purple
2) light gray

Compatibility: PD-M737/PD-M525/PD-A525 SPD pedals
U.S. PAT 5, 125, 173



SH-M200 SPD Racing Shoe

The SH-M200 is the top-of-the-line SPD shoe for all-out off-road competition and all serious MTB riders who insist on the best. Not limited to off-road competition, the SH-M200 is also a great shoe for touring.

Features:

New wheel configuration provides a better fit.
*Double hook and loop type closure straps fit better and help reduce fatigue.
*Polyester straps never stretch or loosen, even when wet.
*Designed for improved power transfer efficiency.



FEATURES	BENEFITS
1. High-traction low-cut tread pattern	Provides excellent grip on all standard pedals and ground surfaces. 
2. Recessed cleat	 Secures into SPD pedal for more pedaling power yet doesn't interfere with walking. Can be adjusted 20 mm. front-rear and 5 mm. side to side (cleat included with pedal set).
3. Glass fibre/nylon midsole	Creates rigid platform for high pedaling efficiency and prevents foreign objects from penetrating through to the foot.
4. EVA heel counter	Protects heel from shocks and foreign objects.
5. 3-dimensionally formed nylon mesh upper panels	Allows shoe to fit more naturally to foot contours for increased pedaling efficiency, comfort, and stamina.
6. Double hook and loop type straps	Use of two hook and loop type straps and laces better makes for a snug fit for enhanced pedaling efficiency on the upstroke.
7. Cambrelle & EVA sockliner	Helps wick away moisture and absorb shocks and vibration to reduce fatigue.
8. Ankle pad	Protects ankle while helping shoe conform to ankle contours.
9. Reflective tab	Helps cyclists be seen at night for greater safety.

SPD Footwear

SH-A100

NEW

Weight: 780g (pair, size 43, w/cleats)

MATERIAL
Upper: Nylon Mesh/Polyurethane Leather
Inner Sole: Cambrelle & EVA
Outer Sole: Rubber
Sizes: 36/37-47 in 1/2 sizes/48
Colour: 1) Black/Gray
2) White/Gray/Purple

Compatibility: PD-A525/PD-M737/PD-M525 SPD pedals
U.S. PAT 5, 125, 173



SPD Footwear

SH-A050

NEW

Weight: 787g (pair, size 44, w/cleats)

MATERIAL
Upper: High-Strength Nylon Mesh/Split Leather
Inner Sole: Cambrelle & EVA
Midsole: Graphiteglass Reinforced Nylon
Outer Sole: Rubber
Sizes: 36-48 (whole sizes only)
Colour: 1-style: slate blue-gray

Compatibility: PD-A525/PD-M737/PD-M525 SPD pedals
U.S. PAT 5, 125, 173





SH-A100 SPD Sport/Fitness Shoe

Many sport, fitness, and touring cyclists appreciate the light weight and pedaling efficiency that racing-type cycling shoes offer. The SH-A100 shoe was designed for cyclists who want a lightweight shoe for maximum on-bike performance but don't want to give up off-bike mobility. The all-purpose SH-A100 shoe provides SPD versatility with the accent on pedaling performance.

FEATURES	BENEFITS
1. Rubber Sole	Flat rubber outer sole provides a safe, sure-grip surface for walking.
2. SPD Cleat Mounting	High efficiency clipless pedaling with off bike walkability. 20mm of fore and aft plus 5mm of lateral adjustment insure correct foot-pedal positioning.
3. Nylon Mesh Upper	Nylon mesh upper panels let the foot breath. Withstands hard pedaling without stretching.
4. Extra-Long hook and loop type closures	Large adjustment range and a comfortable foot-hugging fit are provided by two extra-long hook and loop type closures. Easy one-hand adjustment.
5. Cambrelle & EVA Molded In-Sole	Special properties of combined Cambrelle and EVA insole help wick away moisture and keep shoe fresh. Molded contour fits the foot better for enhanced comfort.
6. Integral Reflector	Reflector material on the heel and shoe sides make you more visible from the rear and side at night.

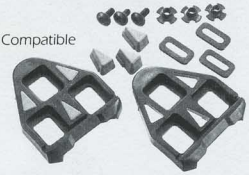
FOOTWEAR ACCESSORY ITEMS

Shoe Cover
SH-CV20

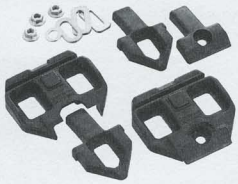
SIZE	Shimano shoe size
S	36 - 38 1/2
M	39 - 41 1/2
L	42 - 44 1/2
XL	45 - 48



Small Parts
SM-SH24
Shimano Design - Look Compatible
Cleat W/Hardware
Code No. 40B9811



Small Parts
SM-SH30
Shimano Design -
Standard Pedal
Cleat W/Hardware
Code No. 40B9801



Shimano CYCLING FOOTWEAR
INSOLE
SIZE
36-38-1/2
39-40-1/2
41-42-1/2
43-44-1/2
45-46-1/2
47-48



Small Parts
SM-SH50 (black)
SPD Cleat W/Hardware
Single release mode
Code No. 4249801

SM-SH55 (silver)
Multiple release mode
Code No. 4249805







Side Pontoon (for SH-R210)
SM-SH70
cleat set pair (Fixed Mode)
Code No. 4269804
SM-SH71
cleat set pair (Self-aligning Mode)
Code No. 4269805



Reflector
SM-PD20
(for PD-M737, PD-M525)
Code No. 41A9804





Reflector
SM-PD30 (for PD-A525)
Code No. 4259801

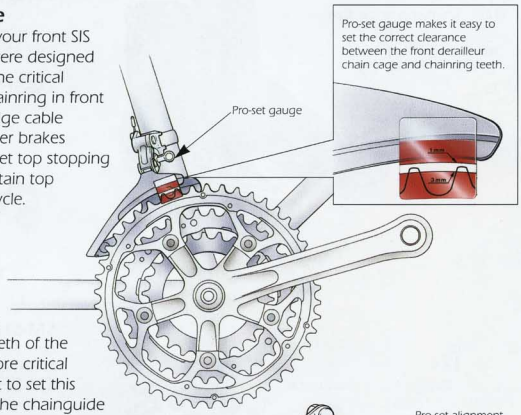




Get maximum performance from your Shimano components.
Pro-Set Tools simplify and speed up component installation and adjustment.

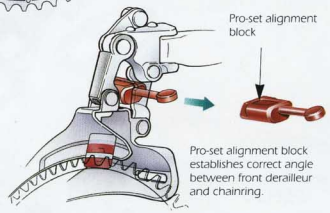
Maintaining Maximum Performance

Shimano provides easy-to-use tools that insure your front SIS system and cantilever brakes perform as they were designed to. The Pro-Set gauge makes it easy to set up the critical dimension between the front derailleur and chainring in front SIS systems. Unit-design and indicator-type bridge cable carrier helps you install and adjust your cantilever brakes quickly, easily and correctly to make sure you get top stopping performance. These tools make it easy to maintain top performance from your Shimano-equipped bicycle.



How Pro-Set Tools Work:

1) Pro Set gauge for the front derailleur:
In order to maintain top shifting performance, there should be a gap of between 1 to 3mm between the lower edge of the front derailleur chain guide and the teeth of the large chainwheel. This dimension is even more critical for front SIS systems. It's always been difficult to set this dimension, however, due to the tension on the chainguide when it's positioned over the teeth. The Pro-Set gauge and alignment block now make it fast and easy to set the gap and align the chain guide at the correct angle.



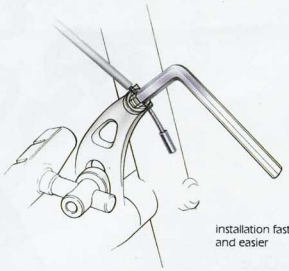
2) Simplified installation and adjustment.
While cantilever brakes provide strong stopping power, they've been known to be difficult to install and setup correctly. The completely enclosed design of the cantilever arm and the indicator-type bridge cable carrier make brake installation and adjustment faster and easier than ever before. Just slide on the cantilever arms and set the cable angle according to the angle indicator on the cable carrier. It couldn't be simpler.


Unit Link Alignment type Cable carrier



Unit Link Dynamic type Cable carrier

Two types of unit link cable carriers are avilable.



The Advantages:

Because Shimano bicycle components are offering increasingly higher levels of performance, it becomes even more important to maintain that performance by keeping the components in proper adjustment. Pro-Set tools make it easier to keep front SIS and cantilever brakes in perfect working order without devoting a lot of time and energy to their maintenance. For example, Shimano cantilever brakes can be quickly and easily set up with only a 10 mm spanner and 5 mm Allen wrench. Unit-Link type cable carriers, bridge cable sleeves, and the Pro-Set bridge tools let you quickly set up the correct cable lengths and cantilever arm angles that deliver optimum braking performance.

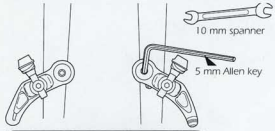
The advantages of the unit cantilever design:

*Installation and adjustment is faster and easier.
*Differences in cantilever boss dimensions don't effect brake operation.
*Because the unit cantilever doesn't rotate directly on the cantilever mounting boss, abrasion on the boss, and the resulting adverse effect on performance, is prevented.

Installation of the cantilever brake

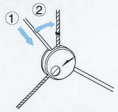
When using a unit link

1. Install the brake body to the frame.

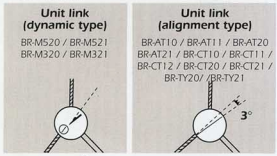


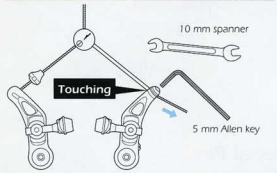
Tightening torque: 50 - 70 kgfcm (44 - 60 in. lbs.)

2. Set the cable onto the cable carrier.

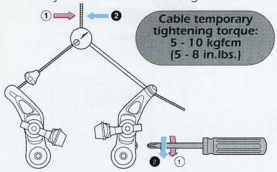


3. Temporarily tighten the cable so that the cable carrier is at the position in the illustration.

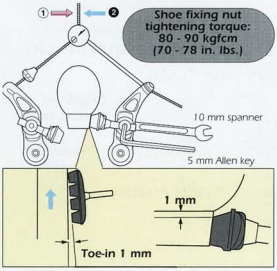




4. Turn the spring tension adjustment screw so that the cable carrier comes to a position directly below the outer casing holder.

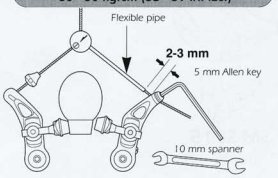


5. Take 1 mm of toe-in, and secure the shoes one side at a time. Shoe clearance is not necessary at this time.

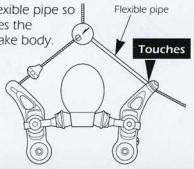


6. Loosen the cable fixing bolt, move the brake body so that the clearance is 2-3 mm, and then secure the cable.

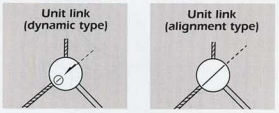
Cable fixing bolt tightening torque: 60 - 80 kgfcm (53 - 69 in. lbs.)



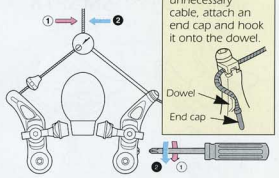
7. Adjust the flexible pipe so that it touches the cantilever brake body.



8. If the cable carrier is in the position in the illustration, then setting is complete.



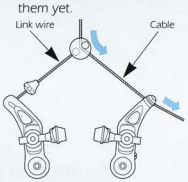
9. If balance adjustment is necessary, adjust with the spring tension adjustment screw.



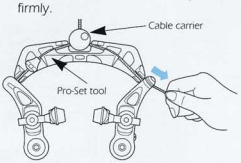
There is a Pro-Set tool that is suitable for the unit link also.

When using the link wire (Pro-Set tool)

1. Set the link wire and cable. Do not secure them yet.

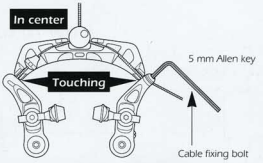


2. Attach the Pro-Set tool and pull the cable firmly.



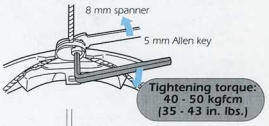
3. Secure by tighening the cable fixing bolt. At this time, check the following.

- That the cable carrier is positioned in the centre of the Pro-Set tool.
- That the Pro-Set tool is touching the brake body.



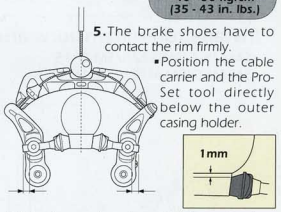
Tightening torque: 60 - 80 kgfcm (53 - 69 in. lbs.)

4. Secure the cable carrier.

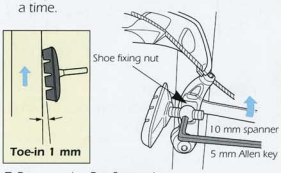


5. The brake shoes have to contact the rim firmly.

- Position the cable carrier and the Pro-Set tool directly below the outer casing holder.



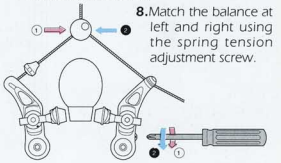
6. Take 1 mm of toe-in, and tighten the shoe fixing nuts to secure the shoes one side at a time.



7. Remove the Pro-Set tool.

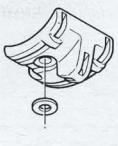
Note: Do not pull the brake lever while the Pro-Set tool is attached.

8. Match the balance at left and right using the spring tension adjustment screw.

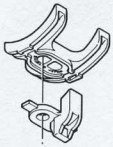


Small Parts
Cable Guide
Code No.

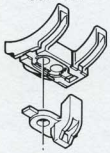
SM-MT15
66Y9382



SM-MT55
No.66Y9811



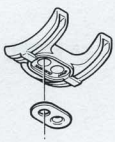
SM-MT25
66Y9821



SM-SP16
66Y9831



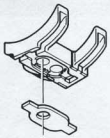
SM-SP15
66Y9830



SM-SP55
66Y9810

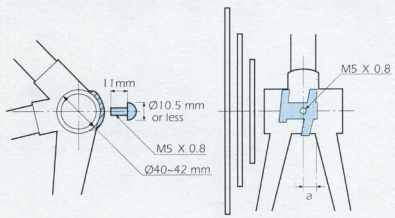


SM-SP25
66Y9820

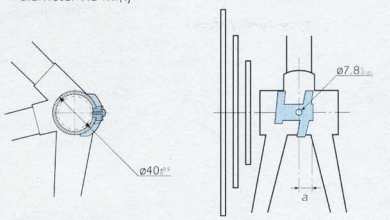


Installation dimensions and position

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

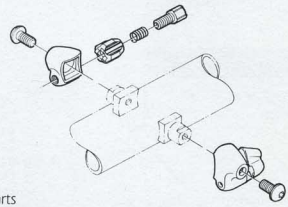


▪ **SM-SP16**
(Cable guide for bottom bracket shall with hole diameter 7.8 mm)

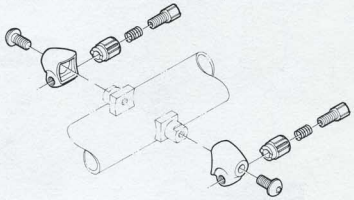


Diameter of bottom bracket shall hole

Small Parts
SM-ST74
Cable Stopper for ST-6400 Brazed-on Boss
Code No. 67D 9801
67D 9802 (for Light Alloy Frame)



Small Parts
SM-CS50
Cable Stopper for Bar end Shifter
Code No. 67B 9100
67B 9101 (for Light Alloy Frame)



Reinforced Special Pin

for HG compatible chain.

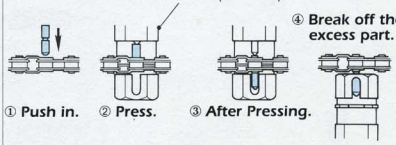


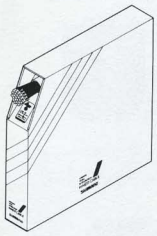


Code No.0459801 (3-piece) Code No.0459802 (50-piece)

How to use the reinforced special pin

Chain Cutter (TL-CN21)





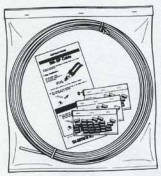
Inner Cable File Box

PART NO.	DESCRIPTION	PCS. PER BOX
600 9851	For Shifting Lever — ø 1.2mm x 2000m (Stainless)	100
600 9852	For Shifting Lever — ø 1.2mm x 2100m	100
800 9851	For Deore-XT Brake Lever — ø 2.0mm x 1700m	50
800 9852	For ATB Brake Lever — ø 1.6mm x 1700m	100
800 9853	For Racing Brake Lever — ø 1.6mm x 1700m	100



SLR-Outer Casing File Box (ø5mmx30m/98.5ft.) (ø6mmx25m/82ft.)

PART NO.	DESCRIPTION
80Y 0021	ø 5 mm x 30 m / Red (# 107)
80Y 0022	ø 5 mm x 30 m / Blue (# 207)
80Y 0024	ø 5 mm x 30 m / Yellow (# 407)
80Y 0025	ø 5 mm x 30 m / White (# 507)
80Y 0025-1	ø 5 mm x 30 m / Transparent Silver (# 517)
80Y 0025-2	ø 5 mm x 30 m / Silver (# 527)
80Y 0025-3	ø 5 mm x 30 m / Metalic Silver (# 537)
80Y 0026	ø 5 mm x 30 m / Black (# 607)
80Y 0026-4	ø 5 mm x 30 m / Gray (# 647)
80A 0020	ø 6 mm x 25 m / White (# 507) For ø 2.0mm Inner Cable
80A 0026	ø 6 mm x 25 m / Schwarz (# 607) For ø 2.0mm Inner Cable



SIS-SP Outer Casing (25ft./7.62 m) w/Outer Cap

(6mm size: 30pcs./5.5mm size: 15pcs./4mm size: 15pcs.)

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



Outer Cap

PART NO.	DESCRIPTION
60E 0004	Sealed Outer Cap (ø 4 mm)
60E 0003	Sealed Outer Cap (ø 5 mm)
60E 0001	Sealed Outer Cap (ø 6 mm)
60B 0003	Outer Cap (ø 4 mm)
60B 0004	Outer Cap (ø 5 mm)
60B 0001	Outer Cap (ø 6 mm)



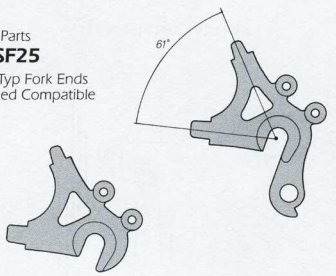
Inner End Cap

PART NO.	DESCRIPTION
620 2010	Inner End Cap (ø 1.2 mm)
620 2011	Inner End Cap (ø 1.6 mm)
620 2013	Inner End Cap (ø 2.0 mm)

Small Parts

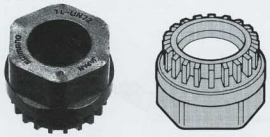
FE-SF25

MTB Typ Fork Ends
8-Speed Compatible

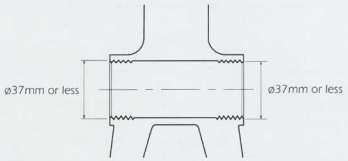


SMALL PARTS & TOOLS

Tool
TL-UN72
Bottom Bracket Installation Tool for BB-UN90/91, BB-UN71/70, BB-UN51/50, BB-CS21/20, BB-CS11/10 and BB-LP30/20
Code No. 130 0906-5



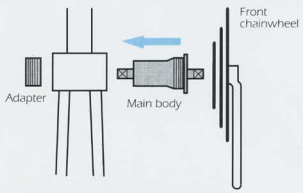
Frame dimensions



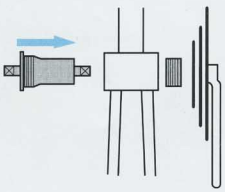
Note: TL-UN72 can be used with BB-UN90/91, BB-UN71/70, BB-UN51/50, BB-CS21/20, BB-CS11/10, BB-LP30/20

Tightening torpue: 500-700kgfcm (260-350 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

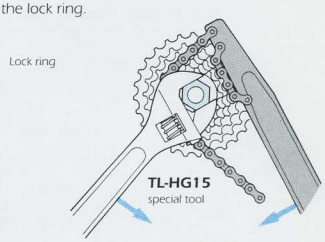
Tool
TL-HG15
Lock Ring Tool for HG Sprockets
Code No. 1200918



- For installation of the HG sprocket, use the special tool (TL-HG) to tighten the lock ring.

Tightening torpue: 300-500kgfcm (260-430 in.lbs.)

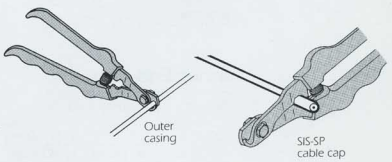
- To replace the HG sprocket, use the special tool (TL-HG15) and the rear sprocket removal tool to remove the lock ring.



To Disassemble

Tool
TL-CT10
Cable Cutter Used to cut outer casings, inner cables, and to hold the cable cap
Code No. 0980001





Tool
TL-CN21
Chain Cutter
HG chain must use this chain cutter.
Code No. 1309020



Tool
TL-WR38
8mm x 200mm Hexagon Wrench key
for Low Profile Crank
Code No. 1300917



Tool
TL-PD73
Cone Adjusting Tool set
for PD-M735/PD-M650 Pedal.
Code No. 4609850



Tool
TL-FC30
Three Spanners Set
For front chainwheel, head parts
and pedal
Code No. 1309001



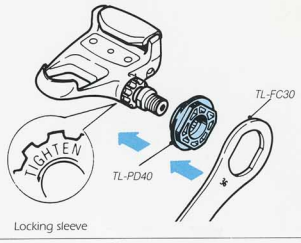
Tool
TL-FC10
Cotterless Crank Extractor
Cide No. 1300901



Tool
TL-PD40
Pedal Axle Unit Removal Tool
for PD-1056, PD-1055, PD-A550
and SPD Pedal.
Code No. 42A0900



Attach the special tool (TL-PD40) to the locking sleeve, and then use the wrench (TL-FC30) to remove.
The direction to turn the locking sleeve. To remove the axle unit, turn the locking sleeve in the opposite direction.



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