English (GB)



'95 SHIMANO

BICYCLE SYSTEM COMPONENTS

Dealer Sales & Support Manual

SHIMANO

A few words about Shimano...

At Shimano, we are committed to developing and manufacturing bicycle components that offer the cyclist a higher level of quality, value, and functionality. No other bicycle component maker invests more into product development and advanced automated manufacturing facilities. Shimano-equipped racing bicycles help competition cyclists realize their athletic potential. Every Shimano-equipped bicycle, whether used for sport, fitness, or recreation, provides cyclists with a light and more precise feeling of control. All this adds up to a better bicycle that really is safer and more enjoyable to ride.

Committed to creating a better interface between the cyclist and the bicycle:

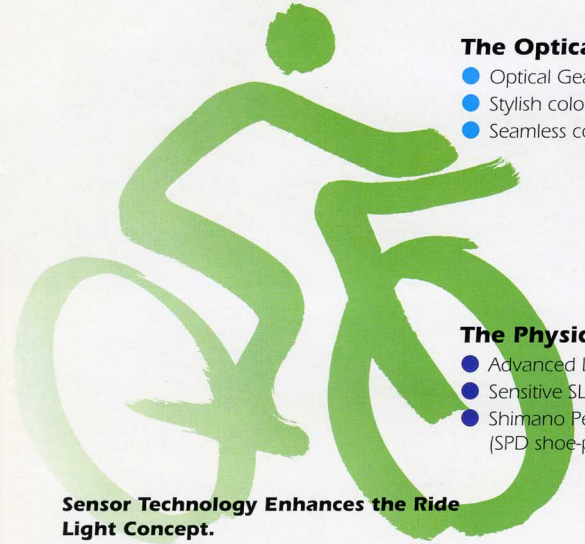






The Aural Interface...

- Precision indexed "click" shifting
- Noiseless, vibration-free braking
- Smooth and efficient drivetrain



The Optical Interface...

- Optical Gear Displays
- Stylish color treatments
- Seamless contour design

The Physical Interface...

- Advanced Light Action shifting
- Sensitive SLR brakes with all-weather M-System
- Shimano Pedaling Dynamics (SPD shoe-pedal system)

Sensor Technology Enhances the Ride Light Concept.

Introduced in 1993. Ride Light is a product development philosophy which results in a lighter, easier, and more enjoyable cycling experience. We have achieved this through reducing component weight, developing more precise mechanisms that take less effort to operate, and applying various human engineering design concepts.

The result is the light and responsive Ride Light feeling that not only improves the cyclist's performance, but makes cycling more enjoyable as well.

We now announce Sensor Technology, a further evolution of the Ride Light concept. Sensor Technology, the result of the latest advances in component design at Shimano, has been applied to our mountain bike component groups for 1995. It creates an improved interface that not only forms a more sensitive physical connection between bicycle and cyclist, but communicates control responses to the cyclist's visual and aural senses as well. Sensor Technology is the result of our continuing commitment to making the bicycle easier and more enjoyable to ride.

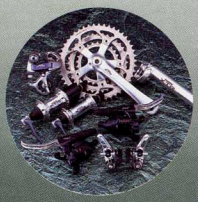
SENSOR TECHNOLOGY

from SHIMANO

High-Performance Mountain Bike Groups

SHIMANO XTR

New Parallax hubs with alloy quick-release, Optical Gear Display shift lever set, alloy seat post, titanium crank bolts, aluminum chainring bolts and cartridge M-system brake shoes.



SHIMANO DEORE XT

New Parallax hubs with alloy quick-release, Optical Gear Display shift lever set, and stainless steel hardware.



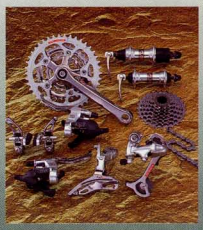
SHIMANO DEORE LX

New 8-speed cassette sprockets, Parallax hubs with alloy quick-release, Optical Gear Display shift lever set, and cantilever brakes with cartridge pads.



SHIMANO STX RC

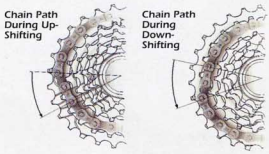
All-new performance-oriented upgraded version of the STX group offering the IG drive system, with new lower gearing.

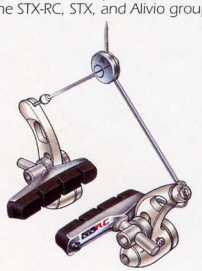


New features for 1995....

Shimano IG

IG stands for Interactive Glide. It consists of upgraded designs in the rear derailleur, cassette sprockets, chainwheel, and chain that provide better chain control during upshifts. The IG system is used in the STX-RC, STX, and Alivio groups..





Cartridge-Type Brake Pad Holder

The brake pad itself can be easily replaced without the need to replace the holder. Featured on XTR, XT, LX, and STX-RC component groups.

Top-Swing Front Derailleur

Top-Swing front derailleur uses a new "direct-link" design that reduces shifting effort by 25%. This is used in the Alivio, Acera-X, Alutus C90, RSX and MJ-II groups.

Component groups especially designed for the hybrid bicycle.

SHIMANO 700CX

SHIMANO 400CX

Road Component Groups

New high-grade alloy seat post is lighter, longer, and stronger.

DURA-ACE

SHIMANO 600 ULTEGRA

SHIMANO 105 SC

SHIMANO RX100



What's new for 1995:

New SPD Pedal

New SPD pedal features a more compact lightweight body plus reduced cleat insertion pressure.



Available early 1995

Recreational Mountain Bike Groups

SHIMANO STX

STX for 1995 features all-new component features, alloy quick-release hubs, smooth-shifting IG drive system, and more.



ALIVIO SHIMANO

Alivio is completely redesigned for 1995 and features IG drive system, Parallax hubs with alloy quick-release and more.



SHIMANO ACERA

All-new MTB group features 7-speed Parallax freehub, Rapidfire TX levers with Optical Gear Display, and Top-Swing front derailleur.



SHIMANO ALTUS

Completely new Altus group offers 6- or 7-speed Parallax freehubs, Easy-Set front derailleur, and Rapidfire TX levers with Optical Gear Display.



Component Groups For Children's Bicycles

MJ SHIMANO

SHIMANO MJII

Advanced functions in an economy-priced component group especially designed for the younger cyclist.



SHIMANO RSX

All-new economy road component group positioned beneath RX-100. Features STI levers, choice of double or triple cranksets, and other features.



Utility Bicycle Components

NEXUS

Internally geared 7-speed hub is the heart of the Nexus group for recreational and utility bicycles.





High-Performance Mountain Bike Com



MTB Groups Sales Points

SHIMANO XTR

SHIMANO DEORE XT

SHIMANO DEORE LX

SHIMANO STX RC

Mountain bike racing and high-performance off-road cycling continue to grow in popularity. Shimano now offers a wider range of MTB component groups designed specifically for the off-road performance enthusiast. From state-of-the-art XTR to Deore XT, Deore LX and STX-RC, these Shimano groups help off-road cyclists realize their performance potential through advanced control functions. High-grade steels and aluminums and precision mechanisms stand up to the punishment of off-road competition as well as heavy duty trail and field riding.

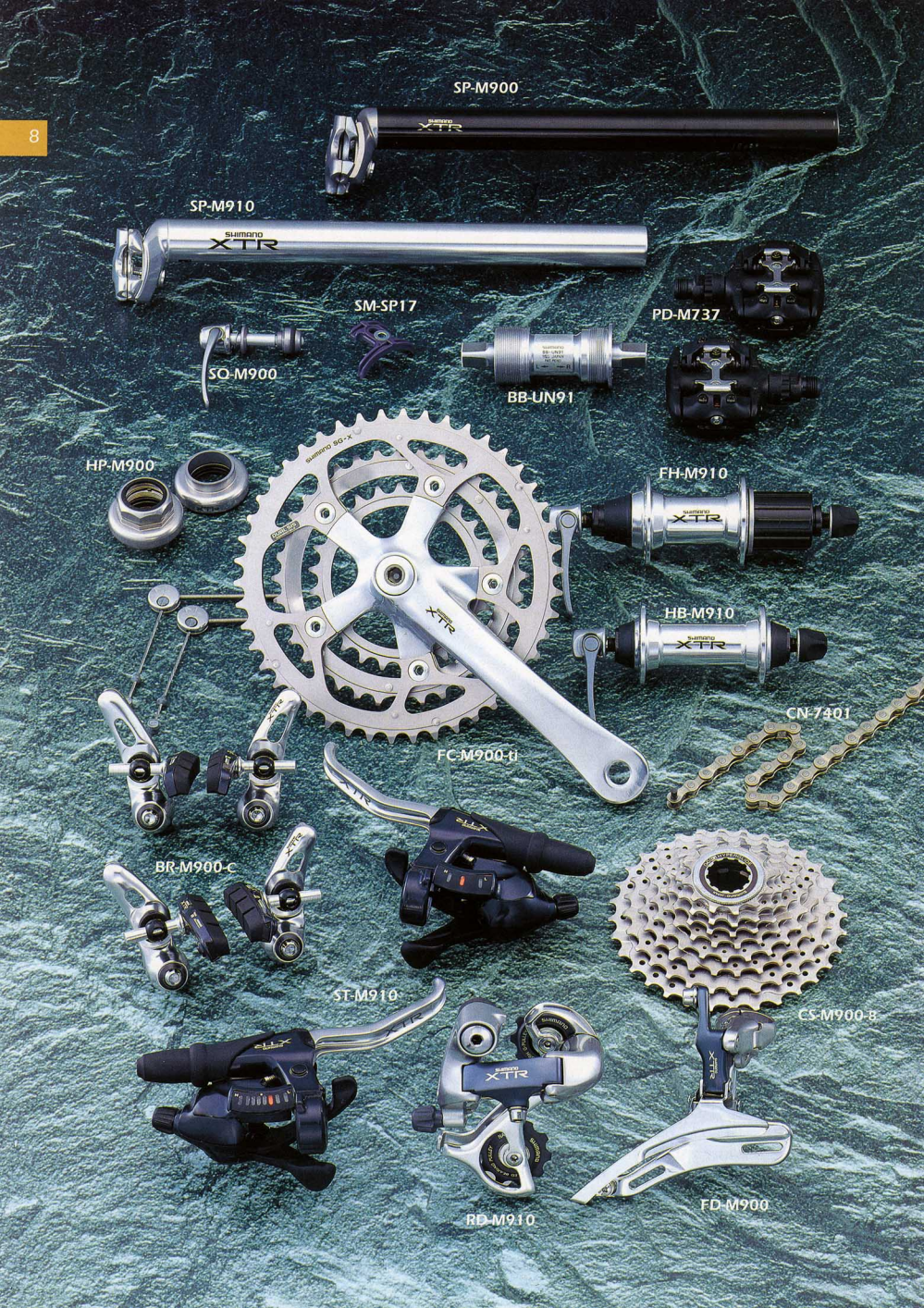
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ponents

BICYCLE TYPE	MAIN SELLING POINTS
Top quality competition-level mountain bike for professional and amateur racers.	◆ Titanium crank bolts, aluminum front axle and chainwheel bolts reduce weight. ◆ Rapidfire levers let you keep a better grip on the bars when shifting.  ◆ Cold forged from high-grade aluminums. ◆ Mirror-polished races and matched bearing sets. ◆ Tightest tolerances and most precise action of any Shimano off-road group.
Off-road performance bicycle for amateur racers and MTB performance enthusiasts.	◆ Polished races and precision ball bearings at all rotating mechanisms. ◆ Rapidfire levers let you keep a better grip on the bars when shifting.  ◆ Cold forged aluminum construction and high grade steel offer excellent durability. ◆ All weather braking performance with M-System. ◆ New cartridge-type M70R brake pads.
High-quality off-road performance bicycle for mountain bike enthusiasts.	◆ All-weather M-System brakes with cartridge-type pads. ◆ Rapidfire levers let you keep a better grip on the bars when shifting. ◆ Cold forged from high-  grade aluminum aluminum. ◆ Stainless steel hardware eliminates rust and tarnishing. ◆ 8-speed HG cassette sprockets (24-speed drive system).
High-quality off-road performance bicycle for people who want quality, performance, and value for their money.	◆ IG drivetrain delivers the smoothest, most precise SIS shifting yet. ◆ Rapidfire levers let you keep a better grip on the bars when shifting. ◆ Stainless steel hard-  ware eliminates rust and discoloration. ◆ All-weather Anti Vibration M-System brakes suppress squealing. ◆ Chromica plated crank arms, cantilevers, and brake levers.


SP-M900
SP-M910
SM-SP17
PD-M737
SO-M900
BB-UN91
HP-M900
FH-M910
HB-M910
CN-7401
FC-M900-ti
BR-M900-C
ST-M910
CS-M900-8
RD-M910
FD-M900

SHIMANO XTR

XTR says all you need to know about off-road performance. It's the lightest, strongest, highest-performance mountain bike group available today. All major components have been computer-designed and cold forged from high-grade aluminum to achieve the optimum balance of strength, and lightness, and durability. New stainless steel fasteners resist rust and tarnishing. Titanium crank bolts and aluminum chainring hardware reduce weight.

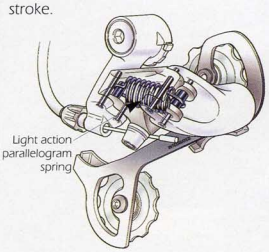
Optical Gear Display

A quick glance at the indicator helps you plan shifts and do less gear hunting. XTR's indicator is conveniently angled so it's easy to see in both sitting and standing positions. The OGD unit can now be easily removed or replaced without taking the lever set off of the handle bars.

Available early 1995

Advanced Light Action

Rear derailleur uses coated pivot bushings and an extension coil link tensioning spring instead of the conventional torsion type. The result is reduced shifting effort and more uniform tension throughout the derailleur's stroke.



HyperDrive System

SG-X chainrings provide fast and smooth shifting. Titanium crank bolts and aluminum chainring bolts reduce weight. Super low profile crank arms provide plenty of ankle clearance.



Dual SIS

Eight speeds in the rear and three in front - all available with the index precision of Dual SIS.

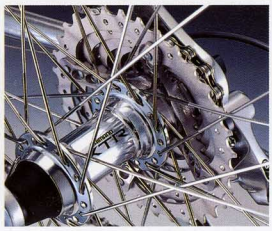
Parallax Hubs

The Parallax hub makes a stronger, more rigid wheel through an oversize body that provides more support for the spoke flanges. Stainless steel bearings and mirror-polish races for a precision rotating action. Alloy axle and quick-release reduces weight.



HG Cassette Sprockets

Computer-designed HG sprockets provide a higher level of chain control for enhanced SIS shifting. Aluminium Spider Arm increases strenght and reduces weight.



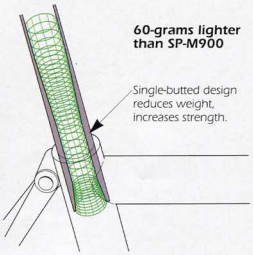
M-System Brakes

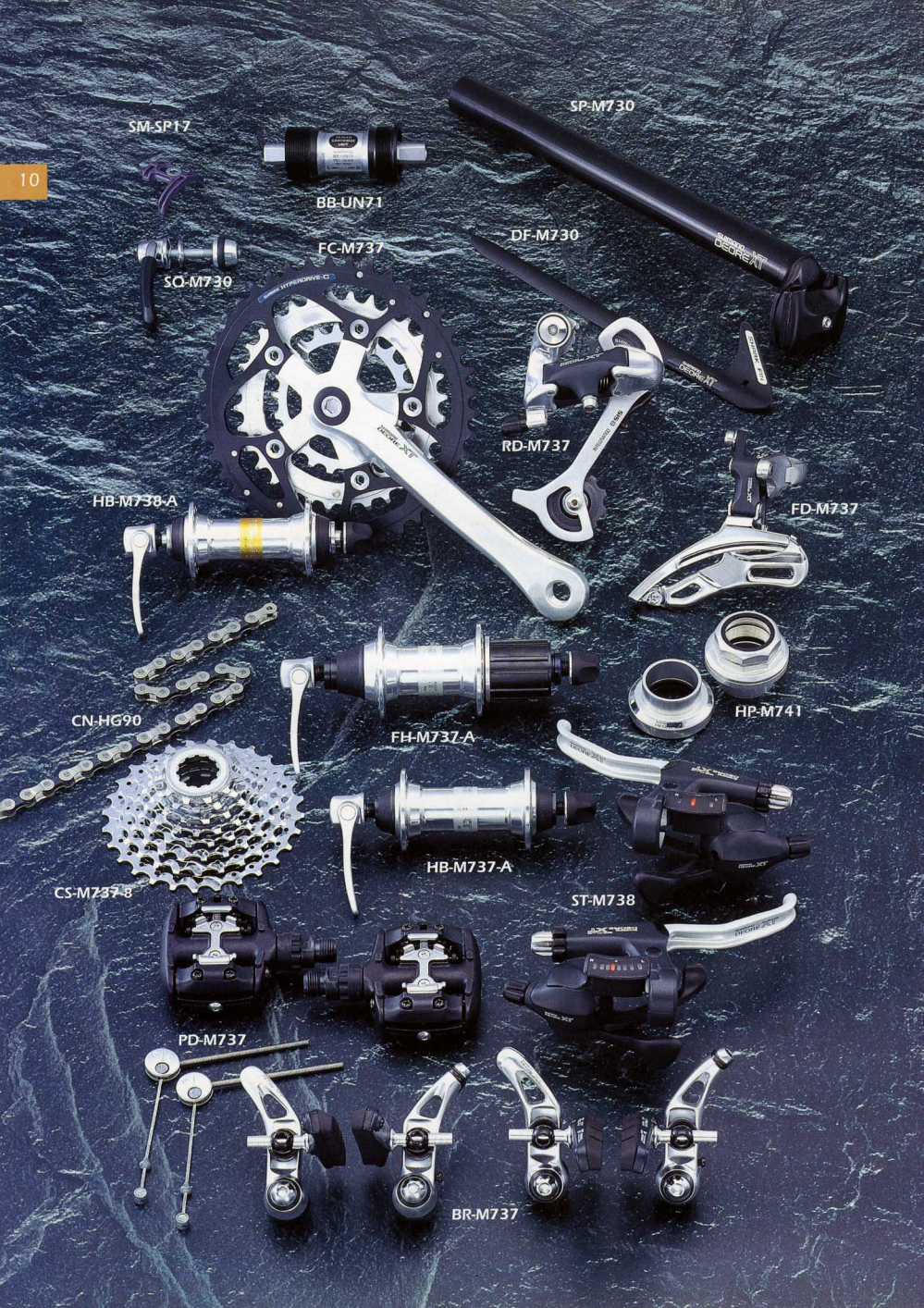
M-System brakes keep working even when they're wet or muddy. Separate front and rear cantilever designs plus stronger A-type unit link cable assure dependable braking. Oversize cartridge-type pads feature new M-System compound. Two-finger competition lever with modulated servo-wave action.



New Aluminum Alloy Seat Post

Butted design realizes increased strength with reduced weight. Butted area fits in seat tube to provide additional strength at longer extensions.




SM-SP17
BB-UN71
SP-M730
SO-M730
FC-M737
DF-M730
RD-M737
HB-M738-A
FD-M737
HP-M741
CN-HG90
FH-M737-A
CS-M737-8
HB-M737-A
ST-M738
PD-M737
BR-M737

SHIMANO DEORE XT

This is the original. Deore XT set the first performance standards for the mountain bike. Tough, lightweight, and loaded with advanced functions, the Deore XT mountain bike is at home in competition, in the mountains, or anywhere you want to ride it. New for 1995 are Parallax hubs with aluminum quick release, redesigned Rapidfire Plus lever set with removable Optical Gear Display, cartridge-type brake pads.

Optical Gear Display

Deore XT's Optical Gear Display lets you verify your gear at a glance through a large easy-to-see display built into the lever unit. Removable display pod can be easily replaced without removing the lever from the handle bar.



Advanced Light Action

Deore XT's Advanced Light Action uses low-friction derailleurs, cables, and levers to reduce shifting effort. Rear derailleur uses a new coil extension spring that provides more uniform tension throughout the stroke. SIS shifting has never been so easy.

HG-Sprockets

Special tooth shapes and profiled shift ramps guide the chain directly from sprocket to sprocket for faster engagement without override. HG sprockets make SIS gear shifting faster, smoother, and more precise under pedaling pressure. Aluminum Spider Arm increases strength and reduces weight.



Dual SIS

Shift both rear and front derailleurs with index SIS precision. 8-speed HG cassette widens gear selection while providing superior chain control. New SP36 sealed cable assures perfect SIS shifting performance in all riding environments.

HyperDrive-C

HyperDrive-C is a more compact drive system that uses smaller 42-32-22 chainrings and 11-28T cassette sprockets to reduce drivetrain size and weight with no loss in gearing range. Chainring ground clearance is also increased.



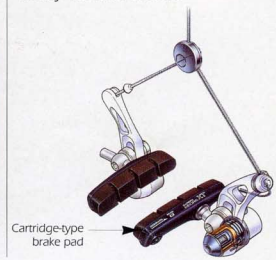
Parallax Hubs with Alloy Quick Release

Thicker spoke flanges and oversize hub body make a stronger, more rigid wheel. Contact-type seals help to keep out water, mud, and dirt. New aluminum quick-release lever, housing, and adjuster nut reduce wheel weight.



M-System

M-System takes the worry out of braking. The M-System pad compound was developed to maintain a high frictional coefficient, even when the rims are wet, muddy, or dusty. Levers, cables, and cantilever arms were designed to operate more efficiently with less friction.




ST-M564
ST-M563
BB-UN51
PD-M525
FH-M565
CS-HG70-8
SM-SP17
HB-M563-A
CN-HG70
RD-M565
FD-M565
HB-M564-A
HP-M563
ST-M565
FC-M563-S
BR-M565
ST-M566
PD-M535

SHIMANO DEORE LX

Deore LX is packed with more performance than ever for 1995. New Parallax hubset features aluminum quick-release and 8-speed freehub with HG cassette sprockets. Rapidfire Plus lever set now offers a redesigned easy-to-read Optical Gear Display and trigger-action release lever. New cantilever arms are equipped with cartridge-type M-System pads. Shimano's new PD-M535 SPD pedal is a great finishing touch.

8-Speed Dual SIS

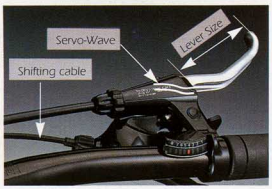
Dual SIS delivers error-free chainwheel shifting with click-stop precision for both rear and front derailleurs. Deore LX uses 8-speed HG cassette sprockets for a wider gear selection. New SP36 shift cable improves gear changing performance with a more precise cable action.



Deore LX lever set variations

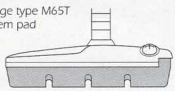
Lever Set	Speeds	Lever Size	Servo-Wave	Shifting cable
ST-M566	8	2-finger	yes	SIS-SP36
ST-M565	8	2.5-finger	no	SIS-SP36
ST-M564	7	2-finger	yes	SIS-SP
ST-M563	7	2.5-finger	no	SIS-SP

Use SIS-SP36 sealed outer cable at derailleur side.



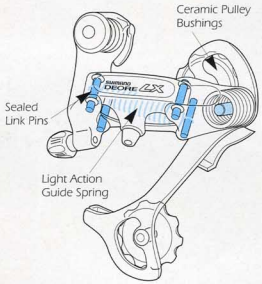
M-System Brakes

M-System brakes stop you even when the rims are wet, muddy, or dusty. ST-M564 (7-speed) and ST-M566 (8-speed) Rapidfire Plus lever sets feature modulated servo-wave action and 2-finger brake levers.



Advanced Light Action

Advanced Light Action uses new designs (including an extension coil spring in the rear derailleur) to reduce shifting effort for the front and rear derailleurs. Shifting gears becomes easier and lighter.



Parallax Hubs

The Parallax hub set uses an oversize body and beefy spoke flanges that increase hub rigidity and wheel strength. Front axle has a 10mm diameter center section for greater strength, but retains standard 9mm ends that fit into conventional dropouts (HB-M654-A). Aluminum aluminum quick-release levers help reduce weight.



HyperDrive-C

HyperDrive-C drivetrain uses smaller 42-32-22 chainrings and 11-28T cassette sprockets to reduce drivetrain size and weight with no loss in gearing range. Deore LX cranksets come in two variations – the FC-M563-S type with silver crank arms and black chainrings, and the FC-M563-B model with black crank arms and silver chainrings.



FC-M563-B

SPD

Shimano Pedaling Dynamics gives you clipless pedaling efficiency in a shoe that's comfortable to walk in. The recessed cleat of the SPD shoe never comes in contact with the ground when you walk. The new PD-M535 SPD pedal is a great addition to the Deore LX group. It features a smaller and lighter pedal body and reduced cleat insertion effort.

Available early 1995




FC-MC33
BB-UN51
PD-M323
SM-SP17
HP-MC30
HP-MC31
CS-IG60
CN-IG50
FH-MC33
HB-MC33
ST-MC33
FD-MC33
RD-MC33
BR-MC33

SHIMANO STX RC

STX-RC is for cyclists who demand both performance and style. A new high-performance version of the STX group introduced in 1994, STX-RC uses the new IG drivetrain for the best SIS shifting performance yet. STX-RC offers top-mounted competition-type Optical Gear Displays on the Rapidfire Plus levers. Chromica-plated crank arms, polished hubs, and anti-vibration M-System brakes with cartridge pads are all features not found on the standard 1995 STX group.

IG Drivetrain

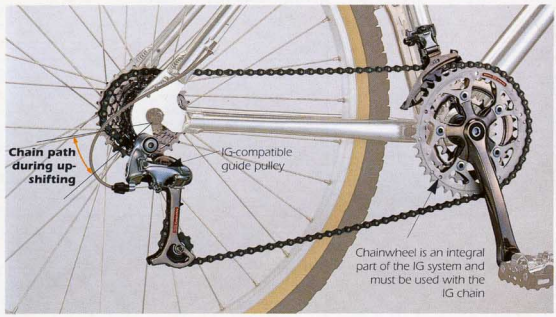
The IG drivetrain upgrades shifting performance through integrated IG design of the derailleurs, chainrings, chain, and rear sprockets. In addition to fast and precise downshifting, IG offers quieter, shock-free upshifting by allowing the chain to separate from the sprocket only at designated release points.

IG Rear Derailleur

In addition to Advanced Light Action design, the STX-RC rear derailleur incorporates a stronger pivot bracket spring to increase chain tension. This, in combination with the IG chain, sprockets, and pulleys, prevents the chain from separating from the sprocket at non-designated points.

Optical Gear Display

STX-RC features a competition-type Optical Gear Display mounted above the bar for easy gear verification in or out of the saddle. The sliding digital readout OGD unit can be easily replaced without the need to remove the lever set from the handle bars.





Parallax Hubs

STX-RC Parallax hubs feature an oversize body and beefy spoke flanges that increase hub rigidity and wheel strength. Front axle has a 10mm diameter center section for greater strength, but the axle ends retain the conventional 9mm diameter for mounting into standard fork dropouts (HB-MC33-S). Aluminum alloy quick-release lever and housing reduce weight.

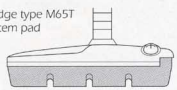


Anti-Vibration M-System Brakes

STX-RC uses the new all-weather M-System cantilever brakes that feature anti-squeal design. Vibration analysis was applied to design more rigid cantilever arms and pad holders that help suppress the vibrational frequencies that induce squealing. The M-System pads also use a new anti-squeal compound.



* New anti-vibration pad compound and larger pad holder help eliminate squealing.
* Cantilever arm has been re-designed for greater rigidity. More metal has been added around the adjuster screw.



■ Off-Road Component Specifications

Component	Item	XTR		DEORE XT		DEORE LX				STX-RC	
REAR DERAILLEUR	Model No.	**RD-M910**		**RD-M737-GS**	**RD-M737-SGS**	**RD-M565**				**RD-MC33**	
	Gears	8-speed		8-speed	8-speed	7 or 8-speed				7-speed	
	Max. capacity	32T		32T	32T	32T				32T	
	Min. sprocket	11T		11T	11T	11T				11T	
	Front gear difference	22T max		20 max	20 max	20 max				20 max	
	Total capacity	33T		33T	38T	38T				38T	
	Pivot & pulley cage brackets	forged aluminum color anodized		aluminum, polished & clear coated	aluminum, polished & clear coated	electrostatic painted aluminum				polished aluminum	
	Outer link	anodized aluminum		aluminum	aluminum	aluminum				clear coated aluminum	
	Inner link	anodized aluminum		aluminum	aluminum	steel				steel	
	Outer pulley cage	anodized aluminum		anodized aluminum	anodized aluminum	chrome plated steel				chrome plated steel	
	Inner pulley cage	anodized aluminum		anodized aluminum	steel	chrome plated steel				black painted steel	
	Weight	221g		210g	235g	285g				294g	
FRONT DERAILLEUR	Model No.	**FD-M900**	**FD-M901**	**FD-M737**		**FD-M565**				**FD-MC33**	
	Top-low capacity	26T	26T	22T		22T				22T	
	Top-middle capacity	10T	10T	10T		10T				10T	
	Top gear	48/46T	48/46T	44 / 42T		42T				42T	
	Cable routing	bottom	top	top & bottom types available		top & bottom types available				top & bottom types available	
	Mount type	28.0 – 28.6 mm / 31.8 – 34.9mm, 31.8mm (EC type)		28.0 – 28.6 mm / 31.8 – 34.9mm band & braze-on types available		28.0 – 28.6 mm / 31.8 – 34.9mm				28.0 – 28.6 mm / 31.8 – 34.9mm	
	Chain stay angle	66 – 69°		66 – 69°		63 – 66° / 66 – 69°				63 – 66° / 66 – 69°	
	Band	anodized aluminum		polished clear-coated aluminum		electrostatic painted aluminum				polished aluminum	
	Outer link	anodized finish aluminum		polished aluminum		electrostatic painted aluminum				polished aluminum	
	Chain cage	chrome plated steel		chrome plated steel		chrome plated steel				chrome plated steel	
	Weight	118g		133g		135g				125g	
RAPIDFIRE PLUS	Model No.	**ST-M910**		**ST-M738**		**ST-M566**	**ST-M565**	**ST-M564**	**ST-M563**	**ST-MC33**	
	Rear (Dual SIS)	8-speed		8-speed		8-speed	8-speed	7-speed	7-speed	7-speed	
	Front (Dual SIS)	triple		triple		triple	triple	triple	triple	triple	
	Lever Length	2-finger		2-finger		2-finger	2.5 finger	2-finger	2.5 finger	2-finger	
	Weight					389g	383g	384g	378g	394g	
CANTILEVER BRAKE	Model No.	**BR-M900-C**		**BR-M737**		**BR-M565**				**BR-MC33**	
	Arm length	M		M		M		L		M	L
	Link type	special Y-type		special Y-type		Y-type				Y-type	
	Weight			364g (F&R)		370g (F&R)				346g (F&R)	
CRANKSET	Model No.	**FC-M900-ti**		**FC-M737**		**FC-M563-S**		**FC-M563-B**		**FC-MC33**	
	No. of teeth	48/46-36-26T		42-32-22T (44T option)		42-32-22T		42-32-22T		42-32-22T	
	Bolt circle	110 / 74mm		94 / 58mm		94 / 58mm		94 / 58mm		94 / 58mm	
	Crank length	165 – 170 – 172.5 – 175 – 177.5 – 180mm		165 – 170 – 175 – 180mm		170 – 175mm		170 – 175mm		170 – 175mm	
	Chain type	HG		HG		HG		HG		IG	
	Chain guard			available		available		available		available	
	Weight	697g (46-36-26T/170mm)		694g (42-32-22T / 175mm)		681g / 170mm		681g / 170mm		764g / 170mm	
CARTRIDGE BOTTOM BRACKET	Model No.	**BB-UN91**		**BB-UN71**		**BB-UN51**				**BB-UN51**	
	Marking	MM107	LL113	MM107	LL113	MM107		LL113		MM110	LL113
	Chain line	47.5mm	50.0mm	47.5mm	50.0mm	47.5mm		50.0mm		47.5mm	50.0mm
	BB shell width	68 / 70 / 73	68 / 70 / 73	68 / 70 / 73	68 / 70 / 73	68 / 70 / 73		68 / 70 / 73		68 / 70 / 73	68 / 70 / 73
	Axle width	107mm	113mm	107mm	113mm	107mm		113mm		110mm	113mm
	Weight	255g		272g		308g		316g		308g	316g
REAR FREEHUB	Model No.	**FH-M910**		**FH-M737-A**		**FH-M565**		**FH-M563**		**FH-MC33**	
	Sprockets	8-speed		8-speed		8-speed		7-speed		7-speed	
	11T top gear	○		○		○		○		○	
	Over locknut	135mm		135mm		135mm		130 / 135mm		130 / 135mm	
	Axle Length	146mm		146mm		146mm		141 / 146mm		141 / 146mm	
	Spoke holes	36 / 32 / 28H		36 / 32 / 28H		36 / 32H		36 / 32H		36 / 32H	
	Spoke hole circle	45mm		45mm		45mm		45mm		45mm	
	Alloy QR lever	○		○		○				○	
	Material & finish	anodized aluminum		anodized aluminum		anodized aluminum		anodized aluminum		anodized aluminum	
	Weight			475g		442g		444g		432g	

Component	Item	XTR			DEORE XT			DEORE LX		STX-RC	
FRONT HUB	Model No.	**HB-M910**			**HG-M738-A**	**FH-M737-A**		**HB-M564-A**	**HB-M563-A**	**HB-MC33-S**	**HB-MC33**
	Over locknut	100mm			100mm	100mm		100mm	100mm	100mm	100mm
	Axle length	108mm			108mm	108mm		108mm	108mm	108mm	108mm
	Spoke holes	36 / 32 / 28H			36 / 32H	36 / 32H		36 / 32H	36 / 32H	36 / 32H	36 / 32H
	Spoke hole circle	38mm			38mm	38mm		38mm	38mm	38mm	38mm
	Alloy QR lever	○			○	○		○	○	○	○
	Material & finish	anodized aluminum			anodized aluminum	anodized aluminum		anodized aluminum	anodized aluminum	anodized aluminum	anodized aluminum
	High-strength axle	11mm aluminum			11mm aluminum			10mm steel		10mm steel	
	Weight				218g	205g		218g	205g	225g	212g
CASSETTE SPROCKETS	Model No.	**CS-M900-8**			**CS-M737-8**			**CS-HG70-8**	**CS-HG70-C**	**CS-IG60**	
	No. of sprockets	8-speed HG			8-speed HG			8-speed HG	7-speed HG	7-speed IG	
	Group identification	P = 12-32T / Q = 12-28T			R = 11-28T			ah = 11-28T	ac = 11-28T	ag = 11-28T	
	Color	champagne gold			chrome plated			silver	silver	chromica plating/silver luster	
	Weight	316g (P group & spacers)			256g (with spacers)			326g	297g	254g	
CHAIN	Model No.	**CN-7401**			**CN-HG90**			**CN-HG70**		**CN-IG50**	
	Type	HG narrow type			HG narrow type			HG narrow type		IG narrow type	
	Inner link color	nickel plating			gray			gray		black	
	Outer link color	nickel plating			silver			black		silver	
	Weight	335g (114 links)			335g (114 links)			335g (114 links)		327g (114 links)	
HEADSET	Model No.	**HP-M900**	**HP-M901**	**HP-M902**	**HP-M740**	**HP-M741**	**HP-M742**	**HP-M563**	**HP-M564**	**HP-MC30**	**HP-MC31**
	Cartridge type				○	○	○	○	○	○	○
	Threading	BC1" x 24TPI	BC1-1/8" x 24TPI	BC1-1/8" x 24TPI	BC1" x 24TPI	BC1-1/8" x 24TPI	BC1-1/8" x 24TPI	BC1" x 24TPI	BC1-1/8" x 24TPI	BC1" x 24TPI	BC1-1/8" x 24TPI
	Stack height	34.3mm	34.3mm	40.3mm	37.6mm	37.6mm	39.9mm	37.6mm	37.6mm	37.6mm	37.6mm
	Weight	119g	136g	167g	116g	127g	143g	146g	161g	170g	190g
SPD PEDAL	Model No.	**PD-M737**						**PD-M535**		**PD-M323**	
	SPD cleat binding	both pedal surfaces						both pedal surfaces		one pedal surface	
	Pedal thread	BC 9/16" x 20TPI						BC 9/16" x 20TPI		BC 9/16" x 20TPI	
	Body	aluminum						black anodized aluminum		aluminum	
	Plate	chrome plated steel						chrome plated steel		chrome plated steel	
	Weight	510g (pair)						410g (pair)		520g (pair)	
SEAT POST	Model No.	**SP-M910**	**SP-M900**		**SP-M730***			**SP-M650**			
	Outer diameter	26.8/27/27.2mm	26.6/26.8/27/27.2mm		26.4/26.6/26.8/27.0/27.2mm			26.4/26.6/26.8/27.0/27.2mm			
	Length	330mm	280/330/360mm		280/330/360mm			280/330/360mm			
	Material	aluminum	chrome moly steel		chrome moly steel			chrome moly steel			
	Weight	215g	270g (330mm)		296g (330mm)			325g (360mm)			
SEAT QR	Model No.	**SQ-M900**			**SQ-M730**						
	Shaft length	36–43mm / 26–33mm			36–43mm / 26–33mm						
	Shaft diameter	6mm / 8mm			6mm / 8mm						
	Material & finish	chrome plated steel			chrome plated steel						
	Weight	66g			75g						
CHAIN DEFLECTOR	Model No.	**DF-M730**									
	Material	plastic resin									
	Weight	9g									

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

Cassette Sprocket Availability Chart

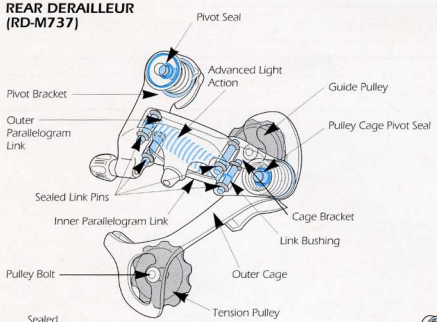
Model No.	Sprockets	Group Identification	Gear Combination	Compatible Freehubs
CS-M900	8	P	12, 14, 16, 18, 21, 24, 28, 32	FH-M910 FH-M900 FH-M737 FH-M565
		Q	12, 13, 14, 16, 18, 21, 24, 28	
CS-M737	8	R	11, 12, 14, 16, 18, 21, 24, 28	FH-M910 / FH-M737 / FH-M565
CS-HG70-8	8	ah	11, 12, 14, 16, 18, 21, 24, 28	FH-M565
CS-HG70-C	7	ac	11, 13, 15, 18, 21, 24, 28	11-tooth top gear compatible free-hub
CS-HG50-C				
CS-IG60	7	ag	11, 13, 15, 18, 21, 24, 28	for use with IG system only
CS-IG50				

■ Off-Road Component Feature Comparison Chart I

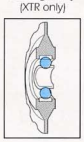
Component \ Item		XTR	DEORE XT		DEORE LX	STX-RC
REAR DERAILLEUR	Model No.	**RD-M910**	**RD-M737-GS**	**RD-M737-SGS**	**RD-M565**	**RD-MC33**
	Advanced Light Action	○	○	○	○	○
	IG compatibility					○
	Rear sprockets	8-speed	8-speed	8-speed	7 or 8-speed	7-speed
	Guide pulley bushing	sealed ceramic	sealed ceramic	sealed ceramic	chromized steel	sintered aluminum
	Tensioning pulley bushing	sealed ball bearing	sintered aluminum	sintered aluminum	chromized steel	sintered aluminum
	Sealed link pins	4	4	4	2	2
	Link pin treatment	chromized	chromized	chromized	chromized	chromized
	Link pin bushings	hard brass (4)	hard brass (4)	hard brass (4)	hard brass (2)	hard brass (2)
	Pivot bolt seal	double O-rings	double O-rings	double O-rings	single O-ring	
	Pulley cage pivot seal	double O-rings	single O-ring	single O-ring		
	Aluminum pulley cage	outer & inner	outer & inner	outer		
	Aluminum Parallelogram links	outer & inner	outer & inner		outer	outer
	Aluminum brackets	pivot & pulley brackets	pivot & pulley brackets		pivot & pulley brackets	pivot & pulley brackets
	Bracket & pulley bolts	stainless steel	stainless steel		stainless steel	stainless steel
FRONT DERAILLEUR	Model No.	**FD-M900 / FD-M901**	**FD-M737**		**FD-M565**	**FD-MC33**
	Advanced Light Action	○	○		○	○
	Dual SIS	○	○		○	○
	Front & rear bands	forged aluminum	aluminum		aluminum	aluminum
	Non-slip band		○		○	○
	Outer link	forged aluminum	aluminum		aluminum	aluminum
	Inner link	aluminum	aluminum		aluminum	aluminum
	Rear compatibility	8-speed	8-speed		7 or 8-speed	7-speed
	Adjustable return spring	○	○			
	Upper A-Pin	O-ring seal	O-ring seal			
	Upper A-pin bushing	Teflon coating	Teflon coating		Teflon coating	○
	Lower A-pin bushing	Teflon coating	Teflon coating		Teflon coating	Teflon coating
	Upper B-pin		Teflon coated washer		oil resin washer	oil resin washer
	A/B pin dia.		oversize		oversize	
	Spring cover	○	○		○	
	Wide link		○		○	○

Note: Chromized links provide a hardened wear surface for long life.

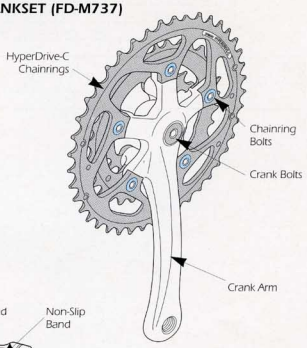
REAR DERAILLEUR (RD-M737)

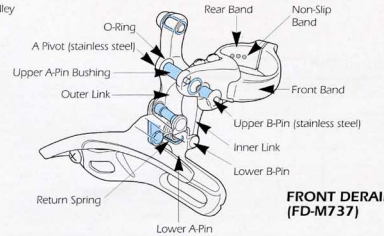


Sealed Bearing Pulley (XTR only)



CRANKSET (FD-M737)



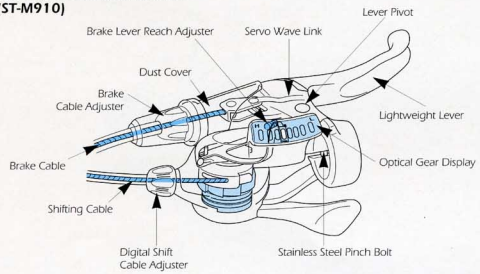


FRONT DERAILLEUR (FD-M737)

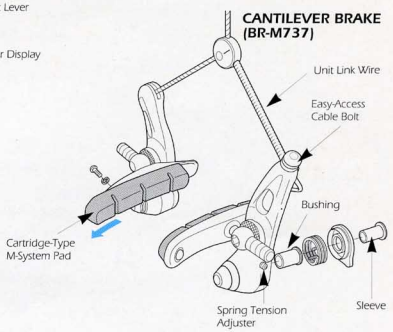
Component	Item	XTR	DEORE XT	DEORE LX				STX-RC
RAPIDFIRE PLUS LEVER	Model No.	**ST-M910**	**ST-M738**	**ST-M566**	**ST-M565**	**ST-M564**	**ST-M563**	**ST-MC33**
	Advanced Light Action	○	○	○	○	○	○	○
	Rear Sprockets	8-speed	8-speed	8-speed	8-speed	7-speed	7-speed	7-speed
	Servo Wave Brake Lever	○	○	○		○		
	Optical Gear Display	above bar / oversize	above bar / oversize	above bar	above bar	above bar	above bar	○
	Removable OGD Module	○	○	○	○			○
	Lightweight Brake Lever	○	○	○	○	○	○	○
	Brake Lever Reach Adjust	○	○	○	○	○	○	○
	Shift Cable Casing	sealed SIS-SP36	sealed SIS-SP36	SIS-SP36	SIS-SP36	SIS-SP	SIS-SP	SIS-SP
	Shift Cable Casing	stainless steel	stainless steel	stainless steel				stainless steel (option)
	Brake Cable Casing	new M-cable	new M-cable	- M-System cable				new M-cable
	Inner Brake Cable	stainless steel (option)	stainless steel (option)	stainless steel (option)				stainless steel (option)
	Brake Lever Bushing	low friction	low friction	low friction	resin	resin	resin	resin
	Dust Cover	○						
	Stainless Steel Pinch Bolt	○	○	○	○			○
CANTILEVER BRAKE	Model No.	**BR-M900-C**	**BR-M737**	**BR-M565**				**BR-MC33**
	M-System	○	○	○				○
	Anti-Vibration Design							○
	Cartridge Pads	M-70R (racing)	M-70R (racing)	M-65T (touring)				M-65T (touring)
	Enclosed Pivot Sleeve	○	○	○				
	Bushing	DU type	hard brass	hard brass				steel
	Spring Tension Adjuster	○	○	○				○
	Stainless Fasteners	○	○	○				○
	Easy-Access Cable Bolt	○	○	○				○
CRANKSET	Model No.	**FC-M900-TI**	**FC-M737**	**FC-M565**				**FC-MC33**
	HyperDrive-C	HyperDrive	○	○				○
	IG-type Chainrings							○
	Dual SIS	○	○	○				○
	Crank Material	forged 7075 aluminum	semi-forged aluminum	aluminum				forged aluminum
	Outer Chainring	7075 aluminum*	7075 aluminum*	aluminum				aluminum
	Middle Chainring	7075 aluminum*	7075 aluminum*	7075 aluminum*				steel
	Inner Chainring	7075 aluminum*	steel	steel				steel
	Crank Bolts	titanium	chrome-moly steel	chrome-moly steel				stainless steel
	Chainring Bolts	7075 aluminum*	stainless steel	stainless steel				stainless steel
	Chainring Nuts	7075 aluminum*	stainless steel	stainless steel				steel

* 7075 aluminum is one of the strongest aluminums.

RAPIDFIRE PLUS LEVER SET (ST-M910)



CANTILEVER BRAKE (BR-M737)

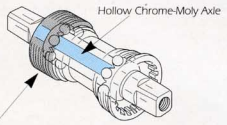


■ Off-Road Component Feature Comparison Chart Ⅱ

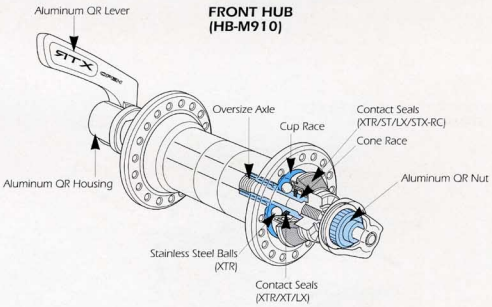
Component	Item	XTR	DEORE XT		DEORE LX		STX-RC	
CARTRIDGE BOTTOM BRACKET	Model No.	BB-UN91	BB-UN71		BB-UN51		BB-UN51	
	Axle	chrome-moly (hollow)	chrome-moly (hollow)		chrome-moly (solid)		chrome-moly (solid)	
	Adapter	aluminum	aluminum		steel		steel	
REAR FREE-HUB	Model No.	FH-M910	FH-M737-A		FH-M565	FH-M563	FH-MC33	
	Axle Diameter	10mm	10mm		10mm	10mm	10mm	
	Aluminum QR Lever	○	○		○		○	
	Aluminum QR Housing	○	○		○		○	
	Aluminum QR Nut	○	○		○			
	Stainless Steel Bearings	○						
	Cone Races	Borozon*	Borozon*		Borozon*	Borozon*	Borozon*	
	Cup Races	Borozon*	polished		polished	polished		
	Contact Sealing	double	double		double	double	single	
	Parallax Design	○	○		○	○	○	
	11T Top Gear	○	○		○	○	○	
	Spider Arm Ring	aluminum	aluminum		○			
FRONT HUB	Model No.	HB-M910	HB-M738-A	HB-M737-A	HB-M564-A	HB-M563-A	HB-MC33-S	HB-MC33
	Parallax Design	○	○	○	○	○	○	○
	Stainless Steel Bearings	○						
	Aluminum QR Lever	○		○	○	○	○	○
	Aluminum QR Housing	○	○	○	○	○	○	○
	Aluminum QR Nut	○	○	○	○	○		
	Reinforced Axle	11mm aluminum	11mm aluminum	9mm steel	10mm steel	9mm steel	10mm steel	9mm steel
	Cone Races	Borozon*	Borozon*	Borozon*	Borozon*	Borozon*	Borozon*	Borozon*
	Cup Races	Borozon*	polished	polished	polished	polished		
	Contact Sealing	double	double	double	double	double	single	single

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

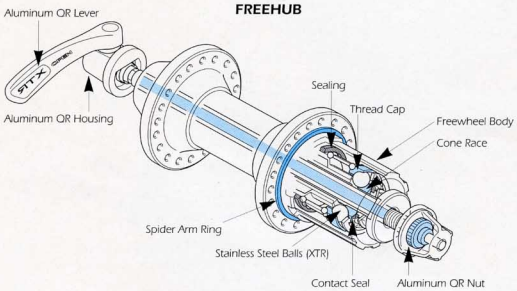
CARTRIDGE BOTTOM BRACKET (BB-UN91)



FRONT HUB (HB-M910)

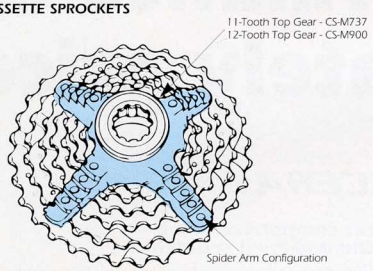


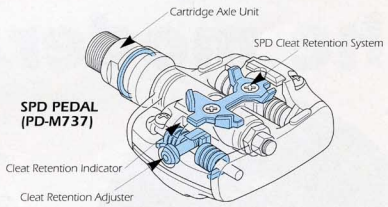
FREEHUB



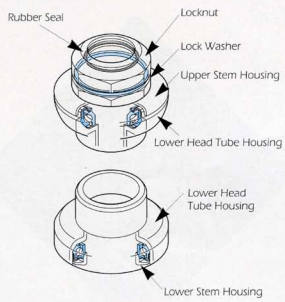
Component	Item	XTR	DEORE XT	DEORE LX		STX-RC
CASSETTE SPROCKETS	Model No.	**CS-M900-8**	**CS-M737-8**	**CS-HG70-8**	**CS-HG70-C**	**CS-IG60**
	Sprocket Type	HG	HG	HG	HG	IG
	Speeds	8	8	8	7	7
	Spider Arm	aluminum	aluminum			
	11T Top Gear		○	○	○	○
HEADSET	Model No.	**HP-M900 / HP-M901 / HP-M902**	**HP-M740 / HP-M741 / HP-M742**	**HP-M563 / HP-M564**		**HP-MC30 / HP-MC31**
	Cartridge Type	aluminum w/O-ring seal	aluminum w/rubber seals	aluminum w/rubber seals		steel w/resin seals
	Locknut		○	○		○
	Lock Washer	stainless steel	stainless steel	stainless steel		stainless steel
	Upper Stem Cone	aluminum	aluminum	aluminum		steel
	Upper Head Tube Cup	aluminum	aluminum	steel		steel
	Lower Stem Cone	aluminum	aluminum	steel		steel
	Cartridge Bearing		rubber seals	resin seals		resin seals
SPD PEDAL	Model No.	**PD-M737**		**PD-M535**	**PD-M525**	**PD-M323**
	SPD Cleat Surfaces	both pedal surfaces		both pedal surfaces	both pedal surfaces	one surface
	Pedal Spindle	chrome-moly		chrome-moly	chrome-moly	chrome-moly
	Cartridge Bearing Axle	○			○	
	Cleat Retention Indicator	○		○	○	○
	Cleat Retention Adjuster	○		○	○	○
	Easy Step-In Feature			○		
SEAT POST	Model No.	**SP-M910**	**SP-M730**	**SP-M650**		
	Post Material	aluminum	chrome-moly	chrome-moly		
	One-bolt clamp	○	○	○		
	Easy Adjust Feature	○	○	○		
	Ultra Light Weight	○				
SEAT QR	Model No.	**SQ-M900**	**SQ-M730**			
	Position Hold Spring	○	○			

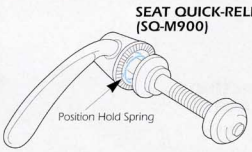
CASSETTE SPROCKETS

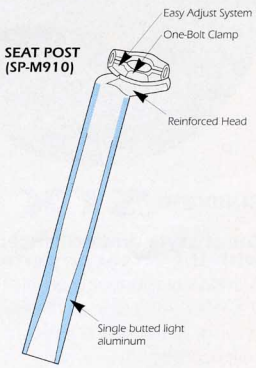




CARTRIDGE HEADSET (HP-M740)









The mountain bikes in the mid-level price range fill the gap between the upper-market competition-oriented machines and less expensive entry-level "MTB style" bicycles. While cyclists looking for a moderately priced MTB may never go off-road, they still want a rugged and dependable bicycle offering good performance for fitness or recreational riding.

The Shimano STX, Alivio, and Acera-X components were developed with these moderately priced mountain bikes in mind. These groups provide an excellent balance of cost, performance, and value in a stylish component package. The purchaser is sure to be impressed by the feeling of quality, responsiveness, and control provided by mountain bike equipped with STX, Alivio, or Acera-X.

More performance and the moderately priced



SHIMANO STX

Great style and advanced functions... with the accent on performance.

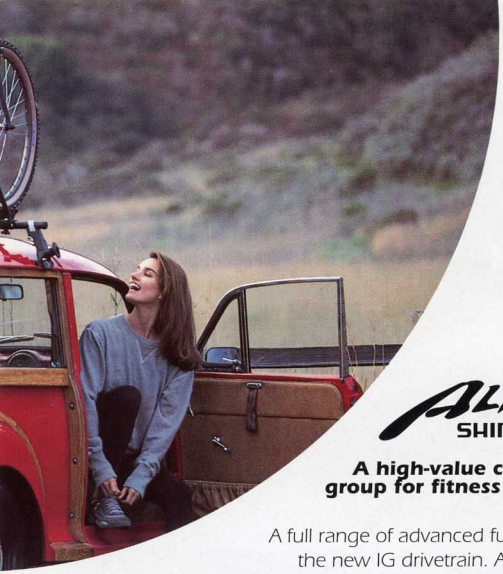
A great component group for everything from real off-road cycling to fitness and recreational cycling. The new IG drivetrain offers the best shifting ever.

SHIMANO ACERA X

Great component value in the mid-level segment.

The Acera-X component group delivers great value and performance with the accent on value. It's all here, everything from the 7-speed Parallax freehub to the Rapidfire TX shifters with Optical Gear Display.





NEXUS

Nexus offers the simplicity and convenience of a 7speed internally geared rear hub.



ALIVIO SHIMANO

A high-value component group for fitness and recreation.

A full range of advanced functions plus the new IG drivetrain. Alivio delivers exceptional mountain bike performance in a value-priced component group.

value for mountain bike.

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SHIMANO ALTUS

A whole new level of performance in an entry-level MTB group.

Altus delivers a lot of performance at a very reasonable price. Altus C90 for 1995 offers Rapidfire TX levers, Optical Gear Display, choice of 6- or 7-speed Parallax freehub, and a lot more.

MJ SHIMANO

SHIMANO MJII



Shimano hasn't forgotten the kids!

New MJII group joins MJ for 1995. Both were designed to bring Shimano quality and functionality to the smaller mountain-style bicycles ridden by children.

SHIMANO 700CX

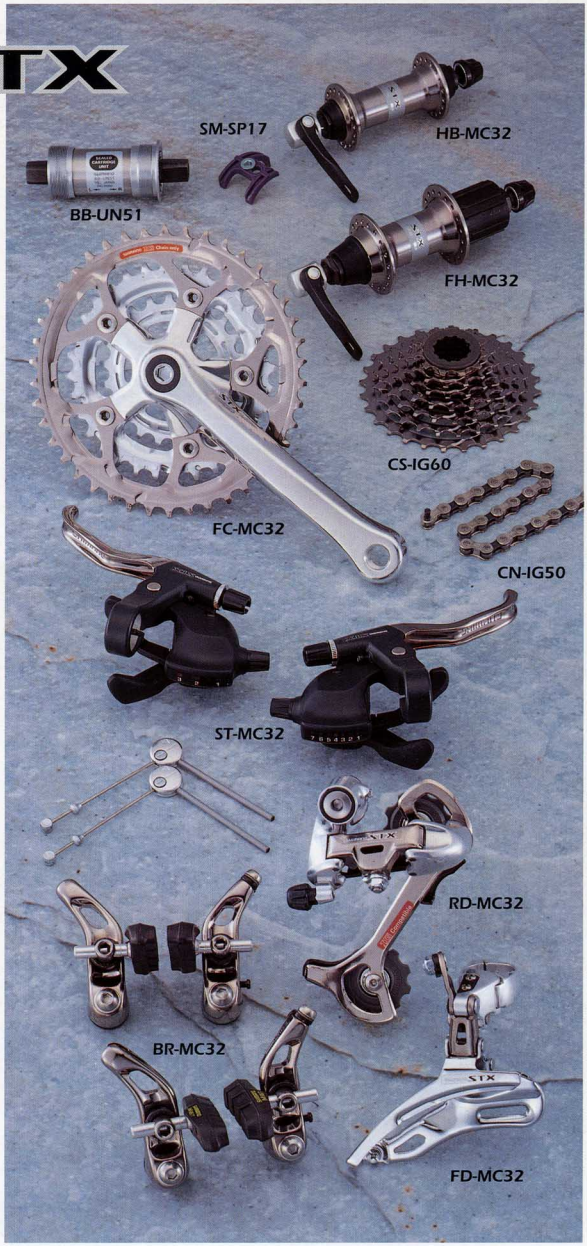
SHIMANO 400CX

SHIMANO STX



Selling Tips for STX Bicycles

- **IG Drivetrain** provides the best SIS shifting ever.
- **Dual SIS** shifting with 7-speed cassette sprockets and triple chainrings.
- **Advanced Light Action** system reduces shifting effort.
- **Optical Gear Display** provides instant gear verification.
- **HyperDrive-C** reduces chainring and sprocket size to save weight.
- **Anti-Vibration M-System** brakes work silently in all weather conditions.
- **Aluminum QR** components reduce weight.
- **Stainless Steel hardware** keeps components looking new.



A stylish component group that looks as good as it performs.

The STX component group, now with IG drivetrain, brings high-performance functions and an elegant new look to the mid-level mountain bike. Lustrous Chromica plating on the Parallax hubs, brake levers, and cantilever arms enhances STX's high-performance image. Shimano STX it's the perfect combination of performance, style, and value.





IG Drivetrain for smoother, more precise shifting.

New IG-type derailleurs, sprockets, chainrings, and chain provide the best SIS shifting yet. Shifts are faster, smoother, and quieter than ever with the shock of upshifting significantly reduced.

More Effective Braking (Anti-Vibration M-System)

STX's cantilever brakes feature anti-squeal design that suppresses squeal-inducing vibrations. High-efficiency M-System design and new all-weather pad compound assure dependable stopping power in any environment, even when the rims are wet, dusty, or muddy.

Long Lasting Beauty

Polished crank and Chromica plating on the Parallax hubs, brake levers, and cantilever arms gives STX a stylish appearance that enhances any mountain bike. Rust-resistant stainless steel hardware helps components stay looking new for years.







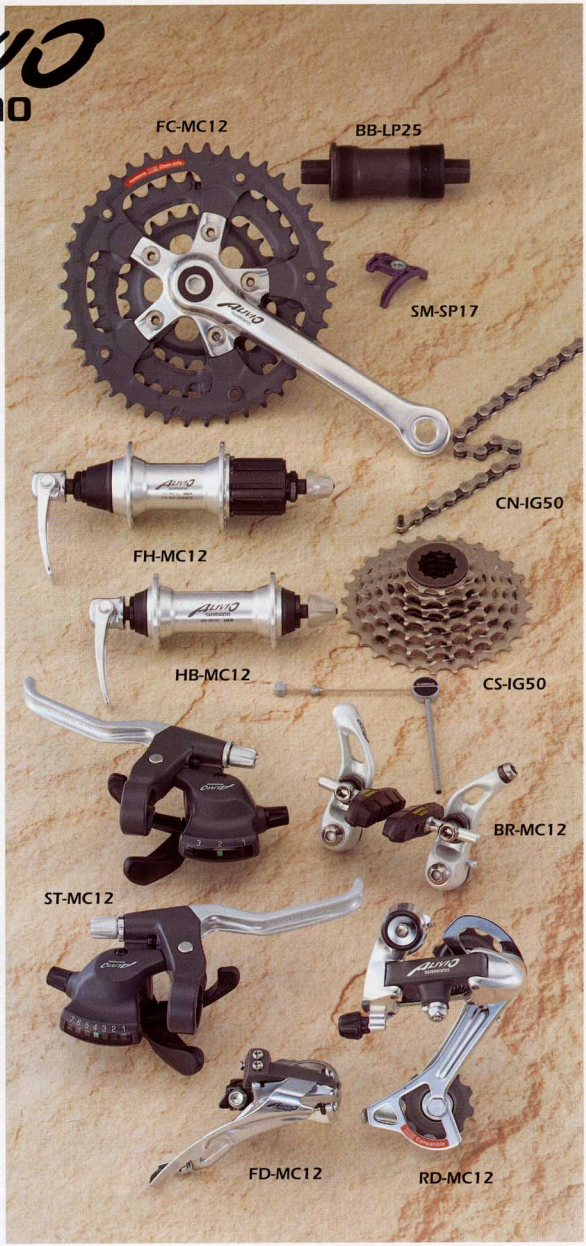


ALIVIO
SHIMANO



Selling Tips for Alivio

- **Dual SIS** provides adjustment-free index shifting for both rear and front derailleurs.
- **IG Drivetrain** makes SIS shifting smoother and quieter.
- **Advanced Light Action** reduces shifting effort.
- **Optical Gear Display** provides instant gear verification.
- **Top-swing Front Derailleur** reduces chainwheel shifting effort.
- **HyperDrive-C** reduces chainring and sprocket size to save weight.
- **Anti-Vibration M-System** brakes work silently and effectively in all weather conditions.
- **Aluminum QR** levers reduce wheel weight and resists rust.



For fitness or fun, nothing beats the performance and value of Alivio.

The Alivio-equipped bicycle offers special appeal to people who ride for fitness and fun. It's light, responsive, and easy to control. Alivio delivers the full range of advanced Shimano functions plus the added benefit of improved shifting from the new IG drivetrain. It's a great introduction to the fun of riding a Shimano-equipped bicycle.



IG drivetrain makes shifting easier than ever.

The rider-friendly IG drivetrain is the latest in derailleur shifting technology from Shimano. New IG-type derailleurs, sprockets, chainrings, and chain make Dual SIS shifting smoother, quieter, and more precise than ever.

Quieter, more effective braking

New anti-vibration M-System brakes stop you quietly and effectively, even when the rims are wet, muddy or dusty. Low-friction M-System also means that braking force is easier to control because it's applied in direct linear response to lever input.

Easy, effort-free shifting

Push the Rapidfire thumb shifter for a lower gear. Pull the finger lever to quickly upshift to a higher gear. Advanced Light Action makes shifting so effortless, it's almost like having an automatic transmission.









SHIMANO
ACERA X





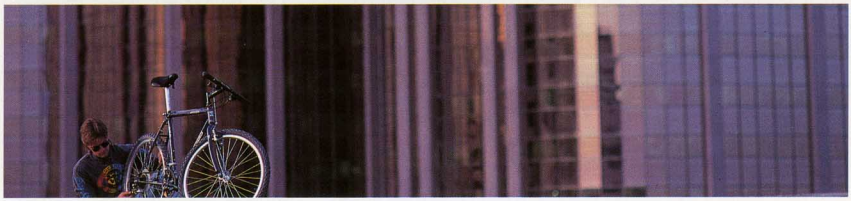
Selling Tips for Acera-X

- **Dual SIS** index shifting with 7-speed cassette sprockets and triple chainrings.
- **Advanced Light Action** system reduces shifting effort.
- **Optical Gear Display** for easy gear verification.
- **HG Sprockets** deliver smoother, faster SIS shifts.
- **Parallax Hubs** increase wheel strength
- **Top-Swing Front Derailleur** reduces component weight and shifting effort.
- **M-System** Brakes work in all weather conditions.
- **HyperDrive C** drivetrain reduces weight and increases ground clearance.

A new entry level MTB component group packed with value-added features.



Acera-X components bring more performance and value than ever to the entry-level mountain bike. Dual SIS, Advanced Light Action, Optical Gear Display, Parallax hubs, 7-speed HG sprockets and more...it's all here. Hubs are available in natural alumimun or gun metal finish. Anyone looking for that first mountain bike will find it hard to pass up the excellent balance of price, quality, and performance made possible by Acera-X.



Top-Swing Action Front Derailleur

The compact Acera-X front derailleur features Shimano's new Top-Swing action that reduces operating friction by 35%. The result is SIS chainwheel shifting that's lighter and easier than ever before.



Rapidfire TX Lever Set

Acera-X features the new Rapidfire TX lever set with window-type Optical Gear Display. Thumb and finger levers are conveniently positioned underneath the handle bar for easy gear shifting without changing hand position.



All-Weather M-System Brakes

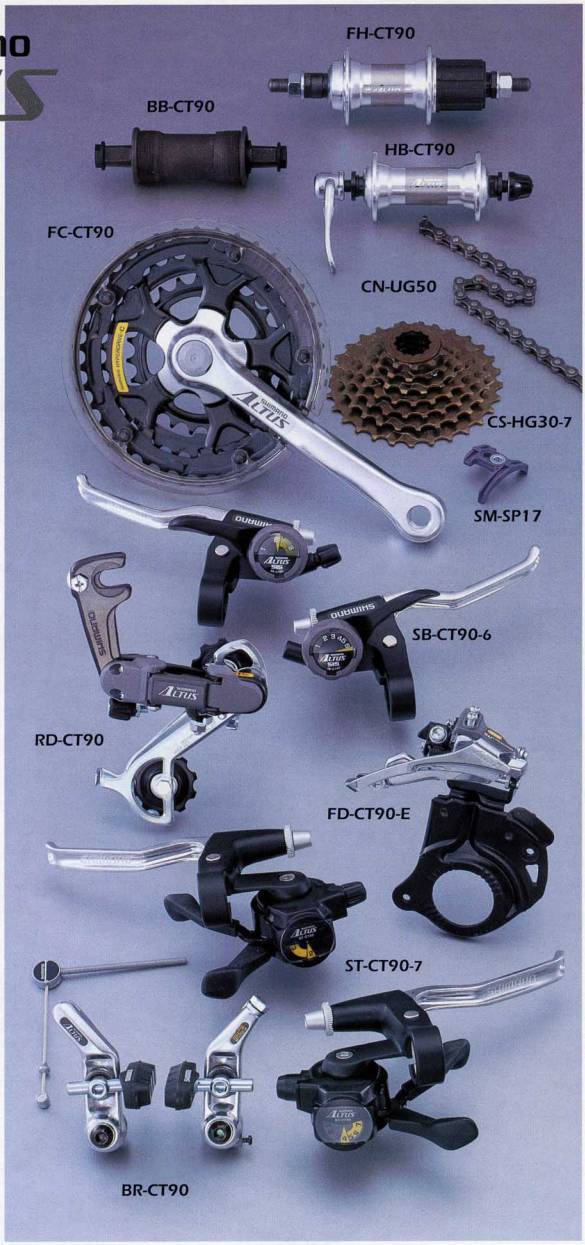
M-System's low-friction design makes more efficient use of energy, so braking power is applied in direct linear response to lever input. Special M-System pad compound provides effective stopping power even when the brakes are wet, muddy or dusty.





SHIMANO

Altus





Selling Tips for Altus C90

- **Pre-Select rear derailleur** allows lever movement without pedaling.
- **Rapidfire TX** levers make gear shifting fast and easy.
- **Advanced Light Action** reduces shifting effort.
- **Optical Gear Display** provides easy gear verification.
- **HG Sprockets** make shifting smoother and more precise.
- **Parallax Hubs** increase wheel strength
- **Top-Swing Front Derailleur** reduces shifting effort.
- **HyperDrive-C** drivetrain is more compact to reduce weight and increase ground clearance.

Altus C90 defines a new functional standard for the entry-level mountain bike.



Altus delivers exceptional performance and value for a wide range of entry-level mountain bikes. The new Altus C90 group offers Rapidfire TX levers, Optical Gear Display, choice of 6- or 7-speed Parallax free-hubs, Easy-Set front derailleur, and a lot more. Pre-Select rear derailleur lets you shift the lever without pedaling.



HyperDrive-C and Top-Swing front derailleur

Compact HyperDrive-C drive system reduces chainwheel and sprocket size to save weight. Top-Swing front derailleur reduces shifting effort by 25%. Easy-Set design mounts the derailleur directly to the bottom bracket for fast, adjustment-free installation.



Rapidfire TX Levers & Advanced Light Action

New TX shift lever set with Optical Gear Display brings the benefits of Rapidfire shifting to the entry-level mountain bicycle. Advanced Light Action design reduces friction in the derailleurs, levers, and cables to make shifting easier than ever.



Pre-Select Mechanism

The Pre-Select mechanism in the rear derailleur lets you move the shift lever without turning the crank and without stressing the derailleur. Pre-Select lets you select gears before pedaling, and is also a great sales aid because the shift lever action can be demonstrated without riding the bicycle.







Specification		Series	SHIMANO STX		SHIMANO ALIVIO	
Rear Derailleur	Model No.		**RD-MC32**		**RD-MC12**	
	Speed (SIS)		7-Speed		7-Speed	
	Max. Sprocket		32T		28T	
	Min. Sprocket		11T		11T	
	F/Difference		20T or less		18T or less	
	Total Capacity		38T		35T	
	Advanced Light Action		○		○	
	IG Compatible		○		○	
	Stainless Steel Fasteners		○			
Front Derailleur	Model No.		**FD-MC32**		**FD-MC12**	
	Top-Low Max. Capacity		22T		18T	
	Top-Middle Min Capacity		10T		8T	
	Top Gear Teeth		42T		42T	
	Clamp Diameter		28.0–28.6/31.8/34.9 mm		28.0–28.6/31.8/34.9 mm	
	Chain stay angle		63°-66°, 66°-69°		63°-66°, 66°-69°	
	Advanced Light Action		○		○	
	Dual SIS		○		○	
	Top Swing Action				○	
	Stainless Steel Fasteners		○		○	
RapidFire Plus	Model No.		**ST-MC32**	**ST-MC35**	**ST-MC12**	**ST-MC15**
	Dual SIS	Rear	7-Speed	7-Speed	7-Speed	7-Speed
		Front	Triple	Triple	Triple	Triple
	Lever Length		2 Finger	3 Finger	2.5 Finger	3 Finger
	Curved Handlebar			○		○
	Advanced Light Action		○	○	○	○
	Optical Gear Display		Sliding type (below bar)	Sliding type (below bar)	Sliding type (below bar)	Sliding type (below bar)
Cantilever Brake	Model No.		**BR-MC32**		**BR-MC12**	
	Arm Size		M, L		M, L	
	M-System Shoe Type		M65T		M65T	
	Link Type		Dynamic Type		Alignment Type	
	Anti Vibration Design		○		○	
Front Chainwheel	Model No.		**FC-MC32**		**FC-MC12**	
	Gearing		42T–32T–22T		42T–34T–24T	
	Bolt Circle Diameter		94/58 mm		67 mm	
	Crank Length		170/175 mm		170/175 mm	
	IG Compatible		○		○	
	HyperDrive-C		w/SGX-II		w/SGX-II	
Sealed Cartridge Bottom Bracket	Model No.		**BB-UN51**		**BB-LP25**	
	Marking		MM110	LL113	MM110	LL113
	Chain Line		47.5 mm	50.0 mm	47.5 mm	50.0 mm
	Shell Width		68, 70, 73	68, 70, 73	68, 70	68, 70, 73
	Axle Length		110 mm	113 mm	110 mm	113 mm
Freehub	Model No.		**FH-MC32**		**FH-MC12**	
	Speed		7-Speed		7-Speed	
	Over Lock Nut Dimension		130/135 mm		130/135 mm	
	Spoke Holes		36/32 H		36/32 H	
	Parallax Hub		○		○	
	Aluminium QR Lever		○		○	
	Hub Type		QR/Nut		QR/Nut	
Front Hub	Model No.		**HB-MC32**		**HB-MC12**	
	Over Lock Nut Dimension		100 mm		100 mm	
	Spoke Holes		36/32 H		36/32 H	
	Parallax Hub		○		C	
	Hub Type		QR/Nut		QR/Nut	
Cassette Sprockets	Model No.		**CS-IG60**		**CS-IG50**	
	Speed		7-Speed		7-Speed	
	IG/HG		IG		IG	
	Group Name		ag (11–28T)		ag (11–28T)	
	Color		Chromica/Silver luster		Silver	
Chain	Model No.		**CN-IG50**		**CN-IG30**	
	Type		IG Narrow		IG Narrow	
Head Set	Model No.		**HP-MC30**	**HP-MC31**		
	Thread		BC1" x 24 T.P.I.	BC1-1/8" x 26 T.P.I.		
	Stack Height		37.6 mm	37.6 mm		
SPD Pedal	Model No.		**PD-M323**			
	SPD		One Side			
	Mounting Thread		BC 9/16 x 20 T.P.I.			
Chain Deflector	Model No.		DF-M730			
	Material		Resin			

Specification \ Series			SHIMANO ACERA-X		SHIMANO ALTUS C90		
Rear Derailleur	Model No.		**RD-M290**		**RD-CT90-GS**		**RD-CT90-SS**
	Speed (SIS)		7-Speed		7-Speed		6-Speed
	Max. Sprocket		28T		28T		24T
	Min. Sprocket		11T		11T		11T
	F/Difference		18T or less		14T or less		14T or less
	Total Capacity		35T		31T		27T
	Advanced Light Action		○		○		○
	Pre-select mechanism				○		○
	Dropout Hangar						available
Front Derailleur	Model No.		**FD-M290**		**FD-CT90-E**		
	Top-Low Max. Capacity		18T		14T		
	Top-Middle Min Capacity		8T		8T		
	Top Gear Teeth		42T		38T		
	Clamp Diameter		28.0–28.6/31.8 mm		28.0–28.6/31.8 mm		
	Chain stay angle		63°-66°, 66°-69°		63°-66°, 66°-69°		
	Advanced Light Action		○		○		
	Dual SIS		○		○		
	Top Swing Design		○		○		
	Easy Set Adapter				○		
RapidFire TX	Model No.		**ST-M290**	**ST-M295**	**ST-CT90-7S**	**ST-CT95-7S**	**ST-CT90-6S**
	Dual SIS	Rear	7-Speed	7-Speed	7-Speed	7-Speed	6Speed
		Front	Triple	Triple	Triple	Triple	Triple
	Lever Length		2.5 Finger	3 Finger	2.5 Finger	3 Finger	2.5 Finger
	Curved Handlebar			○		○	
	Advanced Light Action		○	○	○	○	○
	Optical Gear Display		Digital Type	Digital Type	Dial Type	Dial Type	Dial Type
Shift & Brake Lever	Model No.				**SB-CT90-7S**		**SB-CT90-6S**
	Dual SIS	Rear			7-Speed		6-Speed
		Front			Triple		Triple
	Lever Length				2.5 Finger		2.5 Finger
	Advanced Light Action				○		○
	Optical Gear Display				Dial Type		Dial Type
Cantilever Brake	Model No.		**BR-M290**		**BR-CT90**		
	Arm Size		M, L		M, L		
	M-System Shoe Type		M55T		Optional		
	Link Type		Alignment Type		Alignment Type		
Front Chainwheel	Model No.		**FC-M290**		**FC-CT90**		
	Gearing		42T–34T–24T		38T–32T–24T		
	Crank Length		170/175 mm		160/170 mm		
	HyperDrive-C		w/SGX-II		w/SGX-II		
Sealed Cartridge Bottom Bracket	Model No.		**BB-LP25**		**BB-CT90**		
	Marking		MM110	LL113	YL116		ZL121
	Chain Line		47.5 mm	50.0 mm	47.5 mm		50.0 mm
	Shell Width		68, 70	68, 73	68, 70		70, 73
	Axle Length		110 mm	113 mm	116 mm		121 mm
Freehub	Model No.		**FH-M290**		**FH-CT90-7S**		**FH-CT90-6S**
	Speed		7-Speed		7-Speed		6-Speed
	Over Lock Nut Dimension		130/135 mm		130/135 mm		130/126 mm
	Spoke Holes		36 H		36 H		36 H
	Parallax Hub		○		○		○
	Hub Type		QR/Nut		Nut		Nut
Front Hub	Model No.		**HB-M290**		**HB-CT90**		
	Over Lock Nut Dimension		100 mm		100 mm		
	Spoke Holes		36 H		36 H		
	Parallax Hub		○		○		
	Hub Type		QR/Nut		QR/Nut		
Cassette Sprockets	Model No.		**CS-HG50-C**		**CS-HG30-7**		**CS-HG30-6**
	Speed		7-Speed		7-Speed		6-Speed
	IG/HG		HG		HG		HG
	Group Name		ac (11-28T)		ac (11-28T)		af (11-24T)
	Color		Black		Brown		Brown
Chain	Model No.		**CN-HG50**				**CN-UG50**
	Type		HG Narrow				UG



Designed especially for younger cyclists, the MJ series brings Shimano quality and value to children's bicycles. Small in size but big in advanced functions, MJ features Parallax hubs, rear freehub, HG cassette sprockets, dial-type Rapidfire L lever set with Optical Gear Display, and a whole lot more. Double or triple cranksets and corresponding front derailleurs are available.



Shimano hasn't forgotten about the kids.

The all-new MJ-II components expand the MJ series for 1995. MJ-II is a more economical version offering the same features of MJ plus the new Top-Swing front derailleur with Easy-Set bottom bracket installation. Two MJ-II lever sets are available, Rapidfire L or above-bar thumb shifter.





MJ components respond to the special needs of the younger cyclist.

The Shimano MJ and MJ-II components make cycling easier, safer, and more fun for youngsters. These components feature shorter crank arms, downsized brake and shift levers, and low-effort shifting and braking systems. The result is a greater level of control and safety for the younger cyclist.

Just the right size...

The MJ-II components were specifically designed for the bicycles ridden by children from 8 to 12 years old. Cranks are available in 130, 145, and 160mm lengths. Downsized Rapidfire L lever set gives kids an easier SIS shifting action with combination thumb and finger lever. Brake and shift levers are positioned and contoured for easy reach by smaller hands. (Lever clamp diameter is available in 19.1mm sizes.)







Greater functionality, and safety, for children's bicycles.

The MJ control interface was especially designed for the ergonomic needs of a smaller body. It allows children to control their bicycle efficiently without strain or distraction. MJ components gives children the confidence that makes them better cyclists.



Advanced Light Action

MJ and MJ-II incorporate Advanced Light Action mechanisms that reduce friction in the shift levers, cables, and derailleurs. Left side Rapidfire L lever features a two-stroke action that makes front derailleur shifting easier.



High-Performance Functions

There's no sacrifice in performance with the MJ series. Dual SIS shifting, Rapidfire L levers, HyperDrive-C drivetrain, Parallax front hub and rear freehub, 6-speed HG cassette sprockets, and cassette bottom bracket deliver "big bike" features to the youth bicycle.

Optical Gear Display

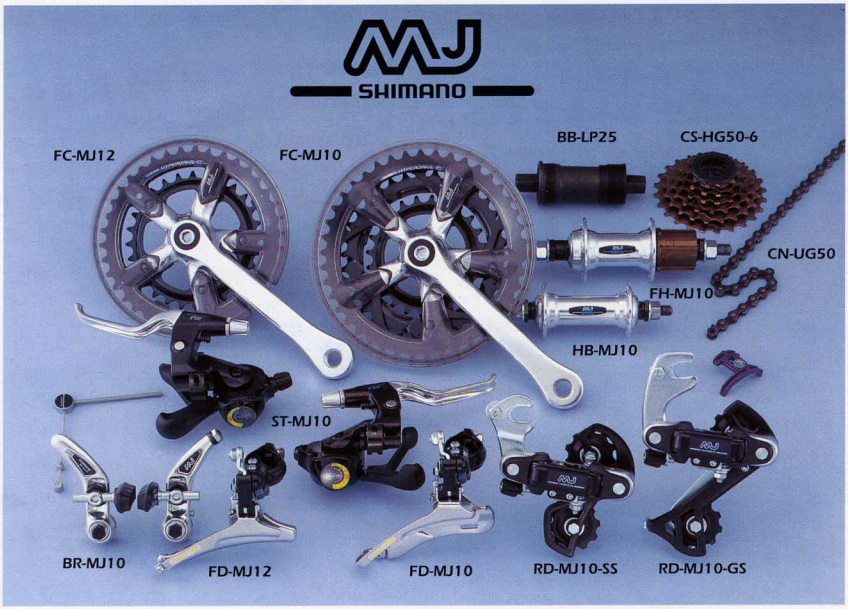
Dial-type Optical Gear Displays helps teach gearing fundamentals while making it easier and more fun for youngsters to shift the derailleurs. It also appeals to children because the same function is found on adult bikes.



ST-MJ05



SB-MJ05/SB-MJ06

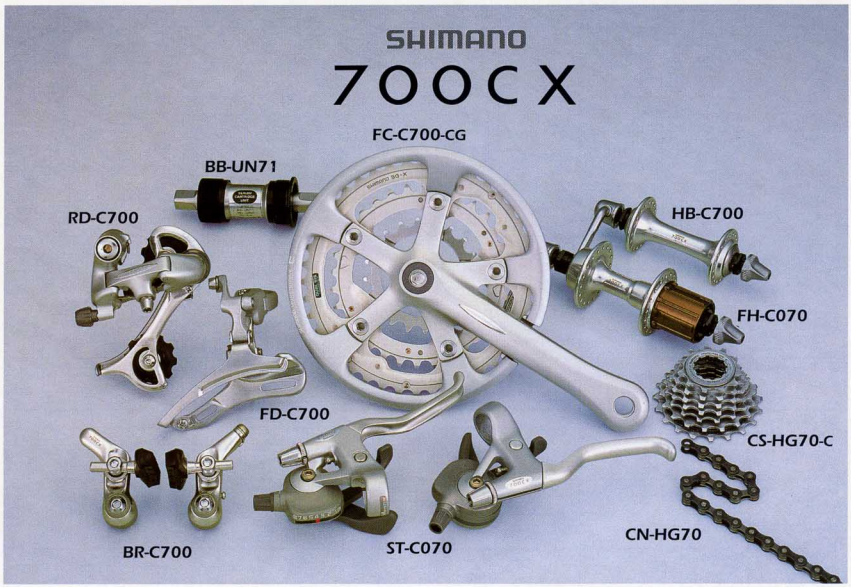

MJ
SHIMANO
FC-MJ12
FC-MJ10
BB-LP25
CS-HG50-6
CN-UG50
FH-MJ10
HB-MJ10
ST-MJ10
BR-MJ10
FD-MJ12
FD-MJ10
RD-MJ10-SS
RD-MJ10-GS


SHIMANO
MJII
BB-CT90
FH-MJ05
CN-UG50
SM-SP17
HB-MJ05
FC-MJ05-T
CS-HG30-6
BR-MJ05
ST-MJ05
FD-MJ05-E
RD-MJ05-GS

Specification \ Series		SHIMANO MJ			SHIMANO MJ-II				
Rear Derailleur	Model No.	**RDMJ10-GS**	**RDMJ10-SS**		**RDMJ05-GS**		**RDMJ05-SS**		
	Speed (SIS)	6-Speed	6-Speed		6-Speed		6-Speed		
	Max. Sprocket	28T	28T		24T		28T		
	Min. Sprocket	12T	12T		11T		11T		
	F/Difference	20T or less	13T or less		20T or less		13T or less		
	Total Capacity	34T	28T		34T		28T		
	Advanced Light Action	○	○		○		○		
	Dropout Hangar	○	○		○				
Front Derailleur	Model No.	**FD-MJ10**			**FD-MJ05**		**FD-MJ06**		
	Top-Low Max. Capacity	18T			14T		10T		
	Top-Middle Min Capacity	8T			6T				
	Top Gear Teeth	42T only			38T		38T		
	Clamp Diameter	28.0–28.6 mm			28.0–28.6 mm		28.0–28.6 mm		
	Chainstay angle	63°–69°			63°–69°		68°-73°		
	Advanced Light Action	○			○		○		
	Dual SIS				○		○		
	Top Swing Design				○				
	Easy Set				○				
RapidFire-L	Model No.	**ST-MJ10-T**	**ST-MJ10-W**	**ST-MJ10-R**	**ST-MJ05-T**		**ST-MJ05-D**	**ST-MJ05**	
	Dual SIS Rear			6-Speed				6-Speed	
	Dual SIS Front	Triple	Double		Triple		Double		
	Short Lever Reach	○	○		○		○		
	Advanced Light Action	○	○	○	○		○	○	
	Optical Gear Display	Dial Type	Dial Type	Dial Type	Dial Type		Dial Type	Dial Type	
	Clamp Diameter	19.1 mm	19.1 mm	19.1 mm	19.1 mm		19.1 mm	19.1 mm	
Shift & Brake Lever	Model No.				**SB-MJ05-T**	**SB-MJ06-T**	**SB-MJ05-D**	**SB-MJ05**	**SB-MJ06**
	Dual SIS Rear							6-Speed	6-Speed
	Dual SIS Front				Triple	Triple	Double		
	Short Lever Reach				○	○	○	○	○
	Advanced Light Action				○	○	○	○	○
	Optical Gear Display				Dial Type	Dial Type	Dial Type	Dial Type	Dial Type
	Clamp Diameter				19.1 mm	22.2 mm	19.1 mm	19.1 mm	22.2 mm
Brake Lever	Model No.			**BL-MJ10**				**BL-MJ05**	
	Short Lever Reach			○				○	
	Clamp Diameter			19.1 mm				19.1 mm	
Cantilever Brake	Model No.	**BR-MJ10**			**BR-MJ05**				
	Arm Size	M			M				
	M-System Shoe Type	M55			optional				
	Link Type	Alignment Type			Alignment Type				
Front Chainwheel	Model No.	**FC-MJ10**	**FC-MJ12**		**FC-MJ05-T**		**FC-MJ06-D**		
	Gearing	42T–34T–24T	38T–28T		38T–32T–24T		38T–28T		
	Crank Length	150/160 mm	150/160 mm		130/145/160 mm		130/145/160 mm		
	HyperDrive-C	○	○		○		○		
Sealed Cartridge Bottom Bracket	Model No.	**BB-LP20**			**BB-CT90**				
	Marking	MM110			YL116	ZL121	YL116		
	Chain Line	45.0 mm	43.5 mm		47.5 mm	50.0 mm	43.5 mm		
	Shell Width	68, 70	68, 70		68, 70	70, 73	68, 70		
	Axle Length	110.5 mm	110.5 mm		116 mm	121 mm	116 mm		
Freehub	Model No.	**FH-MJ10**			**FH-MJ05**				
	Speed	6-Speed			6-Speed				
	Over Lock Nut Dimension	126 mm			130 mm		126 mm		
	Spoke Holes	36/32 H			36/32 H				
	Parallax Hub	○			○				
	Hub Type	Nut			QR/Nut				
Front Hub	Model No.	**HB-MJ10**			**HB-J05**				
	Over Lock Nut Dimension	100 mm			100 mm				
	Spoke Holes	36/32 H			36/32 H				
	Parallax Hub	○			○				
	Hub Type	Nut			Nut				
Cassette Sprockets	Model No.	**CS-HG50-6**			**CS-HG30-6**				
	Speed	6-Speed			6-Speed				
	Group Name	ad (12–24T)			af (11–24T)				
Chain	Model No.	**CN-HG50**	**CN-UG50**						
	Type	HG-Narrow	UG Narrow						

Hybrid bicycle components that are mountain bike tough.

The Shimano 700CX and 400CX component groups were designed for the hybrid bicycle. Elegant styling with neutral gray color treatment enhances the appearance of the quality hybrid. The full range of advanced Shimano functions make the 700CX or 400CX-equipped bicycle a beautiful and highly functional machine. Rapidfire lever sets feature Optical Gear Displays for at-a-glance gear verification. The PD-M535 or PD-A525 pedals make a great finishing touch.





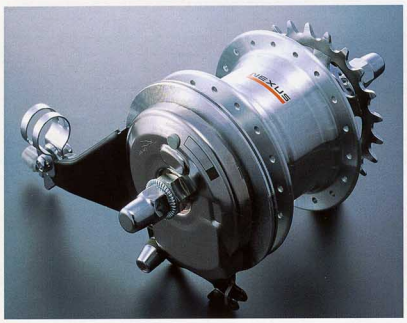
Specification	Series	SHIMANO 700 CX		SHIMANO 400 CX	
Rear Derailleur	Model No.	**RD-C700**		**RD-C400**	
	Speed (SIS)	7-Speed		7-Speed	
	Max. Sprocket	21T		21T	
	Min. Sprocket	11T		11T	
	F/Difference	22T or less		22T or less	
	Total Capacity	32T		32T	
	Finish	Paint Finish		Barrel Finish	
	Weight	250 g		284 g	
Front Derailleur (Set chainstay angle from 63 to 66°)	Model No.	**FD-C700**	**FD-C701**	**FD-C400**	**FD-C401**
	Top-Low Max. Capacity	22T	22T	22T	22T
	Top-Middle Min Capacity	10T	10T	10T	10T
	Top Gear Teeth	42T	42T	42T	42T
	Clamp Diameter	28.0–28.6/31.8/34.9 mm	28.0–28.6/31.8/34.9 mm	28.0–28.6/31.8/34.9 mm	28.0–28.6/31.8/34.9 mm
	Dual SIS	○	○	○	○
	Cable Routing	Bottom Routing	Top-Route	Bottom Routing	Top-Route
	Finish	Paint Finish		Barrel Finish	
	Weight	121 g		121 g	
RapidFire Plus	Model No.	**ST-C070**		**ST-M040**	
	Dual SIS Rear	7-Speed		7-Speed	
	Dual SIS Front	Triple		Triple	
	Lever Length	2.5 Finger		2.5 Finger	
	Optical Gear Display	Slide Type		Slide Type	
	Finish	Anodized		High Luster	
	Weight	386 g		397 g	
Cantilever Brake	Model No.	**BR-C700**	**BR-C701**	**BR-C400**	**BR-C401**
	Arch Size	S	M	S	M
	M-System Shoe	○	○	○	○
	Link Type	Dynamic Type	Dynamic Type	Dynamic Type	Dynamic Type
	Finish	Anodized		High Luster	
	Weight	336 g (F&R), 10 g (unit link)		350 g (F&R), 10 g(unit link)	
Front Chainwheel	Model No.	**FC-C700**		**FC-C400**	
	Gearing	42T–32T–20T		42T–32T–20T	
	Bolt Circle Diameter	100/58 mm		100/58 mm	
	Crank Length	170/175 mm		170/175 mm	
	HyperDrive-C	○		○	
	Weight	730 g (170 mm)		717 g (170 mm)	
Sealed Cartridge Bottom Bracket	Model No.	**BB-UN71**		**BB-UN51**	
	Marking	LL113	XL118	LL113	XL118
	Chain Line	45.0 mm	47.5 mm	45.0 mm	47.5 mm
	Shell Width	68, 70, 73	68, 70, 73	68, 70, 73	68, 70, 73
	Axle Length	113 mm	118 mm	113 mm	118 mm
	Weight	240 g		316 g	
Freehub	Model No.	**FH-C070**		**FH-C040**	
	Speed	7-Speed		7-Speed	
	Over Lock Nut Dimension	130 mm		130 mm	
	Spoke Holes	36/32 H		36/32 H	
	Hub Type	QR		QR	
	Finish	Anodized		Diamond Cut	
	Weight	427 g		432 g	
Front Hub	Model No.	**HB-C700**		**HB-C400**	
	Over Lock Nut Dimension	100 mm		100 mm	
	Spoke Holes	36/32 H		36/32 H	
	Hub Type	QR		QR	
	Finish	Anodized		Diamond Cut	
	Weight	228 g		228 g	
Cassette Sprockets	Model No.	**CS-HG70-C**		**CS-HG50-C**	
	Speed	7-Speed		7-Speed	
	Group Name	ac (11–91T)		ac (11–28T)	
	Color	Silver		Brown/Pearl Bright Low	
	Weight	183 g		183 g	
Chain	Model No.	**CN-HG70**		**CN-HG50**	
	Type	HG Narrow		HG Narrow	
	Weight	335 g (114 link)		335 g (114 link)	
Head Set	Model No.	**HP-M563**	**HP-M564**	**HP-MC30**	**HP-MC31**
	Thread	BC1"×24 T.P.I.	BC1-1/8"×26 T.P.I.	BC1"×24 T.P.I.	BC1-1/8"×26 T.P.I.
	Stack Height	37.6 mm	37.6 mm	37.6 mm	37.6 mm
	Weight	147 g			
Pedal	Model No.	**PD-M747**	**PD-M535**	**PD-M323**	**PD-A525**
	SPD	Two Side	Two Side	One Side	One Side
	Mounting Thread	BC 9/16"×20 T.P.I.	BC 9/16"×20 T.P.I.	BC 9/16"×20 T.P.I.	BC 9/16"×20 T.P.I.
	Weight			520 g	390 g

NEXUS

A new type of component group for comfortable, low-maintenance cycling.

Nexus puts everything "inside."

Nexus is the name of the component group that's helping to define the new style of medium-distance cycling called "trekking." Nexus uses no derailleurs. The main features are the Inter-7 internally geared hub, Inter-M roller brake, and Inter-C enclosed crankset with matching chain case. By putting "everything inside," Nexus reduces adjustment and maintenance demands to an absolute minimum. The result is more dependable, simplified operation for bicycle commuters, recreational cyclists, and medium-distance trekkers.



The Inter-7 hub features 7-speed internal gearing and an integral Inter-M roller brake. Unlike conventional geared hubs, Inter-7 can be shifted while pedaling. Inter-7's wide-range 7-speed gearing offers just the right gear for hill climbing, cruising, or fast downhill riding. Shifting is easy with the twist-action of the Revoshift handle-bar shifter. There's also a dial-type Optical Gear Display that provides easy gear verification. The Inter-M brake delivers strong, fade-free braking power. Nexus and Inter-7 are helping to realize a more comfortable, care-free cycling style.





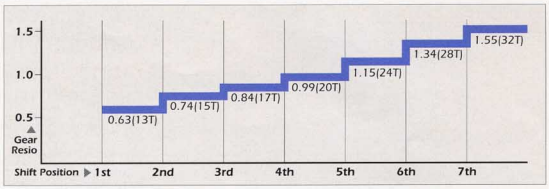
For further information
please contact your distributor

SHIMANO

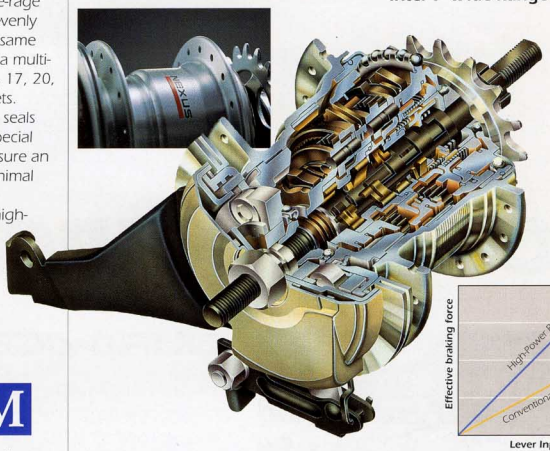
INTER-7

Inter-7 uses two heavy-duty planetary gear sets and step-up gears designed to withstand high torque loads. Altering the power transmission path through the sun, planet, and ring gears results in wide-rage 7-speed gearing. Ratios are evenly spaced to provide much the same gearing you would get with a multiple freewheel having 13, 15, 17, 20, 24, 28, and 32 teeth sprockets. Precision contact-type O-ring seals keep out water and dirt. A special long-life lubricant helps to assure an extended service life with minimal maintenance demands.

The hub shell is made from high-strength diamond-cut aluminum alloy that conveys a quality look and performance.



Inter-7 Wide-Range Gearing

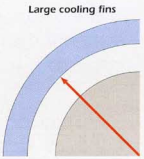


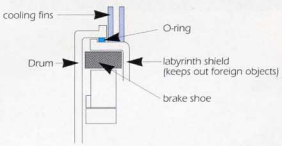
SHIMANO

INTER-M

The cable-activated Inter-M roller brake is an integral part of the Inter-7 hub. The use of rollers instead of friction pads results in a higher application force, reduced abrasion, and extended service life. The oversize brake drum offers a larger, more efficient braking surface. Large cooling fins reduce fade, even during long and hard applications.

Back pedal coaster brake is also available in German-speaking and Scandanavian markets.





Specification

Inter-7 Hub		Inter-M Roller Brake		Revo-Shifter	
Model No.	**SG-7R40**	Model No.	**BR-IM40**	Model No.	**SB-7R40**
Speeds	7-Speed	Brake Type	High Power Roller Brake	Bar Diameter	22.2mm
Over Locknut Dimension	130mm	Weight	534.6g	Weight	184.2g (without grip)
Available Sprockets	14/16/18/19/20/21/22T				
Chain Size	1/2" x 1/8"				
Spoke Size	14-gauge				
Features	Internal Gearing Inter-M Roller Brake Maintenance-Free Torque Conversion Operation Sealed Mechanisms Cassette Construction Easy-Assemble Design Coated Hardware	Features	Internal roller action Maintenance-free Quiet operation Extended service life Fade resistant 100mm cooling fins	Features	Optical Gear Display Brake cable adjustment Lever reach adjustment Shift cable adjustment Coated hardware
Materials	Diamond cut light aluminum shell Chrome-plated steel sprocket	Materials	Chrome-plated steel cover Diamond cut light aluminum fins Painted steel operating arm	Materials	Painted light aluminum body Alumite finish light aluminum lever Recycled elastomer

Shimano road racing groups enhance the performance and quality of pro-level road racing and racing-type sport bicycles. Dura-Ace, the top-line professional component group, has become the standard among professional and amateur road racers all over the world. New for 1995 is Shimano RSX, a road component group that brings the full complement of advanced functions to the budget priced racing-style bicycle. In between are road racing component groups to fit every budget and cycling style.

ROAD COMPONENT



DURA-ACE

Dura-Ace is Shimano's top-line component group developed for professional and amateur road racing bicycles. Designed to give road racers a real functional advantage in competition, Dura-Ace also appeals to any cycling enthusiast who demands the most advanced racing component technology available today.



SHIMANO 600 ULTEGRA

Shimano 600 Ultegra provides all the advanced functions of Dura-Ace but at a more reasonable price. The 600 Ultegra-equipped bike is a beautiful high-performance machine aimed at amateur road racers, road performance enthusiasts, triathletes – anybody looking for a quality road bike.



CONTENTS

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GROUPS

SHIMANO 105 SC

This is an all-purpose sport/racing component group loaded with advanced functions. The 105-SC-equipped bike is a real high-performance machine that can satisfy the demands of amateur racers and triathletes as well as the most discriminating fitness and recreational cyclists.



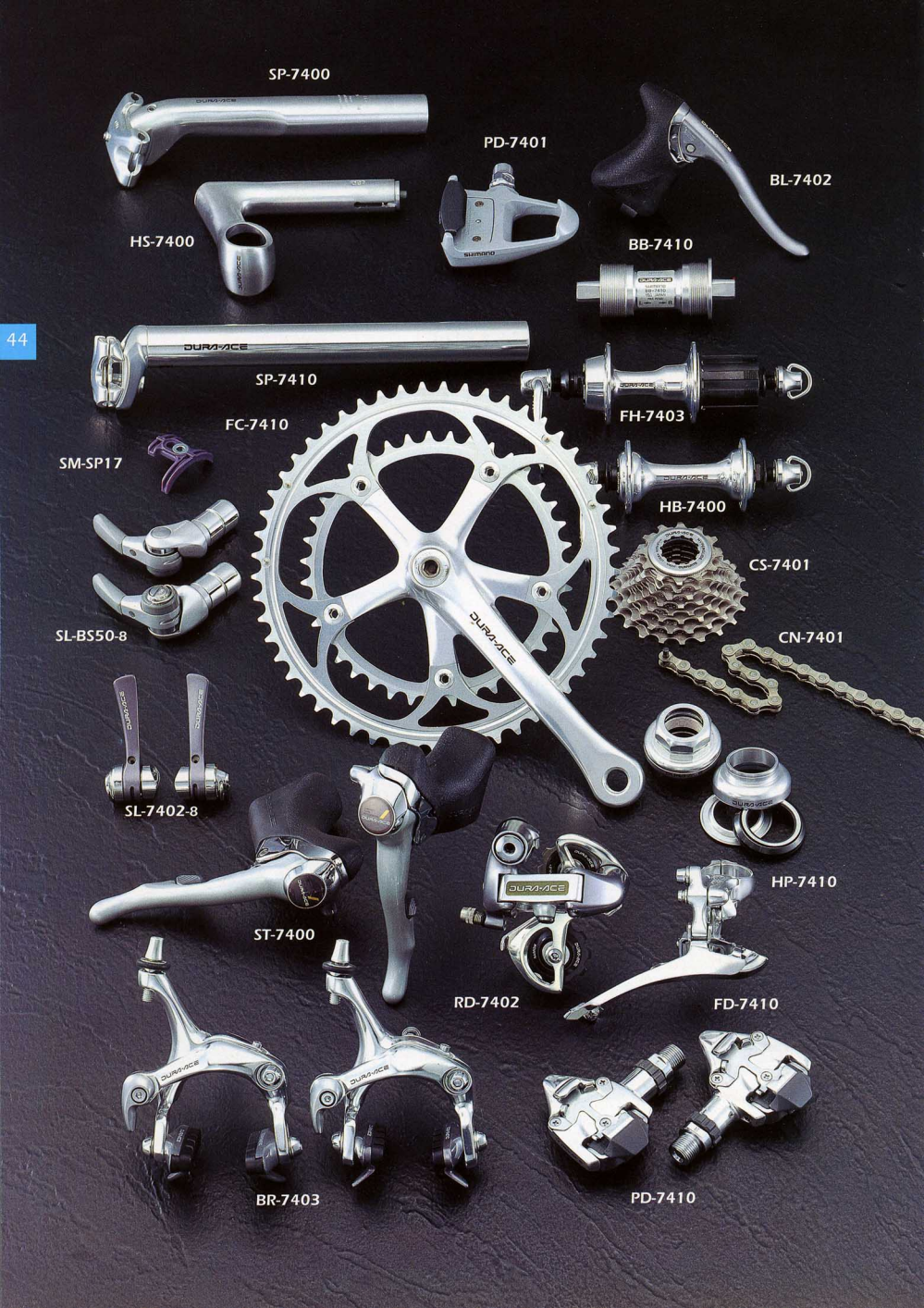
SHIMANO RX100

An exceptional cost-performance value for the all-purpose racing-type bicycle used for sport cycling, fitness, or recreational riding. Offering the same basic design and functions as the 105-SC group, RX-100 use a less costly polished surface treatment. As a result, the RX100-equipped bicycle offers a high level of quality and performance at a more reasonable price.



SHIMANO RSX

Shimano RSX is a brand new component group especially designed for the entry-level racing-type sport bicycle. Incorporating all the advanced Shimano functions, including a new triple crankset, RSX brings real racing-style response within reach of those looking for an affordable high-performance bicycle.


SP-7400
PD-7401
BL-7402
HS-7400
BB-7410
SP-7410
FH-7403
FC-7410
SM-SP17
HB-7400
CS-7401
SL-BS50-8
CN-7401
SL-7402-8
HP-7410
ST-7400
RD-7402
FD-7410
BR-7403
PD-7410

DURA-ACE

Advanced cycling technology that delivers the 100th-of-a- second advantage. Dura-Ace gives road racers a real winning advantage. Dura-Ace was developed with only one purpose in mind – to help the competition road cyclist win races. Ultra-precision bearings reduce friction and increase power transfer efficiency. Shimano Total Integration provides instantaneous hands-on-the-bars gear changing at the touch of a finger. Powerful Super SLR brakes deliver effective speed control with a sensitive linear response lever feeling.

Dual SIS

The Dura-Ace dual control lever incorporates a precision SIS indexing unit that let's you shift both the rear and front derailleurs with SIS precision – without ever taking your hands off the bars. Front SIS provides the further advantage of allowing the racer to execute double shifts without losing precious time. New for 1995 is the SP36 SIS cable that makes shifting smoother than ever.



HyperDrive

The Dura-Ace crank is cold forged from high-grade alloy. Super low-profile design with reinforcing ribs reduces crank weight to an absolute minimum without any loss of rigidity. BB-7410 cassette bottom bracket uses precision sealed bearing cassettes for the ultimate in strength, durability, and rotating precision.



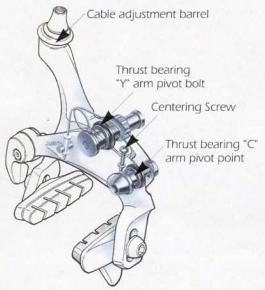
8-Speed Freehub With HG Sprockets

Shimano freehub design allows wider bearing spacing which eliminates axle bending and increase rigidity for more power transfer efficiency. Precision stainless steel bearings and polished races last longer and run smoother. Efficient labyrinth seal keeps out dirt and water. The handy lube hole allows grease flushing without dismantling hub. Fast-shifting HG sprockets feature beautiful champagne gold plating.



Super SLR Brakes

Dura-Ace's Super SLR brakes use offset caliper pivots to increase the power multiplication ratio of each caliper arm. Pivots use precision bearing surfaces and special coated washers to reduce friction.



Cartridge Bearing Headset

HP-7410 cartridge bearing headset integrates cups, cones, and bearings into a single unit that self-aligns to compensate for any differences in upper and lower head tube facings. Easier to install than conventional types, it also lasts longer because it completely shuts out dirt and water.

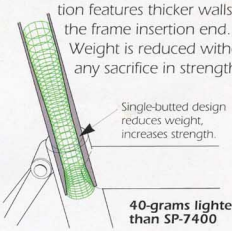
PD-7410 SPD Road Racing Pedal

Weighing-in at a lightweight 313 grams, the compact PD-7410 SPD road pedal gives racers an efficient clipless racing shoe that's comfortable to walk in before and after events. Two cleat types provide fixed or rotational retention.



High-Strength Alloy Seat Post

New SP-7410 seat post is 41 grams lighter and 50mm longer than previous model. Single-butted construction features thicker walls at the frame insertion end. Weight is reduced without any sacrifice in strength.




SP-6400
BB-UN71
HS-6400
BL-6403
SM-SP17
FH-6402
FC-6400
PD-6402
HB-6400
SL-BS64-8
CN-HG90
SL-6401
CS-HG90-8
HP-6500
RD-6401
PD-6500
BR-6403
FD-6401
ST-6400

SHIMANO 600 ULTEGRA

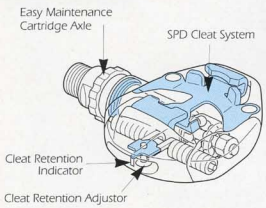
Real racing performance in a stylish component package.

600 Ultegra is a road racing component group for the amateur racer, performance enthusiast, triathlete, or any cyclist who wants an affordable high-performance racing bicycle. Incorporating all the advanced Shimano features, 600 Ultegra offers a stylish appearance marked by smooth seamless contours and high-tech gray color treatment.

SPD Racing Pedal

PD-6500 SPD racing pedal offers the same lightweight and compact design as the Dura-Ace model. Pedal features chrome moly spindle, cartridge bearing unit, and adjustable cleat tensioning. Two cleat sets are offered for fixed or rotational binding (allows 12 degrees of rotation).





Cartridge Headset

HP-6500 cartridge headset uses precision cassettes that combine bearings and races into a single one-piece unit. The result is easier installation and a smoother, more precise action. O-ring sealing completely shuts out water and dirt.



8-Speed SIS Shifting

600 Ultegra freehub is available in 28, 32, or 36-spoke versions and features 8-speed chrome-plated HG sprockets for a wider gear selection. New HG91 chain provides greater strength plus fast and precise SIS shifting.



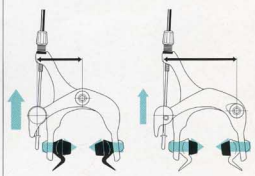
Advanced Derailleur Design

The rear derailleur features all-alloy construction to save weight. Hard ceramic bushing in the guide pulley reduces friction without the need for lubrication. Effective link pin sealing keeps both derailleurs working smoothly in wet and muddy environments. Front and rear derailleurs offer adjustable spring tensioning to match rider preferences.

Super SLR Brakes

Super SLR brakes deliver more effective stopping power with greater control. The dual-pivot brake caliper provides a power multiplication advantage that makes more efficient use of energy input at the lever. Low-friction mechanisms, including special coated washers at the caliper arm pivots, give the lever a sensitive "linear-response" feeling that makes speed control easier.

Single vs. Dual Pivot Caliper

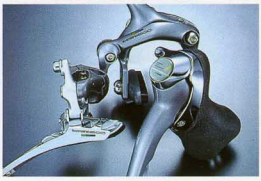


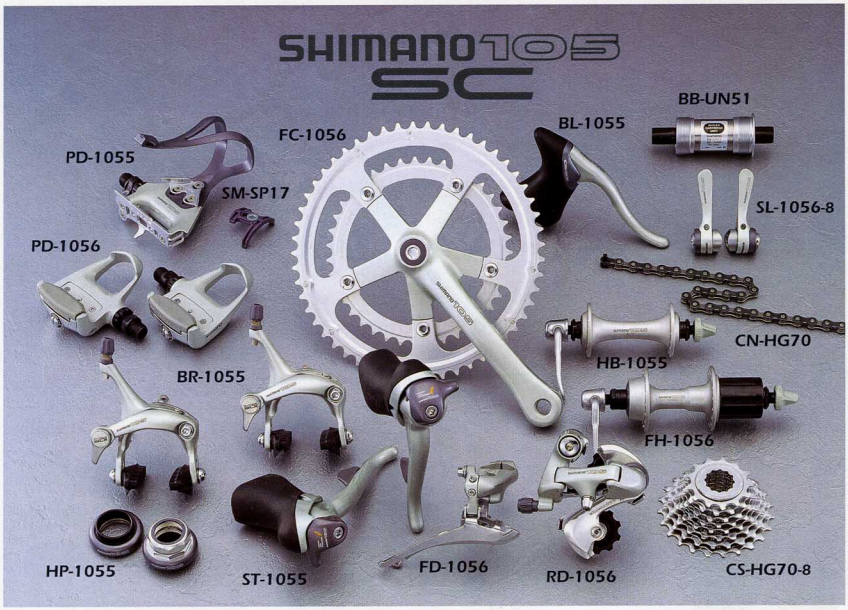
Shorter pivot-cable distance results in less brake application leverage.

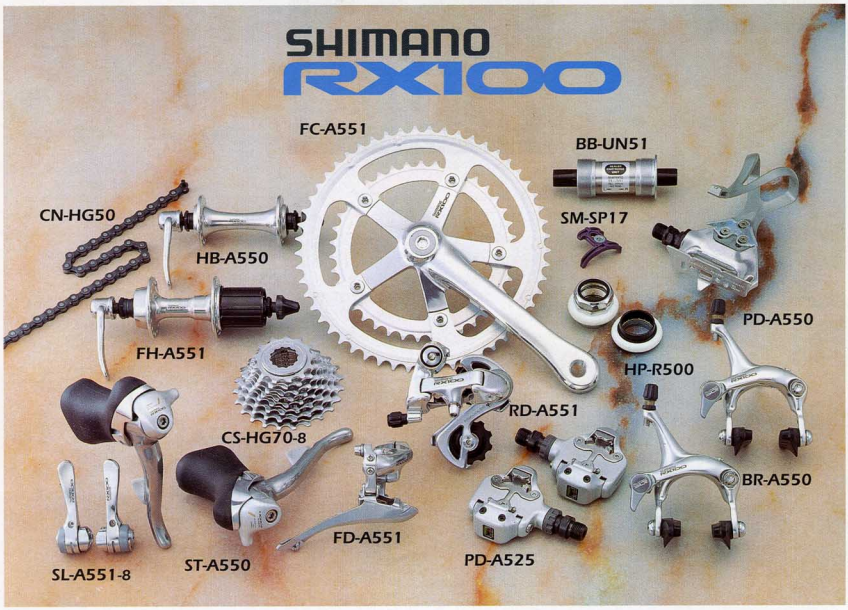
Longer pivot-cable distance increases leverage and braking power.

Stylish Design

The 600 Ultegra-equipped bicycle looks as good as it goes. The seamless contour design and high-tech gray surface treatment give the sport-racing bicycle an ultra-modern look of functionality and high-performance.




SHIMANO 105
SC
BB-UN51
BL-1055
FC-1056
PD-1055
SM-SP17
SL-1056-8
PD-1056
CN-HG70
HB-1055
BR-1055
FH-1056
HP-1055
ST-1055
FD-1056
RD-1056
CS-HG70-8


SHIMANO
RX100
FC-A551
BB-UN51
CN-HG50
SM-SP17
HB-A550
PD-A550
FH-A551
HP-R500
RD-A551
CS-HG70-8
BR-A550
FD-A551
PD-A525
SL-A551-8
ST-A550

Real racing performance for sport cyclists.

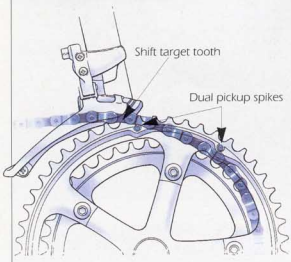
Shimano 105-SC and RX-100 are sport/racing component groups positioned just beneath 600 Ultegra. They offer the full range of advanced Shimano functions including 8-speed HG cassette sprockets, STI dual control levers for hands-on-the-bars shifting, and super SLR dual-pivot brake calipers. These component groups offer a high level of quality and performance that's affordable to amateur road racers, triathletes, fitness enthusiasts -- anyone who enjoys the responsive feeling a quality lightweight racing-style bicycle.

Dual SIS



Dual SIS delivers precision indexed SIS shifting for both the rear and front derailleurs. The Dual Control Lever allows SIS shifting and braking from a single integrated lever design. It's safer, faster, and more fun because you don't have to take your hands off the bars to shift.





Choice of Lever Type

Choose the shift lever that matches your riding style. 105SC gives you your choice of Dual Control Lever, conventional downtube shifters, or bar end shift levers. Each provides fast, precise, error-free 8-speed SIS shifting.

8-Speed HG Cassette Sprockets



105-SC and RX-100 feature optional 8-speed HG cassette sprockets - the same number of gears used on the pro-level Dura-Ace group (7-speed freehub is standard). HG sprockets were computer-designed to provide more effective chain control that results in faster, smoother SIS shifting.

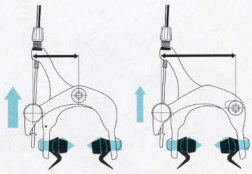


Super SLR Brakes



The dual-pivot design of the Super SLR caliper brakes delivers more braking power as a result of a higher power multiplication factor. Low-friction mechanisms result in a highly sensitive "linear-response" lever feeling that makes speed control easier.

Single vs. Dual Pivot Caliper



Shorter pivot-cable distance results in less brake application leverage.

Longer pivot-cable distance increases leverage and braking power.

Style and Performance

105-SC components have a distinctive light gray matt-finish surface treatment that conveys quality and technology. The RX-100 group features anodized and polished surfaces for the look of functional performance.

RX-100 Front Triple

The RX-100 crankset is now available in a triple chainwheel version for touring bikes and for cyclists who want the convenience of extra-low gearing on a sport-racing type bicycle.





EXAGE 300EX

Exage 300EX components bring more quality, performance, and value to economy-priced lightweight sport bicycles. 6 & 7 speed SIS, rear freehub, Biopace chainring, HG cassette sprockets, SLR side-pull brakes and other features deliver Shimano quality and value at an amazingly resonable price.



SHIMANO RSX

A boost in performance for all kinds of lightweight sport bicycles.

RSX is a new-genre component group incorporating the latest advances in Shimano component technology. Not a racing group and not an MTB group, RSX provides flexible, stylish performance for a variety of quality lightweight sport bicycles. RSX includes such advanced features as HyperDrive-C, STI dual control levers, Top-Swing front derailleur, Super SLR M-System brakes, Optical Gear Display and a lot more.

Dual Control Levers

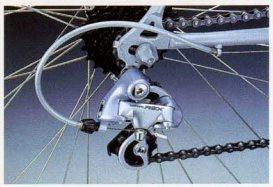
RSX uses the STI dual control lever that uses a single lever for braking and downshifting without removing your hands from the bars. Left lever is the first of its type for triple cranksets. Optional Optical Gear Display indicators give you a visual verification of selected gear.



SM-ST10

Advanced Light Action

First applied to Shimano's mountain bike components, the Advanced Light Action design is used in the RSX derailleurs to reduce shifting effort. Rear derailleurs are offered in SS version for sport gearing and GS version for wide-range gearing.



7-Speed HyperGlide

7-speed HG sprocket cluster delivers fast and smooth shifts regardless of chain load. RSX is the first road group to use an 11-tooth top gear, computer-designed to provide more effective chain control for faster, smoother SIS shifting.

Super SLR M-System Brakes

M-System brake pads give RSX dependable stopping performance even in the rain and mud. (M-System pads are only available with 49mm reach caliper). Dual-pivot Super SLR caliper delivers more braking power. Low-friction mechanisms provide a sensitive "linear-response" lever feeling that makes speed control easier.



Stainless Steel Hardware

Stainless steel fasteners throughout the component group resist rusting and tarnishing. The bicycle stays looking new for years.



Freehub

RSX features utilizes the Shimano rear freehub which integrates the freewheel mechanisms into the hub itself. Freehub design allows wider bearing placement and reduced rim offset to make a stronger and more rigid rear wheel,.

HyperDrive C

This is the first use of the HyperDrive C system on a road component group. HyperDrive C uses smaller chainrings and rear sprockets that reduce weight, bulk, and increase crank-ground clearance without affecting available gearing.



Top-Swing Front Derailleur

New Top-Swing design significantly reduces the effort needed to operate the front derailleur. Chainwheel shifting is easier than ever before.

Triple Crankset

RSX responds to the needs of touring cyclists with an available triple crankset (FC-A413). HyperDrive-C 46/36/26T chainwheel and 11-24T cassette sprockets provide wide-range gearing with minimum weight. RSX Dual Control Lever is compatible with triple chainwheels.



■ Road Component Specifications I

Component	Item	DURA-ACE		600 ULTEGRA		SHIMANO105-SC		
REAR DERAILLEUR	Model No.	RD-7402		RD-6401		RD-1056		
	Speeds (SIS)	8-speed		7 or 8-speed		7 or 8-speed		
	Max. Sprocket	26T		28T		28T		
	Min. Sprocket	12T		12T		12T		
	Front Gear Difference	14T max		13T max		13T max		
	Total Capacity	26T		28T		28T		
	Pivot & Pulley Brackets	forged aluminum w/color anodized finish		dark gray painted aluminum		painted aluminum		
	Outer Link	forged aluminum / epoxy logo, color anodized		silver painted aluminum		painted aluminum		
	Inner Link	anodized forged aluminum		painted aluminum		pearl bright finish steel		
	Outer Pulley Cage	anodized aluminum		anodized aluminum		polished aluminum		
	Inner Pulley Cage	anodized aluminum		polished aluminum		pearl bright finish steel		
	Weight	209g		215g		247g		
FRONT DERAILLEUR	Model No.	FD-7410-B	FD-7410-F	FD-6401-B	FD-6401-F	FD-1056-B	FD-1056-F	
	Capacity	15T	15T	14T	14T	15T	15T	
	Mounting	band	braze on	band	braze on	band	braze on	
	Band Diameter	28.0–28.6mm		28.0–28.6mm		28.0–28.6mm		
	Chain Stay Angle	61–66°	61–66°	61–66°	61–66°	61–66°	61–66°	
	Band	forged aluminum/ anodized	forged aluminum/ anodized	gray painted aluminum	gray painted aluminum	painted aluminum	painted aluminum	
	Outer Link	forged aluminum/ anodized	forged aluminum/ anodized	silver painted aluminum	silver painted aluminum	painted aluminum	painted aluminum	
	Chain Cage	chrome plated steel	chrome plated steel	chrome plated steel	chrome plated steel	chrome plated steel	chrome plated steel	
	Weight	97g		107g		105g		
DUAL CONTROL LEVER	Model No.	ST-7400		ST-6400		ST-1055		
	Rear (Dual SIS)	8-speed		8-speed		8-speed		
	Front (Dual SIS)	double		double		double		
	Handle Bar Dia.	23.8–24.2mm		23.8–24.2mm		23.8–24.2mm		
	Body	chrome plated aluminum		polished aluminum		mirror polished aluminum		
	Lever	painted forged aluminum		dark gray painted aluminum		painted aluminum		
	Outer Shift Cable	SIS-SP36 (sealed)		SIS-SP (sealed)		SIS-SP36		
	Brake Cable	SLR outer		SLR outer		SLR outer		
	Weight	480g (pair)		542g (pair)		495g		
SHIFT LEVER	Model No.	SL-7402-8	SL-BS50-8	SL-6401	SL-BS64-8	SL-1056-FCAI	SL-1055-FCAI	SL-BS50-7
	Speeds (SIS)	8-speed	8-speed	8-speed	8-speed	8-speed	7-speed	7-speed
	Mount Position	down tube	bar end	down tube	bar end	down tube	down tube	bar end
	Tube Diameter	braze-on	19.0-22.0mm (inside)	braze-on		braze-on	braze-on	19.0-22.0mm (inside)
	Material & Surface	painted aluminum	painted aluminum	gray painted aluminum	gray painted aluminum	painted aluminum	painted aluminum	painted aluminum
	Cable	SIS sealed	SIS-SP sealed	SIS sealed	SIS-SP sealed	SIS sealed	SIS sealed	SIS-SP
	Weight	67g	183g	67g	180g	70g	70g	183g
AERO BRAKE LEVER	Model No.	BL-7402		BL-6403		BL-1056		
	Bar Diameter	23.8–24.2mm		23.8–24.2mm		23.8–24.2mm		
	Lever Stroke	88mm		64mm		84mm		
	Brake Cable	SLR outer		SLR outer		SLR outer		
	Lever	aluminum w/anodized		painted aluminum		painted aluminum		
	Base	chrome plated aluminum		polished aluminum		polished aluminum		
	Base Cover	black or white		black or white		black, white, or gray		
	Weight	240g (pair)		272g		252g		
DUAL PIVOT CALIPER BRAKE	Model No.	BR-7403		BR-6403		BR-1056		
	Reach	49mm		49mm		49mm	57mm	
	Caliper	anodized forged aluminum		forged aluminum / painted		forged aluminum / painted		
	Weight	432g (F&R)		423g (F&R)		360g (F&R)		
CRANKSET	Model No.	FC-7410		FC-6400		FC-1056		
	Gearing	53-42 / 53-39 / 52-42T		53-42 / 52-42T (round SG)		53-42 / 53-39 / 52-42T		
	Bolt Circle	130mm		130mm		130mm		
	Crank Length (mm)	165/167.5/170/172.5/177.5/180mm		165/167.5/170/172.5/175mm		165/167.5/170/172.5/175mm		
	Crank	anodized forged aluminum		anodized aluminum		painted aluminum		
	Chain Rings	anodized forged aluminum		anodized aluminum		anodized aluminum		
	Crank Bolts	titanium alloy		chrome-moly steel		chrome-moly steel		
	Weight	589g (170mm/53-39T)		650g (170mm / 52-42T)		686g (170mm / 52-42T)		

SHIMANO RX100			SHIMANO RSX		SHIMANO 300EX	Item / Component	
RD-A551		RD-A550-GS	RD-A410-SS	RD-A410-GS	RD-A300	Model No.	REAR DERAILLEUR
7 or 8-speed		7-speed	7-speed	7-speed	6 or 7-speed	Speeds (SIS)	
28T		30T	28T	28T	28T	Max. Sprocket	
12T		12T	11T	11T	12T	Min. Sprocket	
13T max		20T max	13T max	20T max	13T max	Front Gear Difference	
28T		36T	28T	36T	28T	Total Capacity	
polished aluminum			painted aluminum		aluminum & resin	Pivot & Pulley Brackets	
polished aluminum			polished steel		painted steel	Outer Link	
pearl bright steel			painted steel	black steel	painted steel	Inner Link	
pearl bright steel			pearl bright steel		zinc plated steel	Outer Pulley Cage	
pearl bright steel			black steel		steel	Inner Pulley Cage	
		302g			282g	Weight	
FD-A551-B	FD-A551-F	FD-A553	FD-A410		FD-A300-B	Model No.	FRONT DERAILLEUR
15T	15T	26T	20T		14T	Capacity	
band	braze-on	band	band		band	Mounting	
28–28.6mm		28–28.6mm	28–28.6mm / 31.8mm		28–28.6mm	Band Diameter	
61-66°		63-66°	61-66° (double) / 63-66° (triple)		61-66°	Chain Stay Angle	
polished aluminum			painted aluminum		pearl bright steel	Band	
polished aluminum			polished aluminum		zinc plated steel	Outer Link	
chrome-plated steel			chrome-plated steel		chrome-plated steel	Chain Cage	
105g		121g				Weight	
ST-A550			ST-A410			Model No.	DUAL CONTROL LEVER
8-speed			7-speed			Rear (Dual SIS)	
double			double / triple			Front (Dual SIS)	
23.8–24.2mm			23.8–24.2mm			Handle Bar Dia.	
polished aluminum			polished aluminum			Body	
polished aluminum			violet - silver painted aluminum			Lever	
SIS-SP36			SIS-SP36			Outer Shift Cable	
SLR outer			M-System outer			Brake Cable	
495g (pair)						Weight	
SL-A551 FCAI	SL-A550 FCAI	SL-A550-T	SL-A410		SL-A300	Model No.	SHIFT LEVER
8-speed	7-speed	7-speed (Triple)	7-speed		7-speed	Speeds (SIS)	
down tube			down tube		28.6mm or braze-on	Mount Position	
braze-on			braze-on		7-speed	Tube Diameter	
polished aluminum			pearl bright aluminum		barrel finish aluminum	Material & Surface	
SIS			SIS		SIS	Cable	
70g					76g	Weight	
BL-A550			BL-A410		BL-A251	Model No.	AERO BRAKE LEVER
23.8 – 24.2			23.8 – 24.2mm		23.8 – 24.2mm	Bar Diameter	
84mm					88mm	Lever Stroke	
SLR outer			M-System outer		SLR outer	Brake Cable	
anodized aluminum			polished aluminum		polished aluminum	Lever	
polished aluminum			polished aluminum		zinc plated steel	Base	
black or white			black		black or white	Base Cover	
252g					310g	Weight	
BR-A551			BR-A410		BR-A250 (single pivot side pull)	Model No.	DUAL PIVOT CALIPER BRAKE
49mm or 57mm			49mm		49mm or 57mm	Reach	
anodized forged aluminum			polished forged aluminum		polished forged aluminum	Caliper	
348g						Weight	
FC-A551		FC-A550-T	FC-A410	FC-A413	FC-A300	Model No.	CRANKSET
53-42/53-39T/52-42T		52-42-30T	46-36T	46-36-26T	52-42T	Gearing	
130mm		130/74mm	110 / 74mm	110 / 74mm	130mm	Bolt Circle	
165/170/175mm		170 / 175mm	170 / 175mm	170 / 175mm	170 / 175mm	Crank Length (mm)	
mirror polished aluminum			mirror polished aluminum	mirror polished aluminum	polished aluminum	Crank	
anodized aluminum			steel & aluminum	steel & aluminum	painted steel	Chain Rings	
chrome moly			stainless steel	stainless steel		Crank Bolts	
686g (170mm/52-42)						Weight	

■ Road Component Specifications Ⅱ

Component	Item	DURA-ACE		600 ULTEGRA		SHIMANO105-SC	
CARTRIDGE BOTTOM BRACKET	Model No.	BB-7410		BB-UN71		BB-UN51	
	Crankset	FC-7410		FC-6400		FC-1056	
	Chain Line	43.5mm		43.5mm		43.5mm	
	BB Shell Width	68 / 70mm		68 / 70mm		68 / 70mm	
	Marking	SS 103		D-H		MM107	
	Axle Length	103mm		115mm		107mm	
	Weight	230g		272g		308g	
REAR FREEHUB	Model No.	FH-7403	FH-7463	FH-6402		FH-1056	FH-1055
	Speeds	8	8	8		8	7
	Over Locknut	130mm	130mm	130mm		130mm	126mm
	Axle Length	141mm	141mm	141mm		141mm	137mm
	Spoke Holes	36 / 32 / 28	for disc wheel	36 / 32 / 28		36 / 32	36 / 32
	Spoke Hole Circle	44mm		45mm		45mm	45mm
	Material	forged aluminum	aluminum	forged aluminum		forged aluminum	forged aluminum
	Finish	anodized	anodized	anodized		anodized	anodized
	Weight	467g	648g	428g		427g	415g
FRONT HUB	Model No.	HB-7400		HB-6400		HB-1056	
	Over Locknut	100mm		100mm		100mm	
	Axle Length	108mm		108mm		108mm	
	Spoke Holes	36 / 32 / 28		36 / 32 / 28		36/32	
	Spoke Hole Circle	38mm		38mm		38mm	
	Material	forged aluminum		forged aluminum		forged aluminum	
	Finish	anodized		anodized		anodized	
	Weight	235g		212g		228g	
CASSETTE SPROCKETS	Model No.	CS-7401-8		CS-HG90-8		CS-HG70-8	CS-HG70-7
	Speeds	8		8		8	7
	Group Identification	S ,T, U, V, W		S ,T, U, V, W		S ,T, U, V, W	E, H, I, J, L, M
	Color	champagne gold		chrome plated		silver	silver
	Weight	258g (S group)		250g		278g (U group)	
CHAIN	Model No.	CN-7401		CN-HG91	CN-HG90	CN-HG70	
	Type	HG narrow		HG narrow	HG narrow	HG narrow	
	Inner Link Color	nickle plating		gray	black	gray	
	Outer Link Color	nickle plating		silver	silver	black	
	Weight			335g (114 link)	335g (114 link)	335g (114 links)	
HEADSET	Model No.	HP-7410		HP-6500		HP-1055	
	Sealed Cartridge	○		○			
	Thread	BC 1" × 24 TPI		BC 1" × 24 TPI		BC 1" × 24 TPI	
	Stack Height	37.6mm		37.6mm		32.7mm	
	Weight	101g		109g		101g	
PEDAL	Model No.	PD-7410	PD-7401	PD-6500	PD-6402	PD-1056	PD-1055
	Cleat Type	SPD	Shimano clipless	SPD	Shimano clipless	Shimano clipless	toe clip type
	Spindle Thread	BC 9/16" × 20 TPI		BC 9/16" × 20 TPI	BC 9/16" × 20 TPI	BC 9/16" × 20 TPI	BC 9/16" × 20 TPI
	Body	anodized finish aluminum		polished aluminum	gray painted aluminum	painted aluminum	polished aluminum
	Spindle Material	nickle chrome moly		chrome moly	nickle chrome moly	chrome moly	chrome moly
	Weight	317g	416g (+92g w/cleats)	348g	450g (+92g w/cleats)	460g (+105g w/cleats)	433g (w/ L toe clip)
SEAT POST	Model No.	SP-7410	SP-7400-A SP-7400-B	SP-6400-A	SP-6400-B		
	Post Type	round	round oval	round	oval		
	Outer Dia. (mm)	26.8/27.0/ 27.2	25.0/25.8/ 26.4/26.6/ 26.8/27.0/ 27.2/27.4 / 25.0/25.8/ 26.0/26.2/ 26.4/26.6/ 26.8/27.0/ 27.2/27.4	25.0/25.8/26.0 26.6/26.8/27.0 27.2	25.0/25.8/26.0 26.6/26.8/27.0 27.2		
	Length	270mm	205mm 205mm	205mm	205mm		
	Material	thin wall aluminum	aluminum aluminum	aluminum	aluminum		
	Weight	195g	224g 224g		286g		
HANDLE BAR STEM	Model No.	HS-7400		HS-6400			
	Stem Dia.	22.2mm		22.2mm			
	Bar Clamp Dia.	25.4 / 26.0mm		25.4 / 26.0mm			
	Extension	70 / 80 / 90 / 100 / 110 / 120 / 130mm		70 / 80 / 90 / 100 / 120 / 120 / 130mm			
	Weight	280g (100mm ext.)		286g (100mm)			

SHIMANO RX-100		SHIMANO RSX		SHIMANO 300EX	Item / Component	
BB-UN51		**BB-LP25**		**BB-CS11**	Model No.	**CARTRIDGE BOTTOM BRACKET**
FC-A551	FC-A550-T	FC-A410	FC-A413	FC-A300	Crankset	
43.5mm	47.5mm	43.5mm	45.0mm	43.5mm	Chain Line	
68 / 70mm	68 / 70mm	68 / 70 / 73mm	68 / 70 / 73mm	68 / 70mm	BB Shell Width	
MM107	D-NL	MM110	XL118	D-H115	Marking	
107mm	122.5mm	110.5mm	118mm	115mm	Axle Length	
					Weight	
FH-A551-HG	**FH-A550-7**	**FH-A410**		**FH-HG50**	Model No.	**REAR FREEHUB**
8	7	7		7	Speeds	
130mm	126mm	130mm	126mm	126mm	Over Locknut	
141mm	137mm	141mm	137mm	137mm	Axle Length	
36 / 32H	36 / 32H	36 / 32H		36 / 32H	Spoke Holes	
45mm	45mm	45mm		45mm	Spoke Hole Circle	
aluminum	aluminum	aluminum		aluminum	Material	
mirror polished	mirror polished	die cut		die cut	Finish	
427g	420g			235g	Weight	
	HB-A550	**HB-A410**		**HB-RM50**	Model No.	**FRONT HUB**
	100mm	100mm		100mm / 96mm	Over Locknut	
	108mm	108mm		108mm / 104mm	Axle Length	
	36 / 32H	36 / 32H		36 / 32H	Spoke Holes	
	38mm	38mm		38mm	Spoke Hole Circle	
	aluminum	aluminum		aluminum	Material	
	mirror polished	die cut		die cut	Finish	
	202g			235g	Weight	
CS-HG70-8	**CS-HG70-7**	**CS-HG70-7**		**CS-HG50-7**	Model No.	**CASSETTE SPROCKETS**
8	7	7		7	Speeds	
S, T, U, V, W	E, H, I, J, L, M	ai (11-12-14-16-18-21-24)		E, H, I, J, L, M	Group Identification	
silver	silver	black		brown / silver low gear	Color	
278g (U group)					Weight	
CN-HG70		**CN-HG50**		**CN-HG50**	Model No.	**CHAIN**
HG narrow		HG narrow		HG narrow	Type	
gray		black		black	Inner Link Color	
black		black		black	Outer Link Color	
335g		335g		335g	Weight	
HP-1055		**HP-R500**		**HG-R500**	Model No.	**HEADSET**
					Sealed Cartridge	
BC 1" x 24TPI		BC 1" x 24TPI		BC 1" x 24TPI	Thread	
32.7mm		33.5mm		33.5mm	Stack Height	
101g		121g		121g	Weight	
PD-A525	**PD-A550**				Model No.	**PEDAL**
SPD	toe clip type				Cleat Type	
BC 9/16" x 20TPI	BC 9/16" x 20TPI				Spindle Thread	
white or silver painted aluminum	aluminum				Body	
chrome moly	chrome moly				Spindle Material	
390g	407g (w/ L toe clips)				Weight	

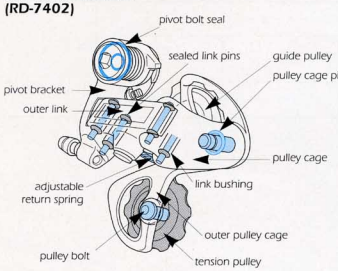
Cassette Sprocket Gear Combinations

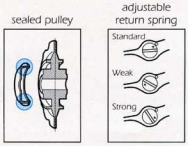
Model No.	Speed	Group Letter	Gearing
CS-7401 CS-HG90-8 CS-HG70-8	8	S	12, 13, 14, 15, 16, 17, 19, 21
		T	13, 14, 15, 16, 17, 19, 21, 23
		U	12, 13, 14, 15, 17, 19, 21, 23
		V	13, 14, 15, 17, 19, 21, 23, 26
		W	12, 13, 15, 17, 19, 21, 23, 25
CS-HG70-7 CS-HG50-7	7	E	12, 14, 16, 18, 21, 24, 28
		H	13, 15,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

■ Road Group Feature Comparison Chart

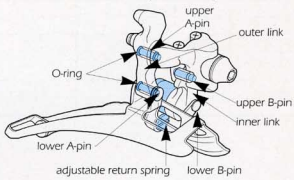
Item	Feature	DURA-ACE	SHIMANO 600 ULTEGRA	SHIMANO 105SC	SHIMANO RX100	SHIMANO RSX	SHIMANO 300EX
REAR DERAILLEUR	Model No.	RD-7402	RD-6401	RD-1056	RD-A551 / RD-A553	RD-A410	RD-A300
	Advanced Light Action					○	
	Speeds	8	8	8	8 / 7	7	7
	Guide Pulley Bushing	ceramic (sealed)	ceramic (sealed)	sintered aluminum	sintered aluminum / sintered aluminum	sintered aluminum	
	Tension Pulley	ceramic (sealed)	ceramic (sealed)	sintered aluminum	sintered aluminum	sintered aluminum	
	Sealed Link Pins	stainless steel (4)	stainless steel (4)	outer link (2)	outer link (2)		
	Link Bushings	hard brass (4)	hard brass (4)	hard brass (3)	hard brass (3)		
	Pivot Bracket Seal	double O-rings	double O-rings				
	Pulley Bracket Seal	O-ring	O-ring				
	Aluminum Pulley Cage	inner & outer	outer & inner	outer			
	Aluminum Links	inner & outer	outer & inner	outer	outer		
	Aluminum Brackets	pivot & pulley	pivot & pulley	pivot & pulley	pivot & pulley	pivot & pulley	
	Adjustable Return Spring	○	○	○	○		
FRONT DERAILLEUR	Model No.	FD-7410	FD-6402	FD-1056	FD-A551 / FD-A553	FD-A410	FD-A300
	Advanced Light Action					○	
	Dual SIS	○		○	○		
	Front Band	forged aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
	Rear Band	forged aluminum	aluminum	aluminum	aluminum	aluminum	steel
	Outer Link	forged aluminum	aluminum	aluminum	aluminum	steel	steel
	Inner Link	forged aluminum	aluminum	die cast zinc	die cast zinc	steel	steel
	Adjustable Return Spring	○	○				
	Spring Cover	○	○	○	○		
	O-ring Seals	upper & lower A-pins					
	Bushings	upper & lower AB-pins	lower A-pin	lower A-pin	lower A-pin		
	Top Swing Design					○	
DUAL CONTROL LEVER	Model No.	ST-7400	ST-6400	ST-1055	ST-A550	ST-A410	
	Advanced Light Action					○	
	Speeds	8	8	8	8	7	
	Optical Gear Display					Optional	
	Max. Shift Stroke (rear)	3	3	3	3	3	
SHIFT LEVER	Model No.	SL-7402 / SL-BS50-8	SL-6401 / SL-BS64-B	SL-1056-8 / SL-1056-7 / SL-BS50-7	SL-A550 / SL-A551	BL-A410	SL-A400
	Mount Position	down tube / bar end	down tube / bar end	down tube / bar end	down tube	down tube	down tube
	Light Action Lever (F)	○ ○	○ ○	○ ○	○ ○		
BRAKE LEVER	Model No.	BL-7402	BL-6403	BL-1055	BL-A550	BL-A410	BL-A251
	SLR (return spring)	○	○	○	○		

REAR DERAILLEUR (RD-7402)

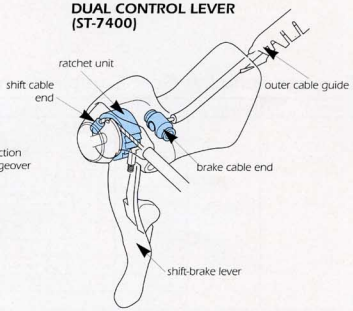


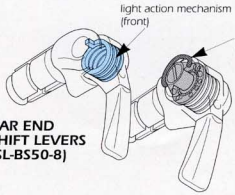


FRONT DERAILLEUR (FD-7410)



DUAL CONTROL LEVER (ST-7400)



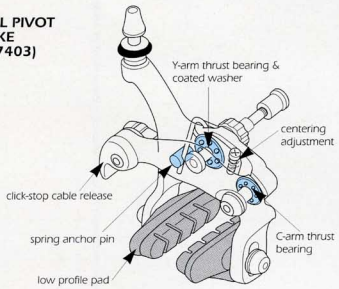


BAR END SHIFT LEVERS (SL-BS50-8)

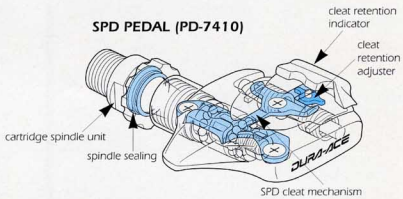
Item	Feature	DURA-ACE		SHIMANO 600 ULTEGRA		SHIMANO 105SC		SHIMANO RX100		SHIMANO RSX		SHIMANO 300EX
DUAL-PIVOT BRAKE CALIPER	Model No.	**BR-7403**		**BR-6403**		**BR-1055**		**BR-A550**		**BR-A410**		**BR-A250**
	System	Super SLR		Super SLR		Super SLR		Super SLR		M-System		
	Coated Pivot Washer	Y / C arms		C arm		C arm		C arm				
	Thrust Bearing	Y / C arms		Y arm		C arm		C arm				
	Low Profile Pad	w/pad holder		w/pad holder		one-piece		one-piece		one-piece		one-piece
CRANKSET	Model No.	**FC-7410**		**FC-6400**		**FC-1056**		**FC-A551**	**FC-A550-T**	**FC-A410**	**FC-A413**	**FC-A300**
	HyperDrive	○				○		○		○		
	Dual SIS	○				○		○		○		
	Reinforced Spider	○										
CARTRIDGE BOTTOM BRACKET	Model No.	**BB-7410**		**BB-UN71**		**BB-UN51**		**BB-UN51**		**BB-LP25**		**BB-CS11**
	Axle	hollow Cr-Mo		hollow Cr-Mo		Cr-Mo		Cr-Mo		Cr-Mo		Cr-Mo
	Adapter	aluminum		aluminum		steel		steel		resin		resin
REAR FREEHUB	Model No.	**FH-7403**	**FH7463**	**FH-6402**		**FH-1056**	**FH-1055**	**FH-A551-HG**	**FH-A550-7**	**FH-A410**		**FH-HG50**
	Contact Sealing	double		double		single		single		single		
	Stainless Steel Balls	○										
FRONT HUB	Model No.	**HB-7400**		**HB-6500**		**HB-1055**		**HB-A550**		**HB-A410**		**HB-RM50**
	Contact Sealing	double		double		single		single		single		
HEADSET	Model No.	**HP-7410**		**HP-6500**		**HP-1055**		**HP-1055**		**HP-R500**		**HP-R500**
	Cartridge Bearing	○		○								
	Locknut	aluminum		aluminum		aluminum w/stem seal		aluminum w/stem seal		steel w/stem seal		steel w/stem seal
	Upper/Lower Cups	aluminum		aluminum		composite		composite		composite		composite
	Upper Cone	aluminum		aluminum		composite		composite		composite		composite
	Lower Cone	aluminum		steel		steel		steel		steel		steel
PEDAL	Model No.	**PD-7410**	**PD-7401**	**PD-6500**	**PD-6402**	**PD-1056**	**PD-1055**	**PD-A525**	**PD-A550**			
	Type	SPD	clipless	SPD	clipless	clipless	standard	SPD	standard			
	Road Clearance	36°	34°	34°	34°	34°	34°	31°	32°			
	Spindle	Cr-Mo	Cr-Mo	Cr-Mo	Cr-Mo	Cr-Mo	Cr-Mo	Cr-Mo	Cr-Mo			
	Cartridge Spindle	○	○	○	○	○	○	○	○			
	Cleat Indicator	○		○				○				
	Cleat Adjuster	○	○	○	○	○		○				
	Step Out	(1)		(1)	(2)	(3)	(3)					
SEAT POST	Model No.	**SP-7410**	**SP-7400**	**SP-6400**								
	Single Butted Aluminum	○										

(1) The PD-7410 and PD-6500 SPD pedals feature fixed or self aligning cleat retention. Chose the appropriate type cleat for the desired retention mode.
(2) The PD-6402 clipless pedal allows selection of fixed or self aligning cleat retention.
(3) The PD-1056 clipless pedal allows selection of lateral or multi-directional cleat release

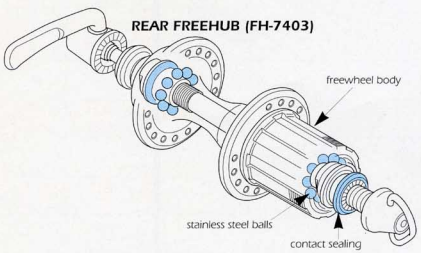
DUAL PIVOT BRAKE (BR-7403)



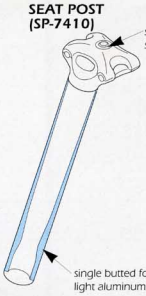
SPD PEDAL (PD-7410)



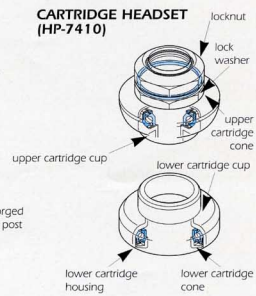
REAR FREEHUB (FH-7403)



SEAT POST (SP-7410)



CARTRIDGE HEADSET (HP-7410)



Sensor Technology creates an interface that communicates physically, visually, and aurally.

Shimano bicycle components are among the few products today that give real meaning to the words "human friendly." Shimano is now applying Sensor Technology to create a bicycle-rider interface that communicates component operation visually and aurally as well as through the physical sense of touch.

Components developed through Sensor Technology make cycling more enjoyable by relieving stress and making more efficient use of the cyclist's energy. They take less effort to operate, respond more precisely to control inputs, and communicate their operation more clearly to the cyclist.

The IG drive system components are the first to benefit from Sensor Technology. IG stands for Interactive Glide. "Interactive" because the components interact more closely with the cyclist.

Sensor Technology and the IG drive system are making the bicycle more "human friendly" than ever.

Shimano Component Group Feature Comparison Chart

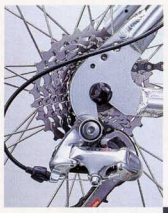
XTR	DEORE XT	DEORE LX	STX-RC	STX	ALIVIO	ACERA-X	ALTUS	MJ	MJ II
			○	○	○				
○	○	○				○	○	○	○
8 with Spider	8 with Spider	8	7	7	7	7	6, 7	6	6
○	○	○	○	○	○	○	○	○	○
HyperDrive	○	○	○ W / SGX-II	○ W / SGX-II	○ W / SGX-II	○ W / SGX-II	○	○	○ SGX-II
					○	○	○		○
●	●	●	●	○	○	○	○	○	○
			○	○	○				
M70R	M70R	M65T	M65T	M65T	M65T	M55T	M55T option	M55	M55T option
○	○	○	○					○	
					○	○	●		●
○	○	○	○	○	○				
○	○	○	○	○					
	○	○	○	○					
○	○	○	○	○					

● Removable Optical Gear Display indicator
● Bottom bracket-mounted front derailleur

The Optical Interface...

Optical Gear Displays
Stylish color treatments
Seamless contour design





The Aural Interface...

Precision indexed "click" shifting
Noiseless, vibration-free braking
Smooth and efficient drivetrain



The Physical Interface...

Advanced Light Action shifting
Sensitive SLR brakes with all-weather M-System
Shimano Pedaling Dynamics
(SPD shoe-pedal system)

700CX 400CX	DURA-ACE	600	105SC	RX100	RSX	300EX	
							Shimano IG 60
							Shimano HG
○	○	○	○	○	○	○	Speed 62
7	8	8	8	8	7	7	Advanced Light Action 63
					○		HyperDrive-C 65
	HyperDrive		HyperDrive	HyperDrive	HyperDrive		Top-Swing Front Derailleur 68
					○		Optical Gear Display 69
○					○ option		Anti-Vibration Brake
							M-Shoe 70
					M50		Cartrige Shoe 72
							Easy Set
							Alloy Quick Release Hub 73
							Stainless Steel Nut & Bolt 77
							Cartridge Head Set
					○		SPD (Shimano Pedaling Dynamics)
	○	○					
	○	○					

Another advance in shifting speed and precision.

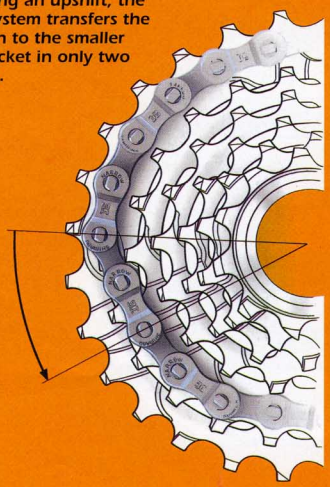
SHIMANO IG™

IG stands for "Interactive Glide." It's a new Shimano drive system incorporating further design improvements in IG-compatible sprockets, derailleurs, chainwheels, and chain.

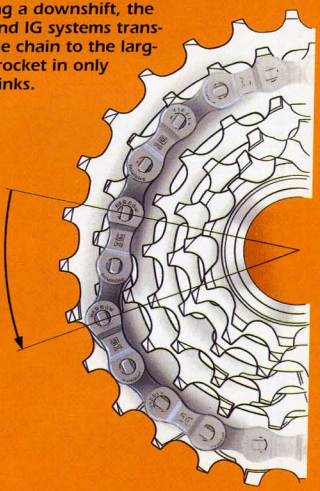
While offering the same fast and smooth downshifting of HyperGlide sprockets, IG also provides improved upshifting. Specifically, the IG system controls the chain better during downshifting because the chain is only allowed to separate from the IG sprocket at the designated release points. The chain always takes the quickest and most direct path from the larger to the smaller sprocket; without the noise and shock commonly caused by the chain dropping onto the smaller sprocket.

The STX-RC, STX, and Alivio MTB groups all incorporate the IG system for 1995. It's another advanced in derailleur shifting performance from Shimano.

During an upshift, the IG system transfers the chain to the smaller sprocket in only two links.

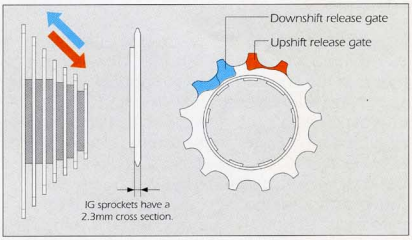


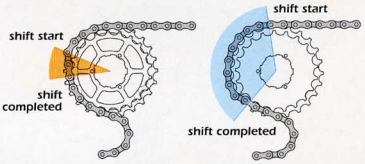
During a downshift, the HG and IG systems transfer the chain to the larger sprocket in only two links.



IG sprockets offer improved upshifting performance.

The IG sprocket incorporates the same basic design principle as the HG sprocket. The IG sprocket, however, uses new ramps and teeth configurations to better control upshifts. Upshifting shocks are eliminated because the chain is guided smoothly and directly to the smaller gear without dropping. IG sprockets are also thicker than HG sprockets, a modification which contributes to better chain control. IG makes both downshifting and upshifting smoother, faster, and more precise.



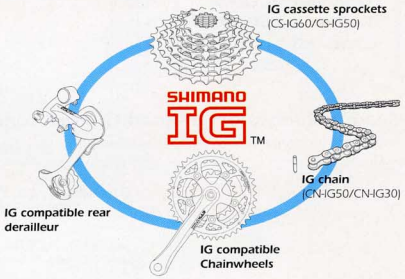


IG sprockets guide the chain quickly and directly to the next sprocket without override.

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

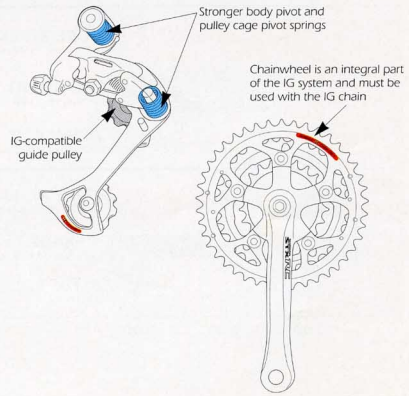
IG is an integrated shifting system.

IG isn't just a new sprocket design, but an integrated drive system. The rear derailleur, chain, and chainwheels have all been improved to offer better shifting performance. The new IG chain incorporates precision chamfered surfaces on both the inner and outer link plates. When combined with IG-type cassette sprockets, the IG chain provides significantly improved shifting. The IG chain must be used together with IG-compatible rear derailleurs and front chainrings.



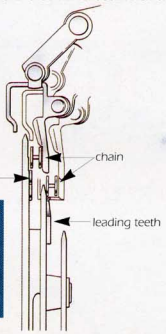
The IG rear derailleur and chainwheel.

The IG-compatible rear derailleur uses stronger pivot body and pulley cage springs in order to increase chain tension. A tighter chain flops around less, and is also less likely to be thrown during violent maneuvers. Furthermore, increased chain tension helps prevent the chain from scarring the chainwheels during shifting. And of course, the IG-type rear derailleur incorporates Advanced Light Action design to reduce shifting effort.



SGX-II chainwheels improve front SIS shifting.

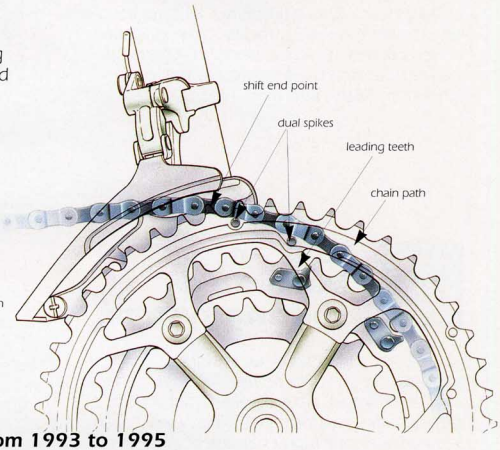
The SGX-II chainring delivers smoother and quieter shifting with reduced shock. Further refinements in the configuration and positioning of the spikes and leading teeth have resulted in improved chain control for both upshifting and downshifting. For example, during downshifts, SGX-II prevents the chain from separating from the chainwheel at non-designated points. The result is smooth and precise chainwheel shifting with reduced noise and shock. SGX-II is standard equipment on STX-RC, STX, Alivio, Acera-X, Altus, and the RSX road group.



These component groups use the SGX-II chainring

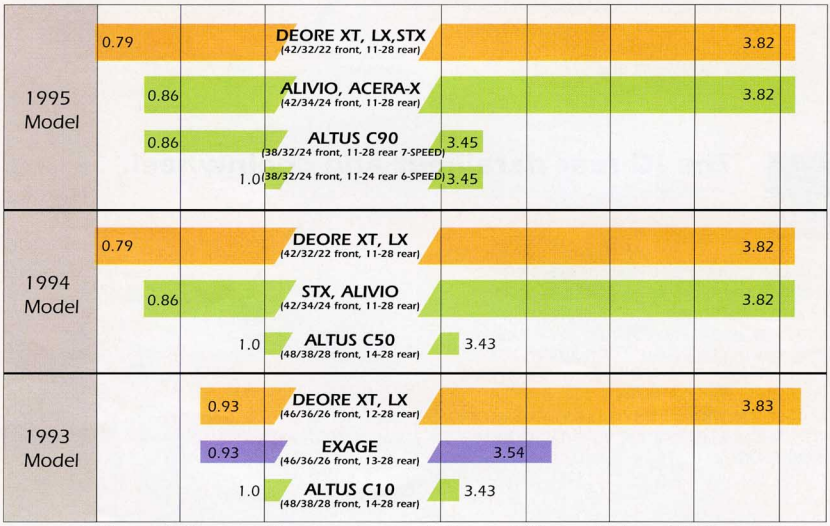
STX-RC (IG) **ACERA-X**
STX (IG) **ALTUS C90**
ALIVIO (IG) **MJ-II**
RSX

The STX-RC, STX, and Alivio groups use the SGX-II chainwheel with special tooth profile for the IG chain as part of the IG drive system.



Gearing Ranges of Off-Road Groups from 1993 to 1995

As shown in the table below, HyperDrive-C actually offers a wider gearing range using smaller chainrings and rear sprockets.

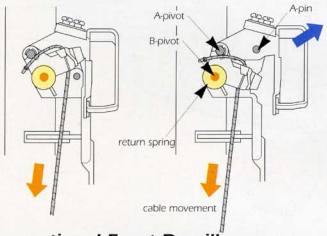


New Top-Swing front derailleur reduces shifting effort, improves shifting performance.

The Alivio, Acera-X, and MJ-II component groups use the new top-swing front derailleur. Top-Swing is a completely new design that does away with the parallel link-action commonly used on front derailleurs. It incorporates a simple new link mechanism that reduces friction and lowers cable effort. Top-Swing delivers improved shifting performance with the compact HyperDrive-C chainrings.

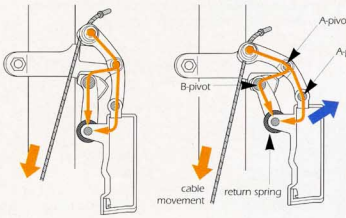
Top-Swing FD Mechanism

With Top-Swing, only the B-pivot is loaded by the return spring. This eliminates the spring load on the A-pivot and A-pin. Because the cable is attached to the B pivot link, the cable need only overcome spring pressure at one pivot point. The result is significantly reduced friction and operating effort.



Conventional Front Derailleur

In the conventional parallelogram link-type front derailleur, the spring is anchored at the B-pivot, but the cable attaches to the A-pivot link. This design creates unecessary friction by loading all of the pivot points between the cable and the B-pivot.



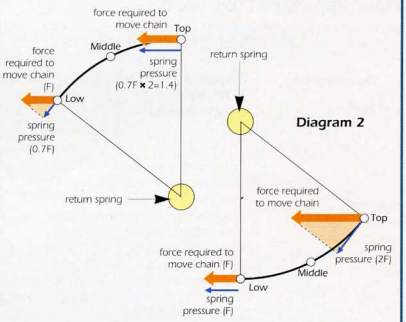
How Top-Swing Reduces Shifting Effort:

"Top-Swing" means that the derailleur linkage swings out from the top of the return spring. This design allows the chain to be moved with significantly less effort. The diagrams below show the differences in shifting effort between Top-Swing and a conventional FD linkage.

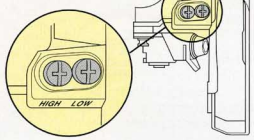
Diagram 1 shows the Top-Swing shifting effort diagram. Taking 0.7F as the force needed to shift from the middle to the small chainring, total shifting force from the large to the small chainring is only 1.4F.

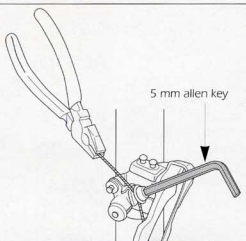
In the conventional FD linkage shown in Diagram 2, the spring applies a force of 2Fat the top position, so a shifting effort of 2F is needed to move the chain from the large to the small chainring.

Diagram 1

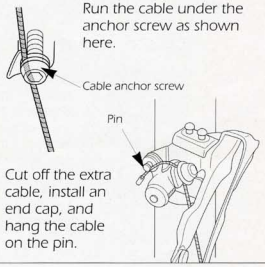


Remember that the top-swing derailleur reverses the positions of the HIGH and LOW adjusting screws.





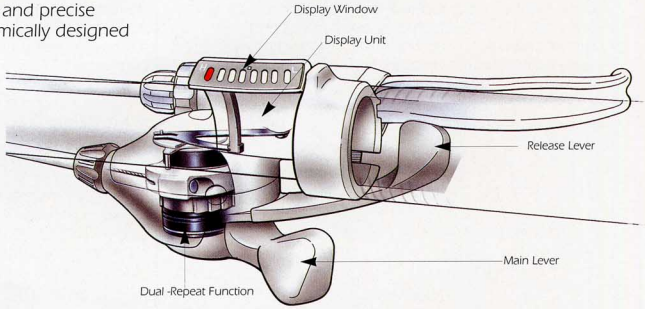
Tightening torque: 4.9 - 6.9 Nm {44 - 60 in. lbs.}



Keep a better grip while you brake and shift.

The Rapidfire Plus lever set uses a below-bar thumb lever for shifting to larger sprockets (down shifting), and a trigger-action pull lever positioned in front of the bar for shifting to smaller sprockets (up shifting). Dividing the shifting duties between the thumb and forefinger provides greater comfort while reducing stress and fatigue on the hand.
The Rapidfire Plus action is fast and precise because the levers are ergonomically designed for easy operation.

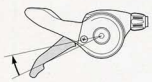
An extended push of the thumb lever can simultaneously shift multiple gears in one stroke. Unlike grip shifters, you can shift Rapidfire Plus without moving your wrist and changing your hand position on the grip. Rapidfire Plus lets you shift faster with more confidence and control, even during extreme maneuvers.



How Rapidfire Plus Works...

Left Lever (front derailleur)

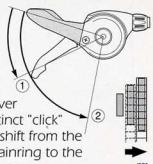
Downshifting



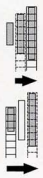
Downshift to the next smaller chainring in one-step increments by pulling the trigger lever.



Upshifting (XTR, XT and ST-M566 of LX)



Push the thumb lever until you feel a distinct "click" and the chain will shift from the small or middle chainring to the next larger chainring.
You can also shift from the smallest to the largest chainring (2-gear shift) with one longer stroke of the lever through two indents.



Upshifting (Below ST-M565 of LX)



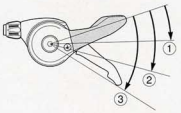
Push the thumb lever to shift in single increments from the small to the middle chainring, or from the middle to the large chainring.



Right Lever (rear derailleur)

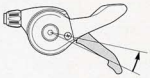
XTR

Downshifting
Shift to the next larger rear sprocket by pushing the thumb lever to the next audible indent. You can also downshift 2 or 3 sprockets in one stroke by pushing the lever through 2 or 3 indents.



XT

Upshifting
Shift from a larger sprocket to the next smaller one in single gear increments by pulling the trigger lever once for each shift.



LX

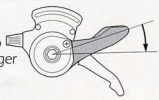
STX-RC

STX

ALIVIO

ACERA X

Downshifting
Push the thumb lever through the indent lever to shift from a smaller to a larger rear sprocket. Repeat the action for each downshift.



ALTUS

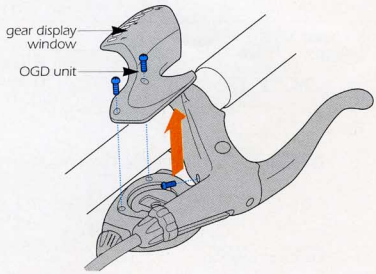
Upshifting
Pull the trigger lever through the indent to shift to the next smaller rear sprocket. Repeat the action for each upshift.



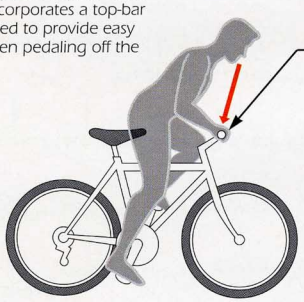
MJ
MJ-11

Optical Gear Display lets you check your gear at a glance.

The Optical Gear Display (OGD) has been incorporated into all Rapidfire Plus lever sets for 1995. The Optical Gear Display provides a convenient way of verifying gear position. Experienced mountain bikers and off-road racers appreciate OGD because they can plan shifts better by checking how many gears remain above or below the current one. Beginning cyclists can use the Optical Gear Display to help understand the relationship between gearing, cadence, and terrain. Optical Gear Display makes shifting more fun too.



The OGD used on the XTR, Deore XT, LX and STX RC Rapidfire Plus lever sets incorporates a top-bar display angled to provide easy readout when pedaling off the seat.



XTR / Deore XT



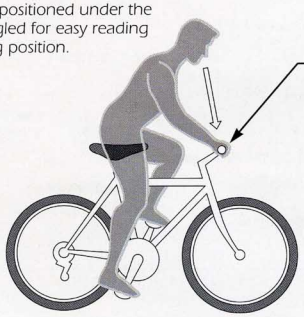
Top bar oversize digital linear display

Deore LX / STX RC

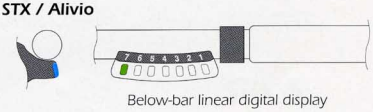


Top-bar digital linear display

The display used on the STX, Alivio, Acera-X, Altus 90, and MJ-II lever sets is positioned under the bar and angled for easy reading in the sitting position.

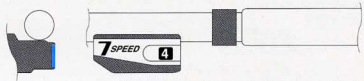


STX / Alivio



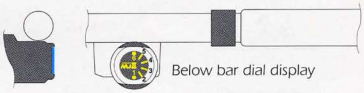
Below-bar linear digital display

Acera-X



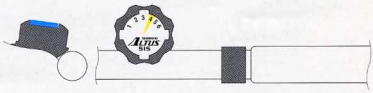
Below bar window-type digital display

MJ / MJ-II / Altus C90



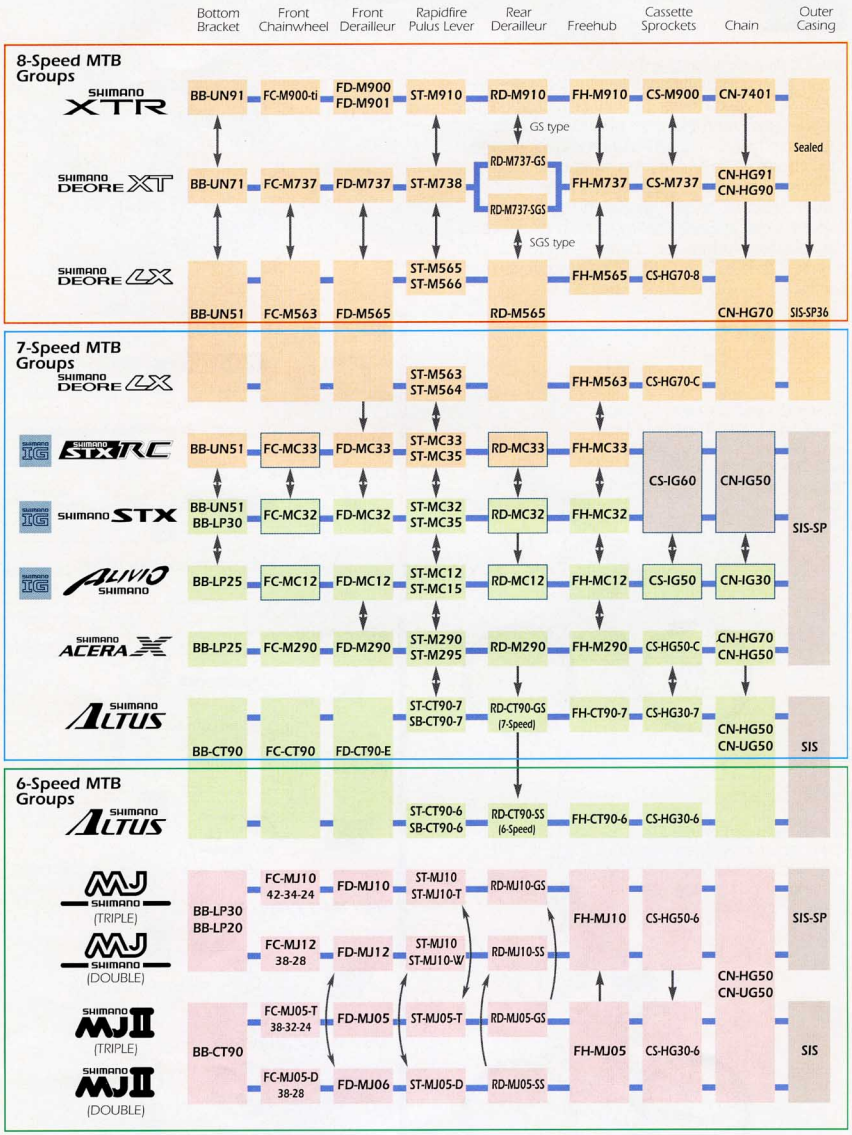
Below bar dial display

MJ / MJ-II / Altus C90



Top-bar dial display

DUAL SIS COMPATIBILITY CHART

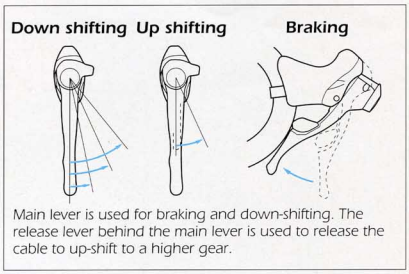


Arrows denote interchangeable components.

* Use bottom bracket guide SM-SP17

Road cyclists too can keep their grip while they brake and shift.

The Dual Control lever is now available on all of the Shimano road component groups for 1995. Dual Control doesn't force you to lose speed or shift balance by reaching for a downtube lever. Dual Control lets you shift while pedaling hard without letting go of the bar, and without giving up hard-won speed. You can shift before exiting a turn to accelerate faster. And you can shift out of the saddle while climbing or accelerating, all without letting up on pedal pressure.
The main lever (brake lever) has two functions; it can shift the derailleur to a larger sprocket (down-shift) as well as apply the brakes. That's why its called "Dual Control." A smaller release lever behind the main lever is used to release the cable for up-shifts to smaller sprockets. And it's all done with your hands on the bars in any braking position.



Main lever is used for braking and down-shifting. The release lever behind the main lever is used to release the cable to up-shift to a higher gear.

COMBINATION CHART

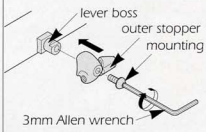
	DURA-ACE	ULTEGRA	SC	RX100	RSX
Dual Pivot Brake	BR-7403	BR-6403	BR-1055	BR-A550	BR-A410
	SLR outer cacing				
Dual Control Lever	ST-7400	ST-6400	ST-1055	ST-A550	ST-A410 ST-A410-D / ST-A410-T
Cable	SIS-SP36 Sealed Outer Casing		SIS-SP36		
	Bottom Bracket Cable Guide **SM-SP55, SM-SP25, SM-SP17** Outer Casing stopper **SM-ST74, SM-CS50**				
Rear Derailleur	RD-7402 (8-speed)	RD-6401 (8-speed)	RD-1056 (8-speed)	RD-A550 (8-speed)	RD-A410-SS (7-speed) / RD-A410-GS (7-speed)
Front Derailleur	FD-7410	FD-6401	FD-1056	FD-A551	FD-A410
Front Chainwheel / Bottom Bracket	FC-7410 BB-7410	FC-6400 BB-UN71	FC-1056 BB-UN51	FC-A551 BB-UN51	FC-A410 BB-LP25 / FC-A413 BB-LP25
Freehub	FH-7403 FH-7463	FH-6402	FH-1056	FH-A551	FH-A410
Cassette Sprockets	CS-7401	CS-HG90-8	CS-HG70-8		CS-HG50-7
Chain	CN-7401	CN-HG90	CN-HG70	CN-HG70 CN-HG50	CN-HG50 CN-UG50

◄► Arrows denote intrchangeable components.

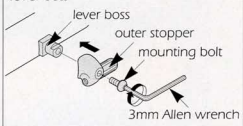
Outer Stopper

When using the Dual Control Lever, the outer stopper must be installed to the downtube lever boss.

SM-ST74 for ST-7400/ ST-6400/ST-1055 lever sets



SM-CS50 for ST-A550/ST-A410 lever sets



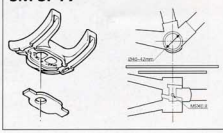

Install the outer stopper for the rear derailleur with the lever in the default position.

Tightening torque: 1.5 - 2.0 Nm {13 - 18 in. lbs.}

Bottom Bracket Cable Guide

A Shimano bottom bracket cable guide must be used with Dual Control Lever installations.

SM-SP17

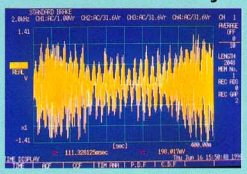


All-weather stopping performance without squealing or chattering.

ANTI-VIBRATION M-SYSTEM

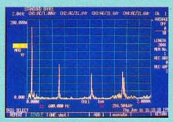
Cyclists know that caliper and cantilever brakes lose much of their effectiveness when the pads and rims get wet, muddy, or covered with dust. The Shimano M-System was designed to keep the brakes working under any condition you're like to encounter on your bike. STX-RC, STX, and Alivio now feature the new Anti-Vibration M-System Brake design for 1995. Vibrational analysis techniques were employed to find out what frequencies induce brake squeal. The cantilever arm was then completely redesigned to suppress the vibration frequencies that induce squealing. A new pad compound was also formulated to help dampen vibrations. The result is the Anti-Vibration M-System Brake. It not only stops you in the wet, it stops you quieter as well.

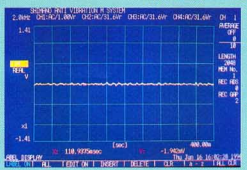
Brake Vibration Analysis



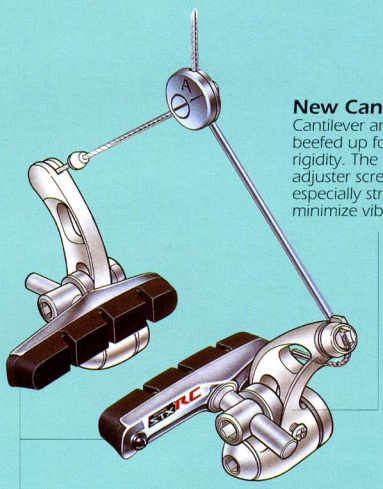
Wave pattern of vibration frequencies produced during low-pitched brake squeal.

Vibrational frequency analysis shows specific frequencies that induce low-pitched squeal.





This graphs shows the reduced vibrations produced by Anti-Vibration M-System brakes.



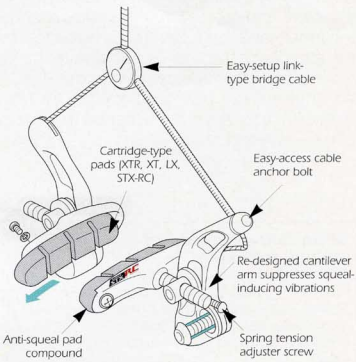
New Cantilever Arm
Cantilever arm has been beefed up for increased rigidity. The area around the adjuster screw has been especially strengthened to minimize vibrations.

Anti-Vibration Pad Compound
Squeal inducing vibrations are suppressed through a new pad compound and a larger, better balanced pad holder that provides greater support.

Shimano cantilever brakes are easier to install and adjust, work better in all environments.

The Shimano M-System cantilever brake delivers effective stopping performance in all types of weather. Redesigned cantilever arms and new pad compounds used in the Anti-Vibration M-System brakes (STX-RC, STX, Alivio) suppress the vibrations that induce squealing. Unit-type bridge cable, easy-access cable anchor bolt, and extended vertical adjustment range make it fast and easy to adjust brakes for maximum effectiveness. Spring tension adjuster screw lets you set extremely close pad-rim clearances without rubbing. Completely enclosed pivot spring plus internal pivot and sleeve maintain top braking performance by keeping mud and dirt from invading the pivot area.

* The XTR, Deore-XT, Deore-LX, and STX-RC groups feature new replaceable cartridge-type pads.
* Integral pivot and sleeve are used in XTR, XT, and LX groups only.



CANTILEVER BRAKE SPECIFICATION CHART

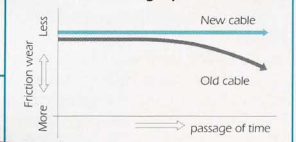
	SERIES	BRAKE LEVER	BRAKE	CABLE	SHOE
	XTR	ST-M910	BR-M900-C	M-SYSTEM	XTR and Deore-XT are interchangeable.
	DEORE XT	ST-M738	BR-M737	M-SYSTEM	
	DEORE LX	ST-M566 ST-M565 ST-M564 ST-M563	BR-M565		Deore-LX and STX-RC are interchangeable
ANTI-VIBRATION BRAKE SYSTEM	STX-RC	ST-MC33	BR-MC33		
	STX	ST-MC32 ST-MC35	BR-MC32	M-SYSTEM	
	ALIVIO	ST-MC12 ST-MC15	BR-MC12		
	ACERA-X	ST-M290 ST-M295	BR-M290		(M55T pad is optional)
	ALTUS C90	ST-CT90 ST-CT95 SB-CT90	BR-CT90		
	700CX	ST-C070	BR-C700 BR-C701		
	400CX	ST-C040	BR-C400 BR-C401	M-SYSTEM	
	MJ	ST-MJ10 BL-MJ10	BR-MJ10		
	MJ-II	ST-MJ05	BR-MJ05		(M55T pad is optional)
		SB-MJ05 BL-MJ05 BL-MJ06			
	RSX	ST-A410 BL-A410	BR-A410	M-SYSTEM	

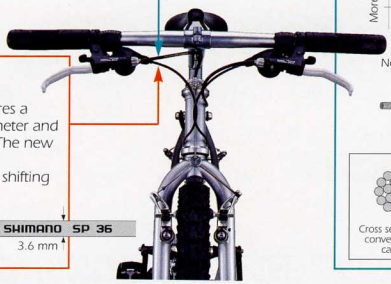
New M-System cable increases braking efficiency.

The new M-System brake cable operates more efficiently by reducing friction and play between the cable and casing liner. The outer strands of the inner cable have been chamfered to match the contour of the liner and distribute the load more evenly over a wider area of the liner. The liner material has been upgraded to further reduce friction. A further benefit is that the cable offers an extended service life.

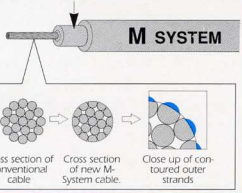
M-System cable uses contoured outer strands that provide a smoother cable action with less friction.

Cable operates more precisely over a longer period of time.





New liner material reduces friction.



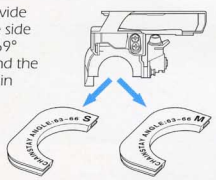
SP-36 shift cable reduces shifting friction.

The new SP-36 shift cable features a smaller 1.1mm inner cable diameter and 3.6mm outer casing diameter. The new cable provides a smoother and more precise action that lowers shifting effort.



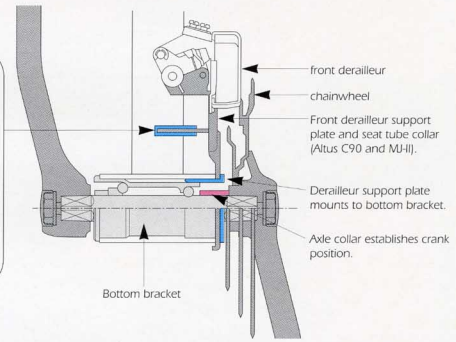
Easy-Set bottom bracket and front derailleur speed up installation and adjustment.

Seat tube collars provide added support. One side can be used for 66-69° chain stay angles, and the other for 63-66° chain stay angles.



"S" collar for seat tubes from 28.0 to 28.6mm in diameter.

"M" collar for 31.8mm diameter seat tubes.

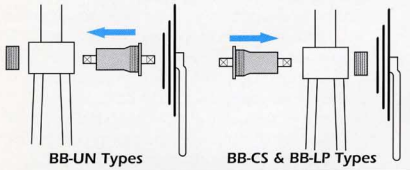


The new Altus C90 and MJ-II component groups feature the Easy-Set bottom bracket and front derailleur system. The derailleur is mounted directly to the bottom bracket through a special support plate. A seat tube spacer provides added rigidity. The new BB-CT90 bottom bracket (Altus C90 and MJ-II) installs without the need for any adjustment and incorporates an axle collar that establishes the correct crank position.

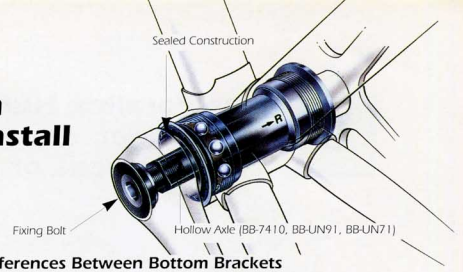
The Easy-Set design prevents the chain from falling onto the bottom bracket. It also speeds up installation and eliminates the need for adjustment by automatically establishing the correct spacing between the derailleur and chainwheel. The Alivio and new Acera-X groups feature the BB-LP25 Easy-Set bottom bracket without the integral front derailleur.

Cartridge-Type Bottom Brackets are easy to install and maintenance-free.

Depending on the type, a Shimano cartridge bottom bracket installs from the left or right side of the frame. Before installation, check the type of bottom bracket you have. The left and right sides are clearly marked.



BB-UN Types BB-CS & BB-LP Types



Differences Between Bottom Brackets

BB-UN Types

All BB-UN series bottom brackets are silver in color and insert from the right side of the frame. The BB-UN91 and BB-7410 units use an alloy shell and cup, while the BB-UN71 and BB-UN51 units use a steel shell and cup.

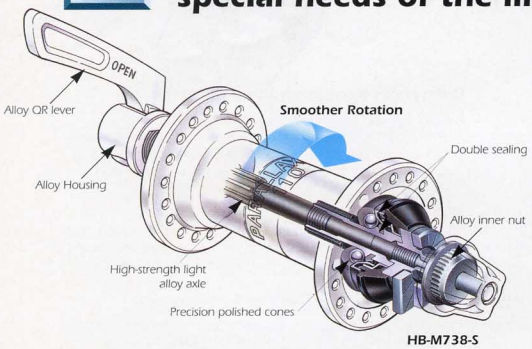
BB-CS & BB-LP Types

BB-CS and BB-LP type bottom brackets are made of steel and are black in color. The shell and bearing races are integrated in a one-piece construction. They insert from the left side of the frame.

Note: Always coats threads with grease before installation.

SERIES	Crank set	Model No.	Spindle length	Stamped marking	Shell width	Chainline	Description
XTR	FC-M900	BB-UN91	107	MM107	68, 70, 73	47.5	hollow axle, titanium crank bolts
			113	LL113	68, 70, 73	50	
DEORE XT	FC-M737	BB-UN71	107	MM107	68, 70, 73	47.5	hollow axle
			113	LL113	68, 70, 73	50	
DEORE LX	FC-M563	BB-UN51	107	MM107	68, 70, 73	47.5	
			113	LL113	68, 70, 73	50	
STX-RC	FC-MC33	BB-UN51	110.5	MM110	68, 70, 73	47.5	
			113	LL113	68, 70, 73	50	
STX	FC-MC32	BB-UN51	110.5	MM110	68, 70, 73	47.5	
			113	LL113	68, 70, 73	50	
ALIVIO	FC-MC12	BB-LP25	110.5	MM110	68, 70, 73	47.5	Easy-Set (BB only)
			113	LL113	68, 73	50	
ACERA-X	FC-M290	BB-LP25	110.5	MM110	68, 70, 73	47.5	Easy-Set (BB only)
			113	LL113	68, 73	50	
ALTUS	FC-CT90	BB-CT90	116	YL116	68, 70	47.5	Easy-Set (BB & FD)
			121	ZL121	73	50	
700CX	FC-C700	BB-UN71	113	LL113	68,70	45	hollow axle
			118	XL118	68,70	47.5	
400CX	FC-C400	BB-UN51	113	LL113	68,70	45	
MJ	FC-MJ10	BB-LP20	110.5	MM110	68,70	45	
	FC-MJ12	BB-LP20	110.5	MM110	68,70	43.5	
MJ-II	FC-MJ05	BB-CT90	116	YL116	68,70	47.5	Easy-Set (BB & FD)
			121	ZL121	70,73	50	
	FC-MJ06	BB-CT90	116	YL116	68,70	43.5	
DURA-ACE	FC-7410	BB-7410	103	SS103	68,70	43.5	hollow axle
600	FC-6400	BB-UN71	115	D-H	68,70	43.5	hollow axle
105 SC	FC-1056	BB-UN51	107	MM107	68,70	43.5	
RX100	FC-A551	BB-UN51	107	MM107	68,70	43.5	
	FC-A553	BB-UN51	122.5	D-NL	68,70, 73	47.5	
RSX	FC-A410	BB-LP25	110.5	MM110	68,73,	43.5	
	FC-A413	BB-LP25	118	XL118	68,70,	45	
300EX	FC-A300	BB-CS11	115	D-H115	68,70	43.5	

The Parallax Hub: A stronger, more rigid hub designed for the special needs of the mountain bike.



HB-M738-S

All Shimano off-road component groups now utilize the Parallax hub. The Parallax hub design was developed to give the mountain bike stronger wheels. Parallax uses an oversize hub body that not only increases the strength and rigidity of the wheel, but also improves steering response by reducing the tendency of the fork blades to twist under off-center impacts. The oversize body also provides more support for the spoke flanges which makes for a stronger wheel that stands up better to off-road riding. Rubber cup sealing completely shuts out dirt, mud, and water. The XTR, Deore XT, and Deore LX groups offer oversize front axles in both steel and alloy.

SERIES	Model No.	Stainless Steel Ball bearing	Axle	Seal	Smoother Rotation	Alloy QR lever	Alloy Housing	Alloy inner nut
XTR	HB-M910	●	Alloy 11mm*	Double	●	●	●	●
DEORE XT	HB-M738-A		Alloy 11mm*	Double	●	●	●	●
	HB-M737-A		Steel 9mm	Double	●	●	●	●
DEORE LX	HB-M564-A		Steel 10mm	Double	●	●	●	●
	HB-M563-A		Steel 9mm	Double	●	●	●	●
STX-RC	HB-MC33-S		Steel 10mm	Single	●	●	●	
	HB-MC33		Steel 9mm	Single	●	●	●	
STX	HB-MC32		Steel 9mm	Single	●	●	●	
ALIVIO	HB-MC12		Steel 9mm	Single		●		
ACERA-X	HB-M290		Steel 9mm	Single				
MJ	HB-MJ10		Steel 9mm	Single (Option)				
MJ-II	HB-MJ05		Steel 9mm					

Note*:The 11mm alloy axle used on XTR and Deore XT front hubs retains its 11mm cross section at the bearing cones.

Stainless steel fasteners keep components looking and operating like new for years.

The XTR, Deore XT, Deore LX, STX-RC, STX, and RSX road group feature stainless steel fasteners on all components. The use of stainless steel eliminates rust and discoloration to keep components looking and operating like new for years.

The following groups use stainless steel fasteners:

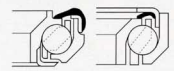
XTR **DEORE XT**
DEORE LX **STX-RC**
STX **RSX**



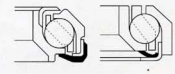
Cartridge headsets take the hassle out of fork installation.

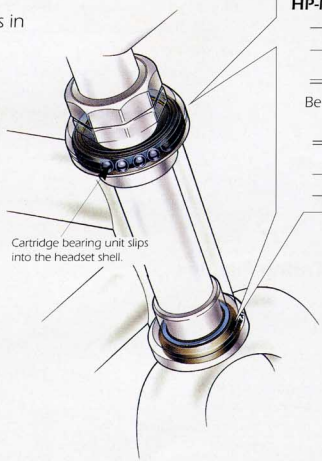
The headset is one of the most difficult components to install and adjust correctly. An improperly adjusted headset can ruin bearings and races and quickly destroy the frame's handling. Shimano developed the cartridge bearing headset to eliminate the problems associated with the conventional loose ball type. The cup, cone, and bearings are integrated into a single one-piece cartridge which easily slips into the headset shell. The precision bearing units self-align to compensate for small differences in the top and bottom head tube facings. The cartridges are completely sealed to shut out water, mud, and dirt. The Shimano cartridge headset rotates smoother, lasts longer, and doesn't need periodic maintenance.

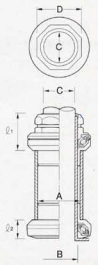
HP-7410
HP-6500
HP-M740
HP-M741
HP-M742
HP-M563
HP-M564
HP-MC30
HP-MC31



Be careful of the setting direction

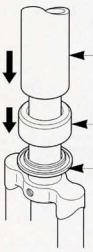






Use the correct tool to install the cartridge headset.

Shimano makes three tools available to install the lower bearing cup on the fork stem. Make sure to use the correct tool.



Cartridge Head set Tool
TL-HP50 (1")
(HP-7410, HP-6500, HP-M740, HP-M563 and HP-MC30)
Code No. 7200105-0

TL-HP51 (1-1/8")
(HP-M741, HP-M564 and HP-MC31)
Code No. 7200106-0

TL-HP52 (1-1/4")
(HP-M742)
Code No. 7200107-0

Contact your distributor for information

CARTRIDGE HEADSET SPECIFICATIONS

	Model No.	ℓ1	ℓ2	ℓ1+ℓ2	Thread	A	B	C	D	Sealed Mecha.
DURA-ACE	HP-7410	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm	26.4mm	22.3mm	32.0mm	rubber ring seals*
						30.0mm (JIS)	27.0mm (JIS)			
					M25 × P1.0	30.2mm	26.4mm	22.3mm	32.0mm	
Shimano 600 ULTEGRA	HP-6500	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm	26.4mm	22.3mm	32.0mm	rubber ring seals*
						30.0mm (JIS)	27.0mm (JIS)			
					M25 × P1.0	30.2mm	26.4mm	22.3mm	32.0mm	
Shimano DEORE XT	HP-M740	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm	26.4mm	22.3mm	32.0mm	rubber ring seals*
						30.0mm (JIS)	27.0mm (JIS)			
	HP-M741	24.1mm	13.5mm	37.6mm	BC1-1/8"×26T.P.I.	34.0mm	30.0mm	25.5mm	36.0mm	
	HP-M742	26.4mm	13.5mm	39.9mm	BC1-1/4"×26T.P.I.	37.0mm	33.0mm	28.7mm	40.0mm	
Shimano DEORE LX	HP-M563	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm	26.4mm	22.3mm	32.0mm	resin seals
						30.0mm (JIS)	27.0mm (JIS)			
	HP-M564	24.1mm	13.5mm	37.6mm	BC1-1/8"×26T.P.I.	34.0mm	30.0mm	25.5mm	36.0mm	
Shimano STX	HP-MC30	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm	26.4mm	22.3mm	32.0mm	resin seals
						30.0mm (JIS)	27.0mm (JIS)			
	HP-MC31	24.1mm	13.5mm	37.6mm	BC1-1/8"×26T.P.I.	34.0mm	30.0mm	25.5mm	36.0mm	

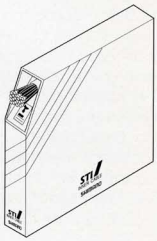
* Rubber seals offer a precision fit that provides superior sealing.

SMALL PARTS & TOOLS

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

Inner Cable File Box

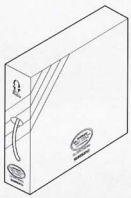
PART NO.	DESCRIPTION	PCS.PER BOX
600 9851	For Shifting Lever ø1.2mm x 2000mm (Stainless steel)	100
600 9852	For Shifting Lever ø1.2mm x 2100mm	100
600 9853	For Shifting Lever ø1.1mm x 2100mm (Stainless steel)	100
800 9851	For ATB Brake Lever ø2.0mm x 1700mm	50
800 9855	For ATB Brake Lever ø1.6mm x 1700mm (Stainless steel)	100
800 9852	For ATB Brake Lever ø1.6mm x 1700mm	100
800 9857	For ATB Brake Lever ø1.6mm x 1700mm (Semi Stainless steel)	100
800 9856	For Racing Brake Lever ø1.6mm x 1700mm (Stainless steel)	100
800 9853	For Racing Brake Lever ø1.6mm x 1700mm	100



M-system Outer Casing File Box

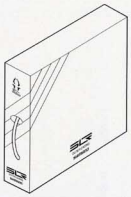
(ø5mmx30m/98.5ft.)

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



SLR Outer Casing File Box

(ø6mmx25m/82ft.)

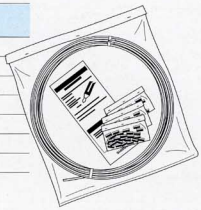


PART NO.	DESCRIPTION
80A 0020	ø6mm x 25m/White (#507) For ø2.0mm Inner Cable
80A 0026	ø6mm x 25m/Black (#607) For ø2.0mm Inner Cable

SIS-SP Outer Casing

(25ft./7.62m) w/Outer Cap
End caps included (Ø6mm-30pcs/5.5mm-15pcs/4mm-15pcs)

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



SIS-SP Outer Casing

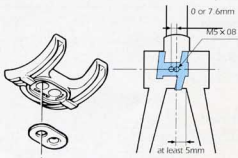
(10m) w/Outer Cap

PART NO.	COLOR
6Z6 9810	Black
6Z6 9811	High-tech Gray

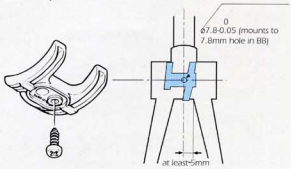
Cable Guides

Use Shimano bottom bracket cable guides to assure smooth shift cable operation.

SM-SP17-M



SM-SP17-T



Outer & Inner Cable End Caps



100 cards per carton / 100 pieces per card



Outer Cap

PART NO.	DESCRIPTION	
6Y4 9801	Sealed Outer Cap (ø6mm) For SP36	100
6Z6 9801	Outer Cap (ø6mm) For SP36	100
60E 0004	Sealed Outer Cap (ø4mm)	1
60E 0003	Sealed Outer Cap (ø5mm)	1
60E 0002	Sealed Outer Cap (ø5.5mm)	1
60E 0001	Sealed Outer Cap (ø6mm)	1
60B 0003	Outer Cap (ø4mm)	1
60B 0004	Outer Cap (ø5mm)	1
60B 0002	Outer Cap (ø5.5mm)	1
60B 9801	Outer Cap (ø6mm)	100

Inner End Cap

PART NO.	DESCRIPTION	
620 9803	Inner End Cap (ø1.1mm / ø1.2mm)	100
620 9804	Inner End Cap (ø1.6mm)	100
620 9805	Inner End Cap (ø2.0mm)	100

Cable Cutter
TL-CT10
Use to cut outer casings, cables, and pinch end caps.
Code No.098 0001



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



Bottom Bracket Installation Tool
TL-UN73
For BB-7410 / BB-UN90 / 91, BB-UN71 / 70, BB-UN51 / 50, BB-CS21 / 20, BB-CS11 / 10, BB-LP30 / 20 and BB-CT90
Code No. 1300906-6



HG Ampule-Type Chain Connector Pin
For connecting HG chains.
Code No.045 9802



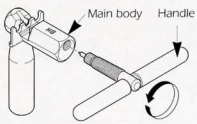
Chain Connecting Tools
TL-CN21 For HG Chains
Code No. 130 9040



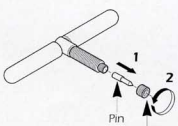
TL-CN30
For HG Chains
2 spare pins included in grip.
Code No. 130 9050



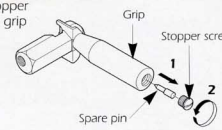
1. Completely unscrew the handle from the body.

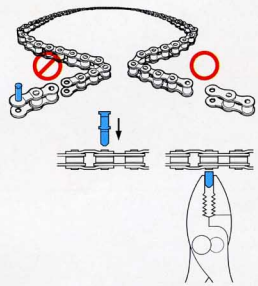


2. Unscrew the collar and remove the pin.



3. Remove the stopper screw from the grip and take out a new pin for replacement.

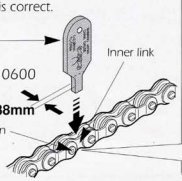


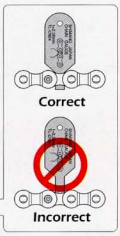


Connecting HG Chains
When connecting chains with the HG chain connector pin, make sure that the pin protrudes at least 0.2mm from each outer link. If these dimensions are unequal, the inner link spacing may become too narrow to allow proper shifting.

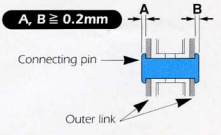
For IG, HG and UG chains, insert the chain gauge (TL-CN24) into the inner link which is next to the chain connecting pin to check that the inner link width is correct.

TL-CN24
Chain gauge
Code No. 130 0600





Check that the connecting pin protrudes past the outer link by the same amount on both sides, and that the amount of protrusion is 0.2 mm or more.

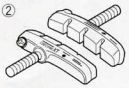


SMALL PARTS & TOOLS

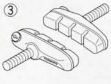
Replacement Shoes for Cantilever Brakes



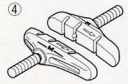
Brake shoes for BR-M900



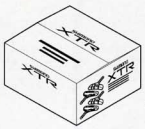
M-System brake shoes for BR-M737



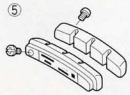
M-System brake shoes for BR-M565 / BR-MC33



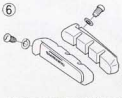
M-System brake shoes for BR-M734-M / BR-M651-M / BR-M650-M



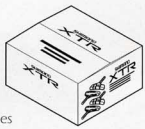
4 pcs



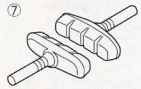
Brake shoes for BR-M737



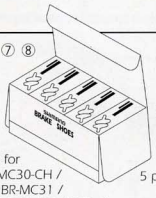
Replacement M-System cartridge-type brake shoes for BR-M565 / BR MC33



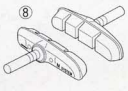
2 pairs

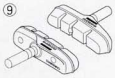


Replacement M-System cartridge-type brake shoes for BR-M560 / BR-M561 / BR-MC30-CH / BR-MC31-CH / BR-MC30 / BR-MC31 / BR-MC10 / BR-MC11 / BR-MC15 / BR-C700 / BR-C701 / BR-C400 / BR-C401

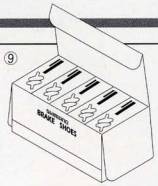


5 pairs

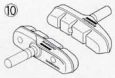




Brake shoes for BR-MC32 / BR-MC12

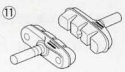


5 pairs

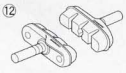




Brake shoes for BR-MC32 / BR-MC12 / BR-CT50 / BR-CT51 / BR-CT20 / BR-CT21 / BR-TY22 / BR-TY23 / BR-TY20 / BR-TY21 / BR-M560 / BR-M561 / BR-MC31-CH / BR-MC30-CH / BR-MC31 / BR-MC30 / BR-MC10 / BR-MC15



M-System brake shoes for BR-CT90 / BR-TY21 / BR-TY23 / BR-CT50 / BR-TY21 / BR-M290 / BR-CT20BR-TY22 / BR-MJ05 / BR-CT51 / BR-TY20 / BR-TY20 / BR-MJ05

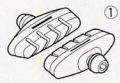


Brake shoes for BR-CT90 / BR-MJ05

	PART NO.	DESCRIPTION
1	83P 9806	BR-M900 brake shoe set (4 pcs)
2	83X 9801	BR-M737 brake shoe set (4 pcs)
3	8BA 9801	M65T cartridge brake shoe set (2 pcs)
4	83S 9801	M-System brake shoe set (long/4 pcs)
5	83X 9802	BR-M737 brake shoes & fixing screws set (2 pairs)
6	8BA 9802	M65T brake shoes & fixing screws set (2 pairs)

	PART NO.	DESCRIPTION
7	82K 9804	M-System brake shoes
8	82K 9808	M-System brake shoes
9	84F 9810	M65T brake shoe set (5 pairs)
10	82K 9810	M65T brake shoe set (10 pairs)
11	81X 9810	M55T brake shoe set (10 pairs)
12	8GB 9810	Brake shoe set (10 pairs)

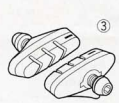
Shoes for Caliper Brakes



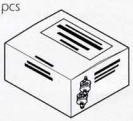
For BR-7403 calipers.



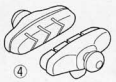
Pair



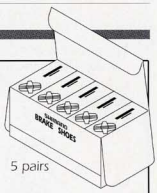
For BR-5000, BR-6400, & BR-6208 calipers.



4 pcs



For the following calipers: BR-6403 / BR-1055 / BR-1050 / BR-A550 / BR-A500 / BR-A450 / BR-A350 / BR-A250 / BR-E700 / BR-R500 / BR-L490 / BR-L570



5 pairs

⑤ For BR-A500 / BR-A450 / BR-A350 / BR-A250

	PART NO.	DESCRIPTION
1	84B 9801	BR-7403 brake shoes (pair)
2	84B 9802	BR-7403 brake shoes without holder
3	83E 9801	BR-6400 brake shoes (4 pcs)
4	83G 9801	BR-6403 brake shoes (5 pairs)
5	81G 9810	Brake shoes (10 pairs)

FOOTWEAR ACCESSORIES AND REPLACEMENT PARTS

SM-SH50
SPD cleats and mounting hardware (black color, single release mode type)



SM-SH55
SPD cleats and mounting hardware (silver color, multi-release mode type)



SM-SH70
Cleats and pontoon-type cleat protector set for SPD road racing shoes (fixed type binding)
Code No. 4269804

SM-SH71
Cleats and pontoon-type cleat protector set for SPD road racing shoes (self-aligning binding)
Code No. 4269805



SPD CLEAT APPLICATION TABLE

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

	SPD PEDAL					
	PD-7410/PD-6500		PD-M737/PD-M525 PD-A525/PD-M323		PD-M747/PD-M535	
SPD SHOE	recommended cleat	useable cleat	recommended cleat	useable cleat	recommended cleat	useable cleat
SH-R210 SH-R120-C SH-R120 SH-T120	SM-SH70 SM-SH71					
SH-A100 SH-A051			SM-SH50 SM-SH51 SM-SH55	SM-SH71*	SM-SH51	SM-SH50 SM-SH55 SM-SH70* SM-SH71*
SH-M210 SH-M110 SH-M090 SH-M051 SH-M031 SH-M030			SM-SH50 SM-SH51 SM-SH55	SM-SH71*	SM-SH51	SM-SH50 SM-SH55 SM-SH70* SM-SH71*

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

SPD Pedal & Cleat Sets:

1. PD-7410 and PD-6500 pedal packages include both SM-SH70 and SM-SH71 cleat sets.
2. SM-SH50 cleat set only is included with PD-M737, PD-M525, and PD-A525 pedal packages.
3. SM-SH51 cleat set only is included with PD-M535 pedal packages.

SH-CV21
Winter cycling shoe covers

Shoe Cover Size	Corresponding Shoe Size
S	36 - 38
M	39 - 41
L	42 - 44
XL	45 - 48



SH-SD10
Shimano Sandals



Sandal Size	Corresponding Shoe Size
S	39
M	41
L	43
XL	46

Cycling Shoe Inner Sole Liners



For Shoe Sizes
36 - 38
39 - 40
41 - 42
43 - 44
45 - 46

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



SM-PD51
Reflector kit for PD-7410 and PD-6500 road pedals



SM-PD20
Reflector kit for PD-M737 and PD-M525 off-road pedals
Code No. 41A9804



SM-PD30
Reflector kit for PD-A525 sport pedal
Code No. 4259801

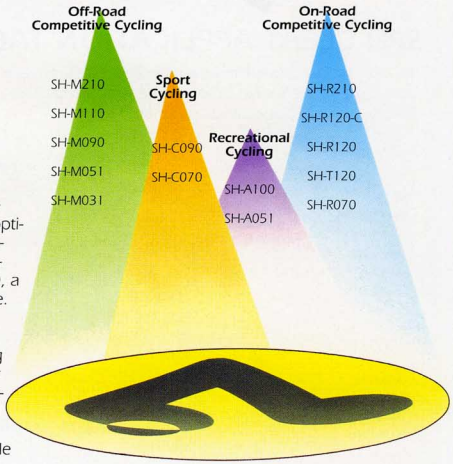


Shimano Cycling Shoes
More performance...
more comfort...more fun.

The cycling shoe forms the critical power transfer interface where the foot meets the pedal. A good cycling shoe can help increase stamina and upgrade power transfer efficiency for the competitive cyclist. But Shimano cycling shoes are not just for racers. Shimano shoes make cycling more enjoyable for everybody through a stable pedaling action and reduced stress on the foot.

The same advanced biomechanical technology applied to Shimano components has also been applied to the development of Shimano cycling shoes. And Shimano's unique SPD system lets you walk in your cycling shoes with complete comfort and confidence.

There are 14 models of Shimano cycling shoes available for 1995. From occasional cyclists to professional racers, there's a Shimano shoe to match every budget and riding style.



Road Cycling Shoes
Shimano road cycling shoes have been designed to give road racers, fitness enthusiasts, and touring cyclists the optimum balance of light weight, comfort, and pedaling efficiency. Choose from five models for 1995. From the top-line SH-R210 pro racing shoe to the sporty new SH-R070, a Shimano road shoe helps you perform better on the bike.

Off-Road Cycling Shoes
Shimano was the originator of the mountain bike cycling shoe. There are now five different types of SPD shoes for the special requirements of the off-road cyclist. For example, the top-line SH-M210 was designed to stand up to the punishment of pro-level mountain bike racing. Four other models meet the needs of every off-road riding style and budget.

Sport/Cycling Shoes
Shimano sport-cycling shoes are the answer for people who like to combine their cycling with other activities. These shoes provide an excellent balance of quality, comfort, stylish design, and SPD pedaling performance. On the bike or off, a Shimano sport-cycling shoe is required equipment for the active lifestyle.

SPD Pedals
Shimano now makes available an expanded line-up of SPD pedals designed for use with SPD shoes and cleats. There's an SPD pedal for every riding style, from competition cycling on or off the road to touring and recreational riding. The SPD pedal is an essential part of any Shimano component group.

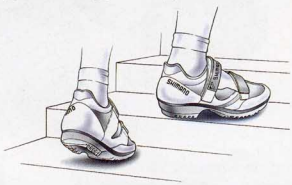
SPD

SHIMANO PEDALING DYNAMICS®

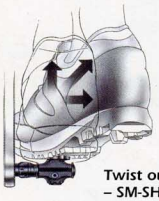
The shoe and pedal system that widens the cycling experience.



Step in to engage the SPD binding.



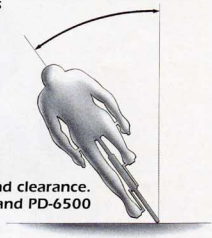
Cleated cycling shoes you can walk in.



Twist out to release – SM-SH55 creat



Z-strap closure – SH-R070 shoe



36° of ground clearance. (PD-7400 and PD-6500

The SPD System

SPD stands for Shimano Pedaling Dynamics, the shoe and pedal system that performs better whether you're on or off the bike. The SPD shoe uses a special shoe cleat that snaps into the SPD pedal so you can pedal with greater comfort, efficiency, and stability ... without the need for toeclips. The SPD cleat is recessed into the sole of the shoe so you can get off the bike anywhere and still walk with complete comfort and confidence.

The Design

SPD mountain bike pedals were designed to repel mud and dirt so even the worst environments don't interfere with the operation of the retention system. The compact SPD retention mechanism reduces the size and weight of SPD road racing pedals too. SPD also provides road racers with the convenience of being able to walk comfortably before and after events without the bother of changing shoes. Side pontoons protect the cleat from damage.
The SPD shoe and pedal system is easy to use. Just step onto the SPD pedal and the cleat engages. Rotate your ankle outward and the cleat retention mechanism releases quickly and easily.

The Advantages

SPD mountain bike shoes give you the best of both worlds – the pedaling stability and efficiency of clipless pedaling with the walking comfort of a good hiking shoe. SPD lets you combine cycling with other activities without changing shoes. Off-road cyclists can carry the bike over obstacles with greater safety and confidence. Touring cyclists have more freedom to stop and explore. Competitive cyclists can walk around more comfortably before and after events without damaging their cleats.



SH-M210
Light and rugged SPD racing shoe designed for off-road competition.

NEW
SH-M090
SPD mountain bike performance shoe with unique Z-strap closure system.

SH-M110
A versatile, high-performance SPD shoe for racing, off-road cycling, and touring.

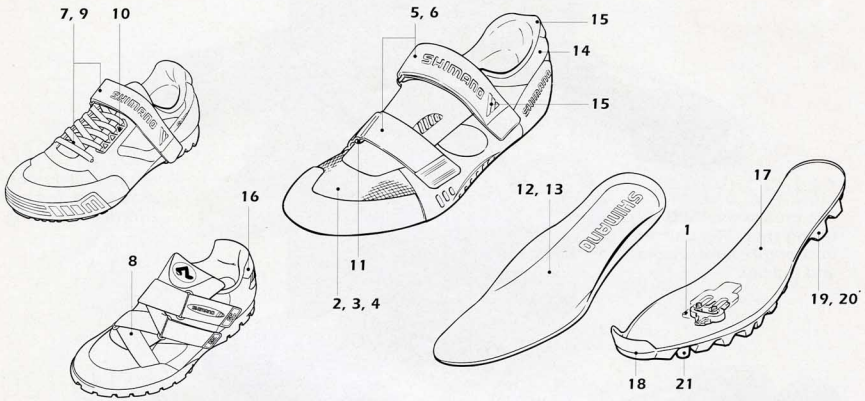
NEW
SH-M031
SPD flexibility and performance at an entry-level price.

SH-M051
Versatile all-purpose SPD shoe with lace-and-strap closures.

SPD shoes especially designed for all types of mountain biking.

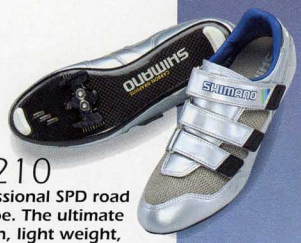
SPD MOUNTAIN BIKE SHOE SPECIFICATIONS

Model	Weight (pair-w/o cleats)	Compatible SPD Pedal	Upper	Closures	Inner Sole	Mid Sole	Outer Sole	Color	Size
SH-M210	770g (size 44)	PD-M737 PD-M535 PD-M525 PD-M323	Hytrel plastic, synthetic leather, polyester mesh	double extra-long straps	cup molded Cambrelle w/EVA backing	fiberglass-reinforced nylon	aggressive rubber tread pattern	black	36-48 whole sizes
SH-M110	795g (size 43)		nylon mesh, polyurethane coated split leater, synthetic leather	triple straps	cup molded Cambrelle w/EVA backing	fiberglass-reinforced nylon	aggressive rubber tread pattern	blue	36-48 whole sizes
SH-M090	866g (size 40)		split leather, Cordura nylon, nylon	criss-cross Z-strap	cup molded Cambrelle w/EVA backing	fiberglass-reinforced nylon	low-profile hiking pattern	green	36-48 whole sizes
SH-M051	872g (size 43)		nylon, split leather	laces and single strap	Cambrelle w/EVA backing	fiberglass-reinforced nylon	low-profile hiking pattern	blue	36-48 whole sizes
SH-M031	710g (size 41)		nylon, split leather	laces	Cambrelle w/EVA backing	Fiberglass-reinforced nylon	low-profile hiking pattern	blue	36-48 whole sizes



SPD MOUNTAIN BIKE SHOE FEATURES

Feature	Benefit	SH-M210	SH-M110	SH-M090	SH-M051	SH-M031
1. **SPD sole patch**	Use as a cleated or non-cleated shoe. Sole patch removes easily for SPD cleat mounting.	●	●	●	●	●
2. **Hytrel & polyester mesh upper**	Super-strong polyester and Hytrel plastic panels don't stretch under high pedaling loads.	●				
3. **Nylon mesh & polyurethane split leather upper**	High-strength upper panels. Nylon mesh breathes for ventilation. Split leather is super-strong and keeps shape when wet.		●			
4. **Nylon mesh upper**	Nylon mesh is strong, flexible, and breathable for ventilation.				●	
5. **Double strap closure**	Extra-wide double straps provide a snug, foot-hugging fit.	●		●		
6. **Triple strap closure**	Triple strap closures help shoe conform to foot shape.		●			
7. **Strap & lace closure**	Dual closure system. Strap provides a non-loosening closure and keeps laces out of the chain.				●	
8. **Criss-Cross Z-Strap**	New X-strap closure system helps shoe conform better to the shape of the foot.			●		
9. **Laces**	Standard shoe lace closure system					●
10. **Resin eyelets**	Prevent laces from tearing upper panels.				●	
11. **Alloy strap rings**	Alloy strap rings reduce weight and eliminate corrosion.	●	●	●		
12. **Cup molded inner sole**	Provides a natural cradle for the foot and a smoother transition between sole and upper.	●	●			
13. **Cambrelle & EVA inner sole**	EVA cushions, and soft Cambrelle absorbs moisture to help keep foot dry.	●	●	●	●	●
14. **Natural fit heel**	Anatomically designed heel panels and reinforcing strap help support heel and prevent heel lift.	●	●	●	●	
15. **Strap & heel reflectors**	Safety. Helps cyclist to be seen at night.	●	●	●	●	
16. **Heel reflector**	Safety. Helps cyclist to be seen from behind at night.					●
17. **Nylon-fiberglass mid-sole**	Rigid fiberglass reinforced nylon mid-sole distributes pedaling loads and protects against shocks.	●	●	●	●	
18. **Hard toe block**	Protects against front impacts to the foot.	●	●			
19. **High-traction outer sole**	Aggressive rubber tread pattern provides an excellent grip on all kinds of surfaces, especially loose dirt.	●	●	●		
20. **Sport sole**	Low-profile rubber sole makes comfortable for waking			●	●	●
21. **Spike mounting**	Attaching spikes to outer sole increases traction in mud, sand, and loose dirt (spikes optional).	●				



SH-R210

The professional SPD road racing shoe. The ultimate in strength, light weight, and rigidity.



SH-R120

A versatile all-purpose shoe for racing and performance cycling.



NEW

SH-R120-C

Full carbon graphite sole reduces weight, increases rigidity.



SH-T120

Lightweight, comfortable pedaling efficiency for fitness cycling, sport riding, and fast touring.



NEW

SH-R070

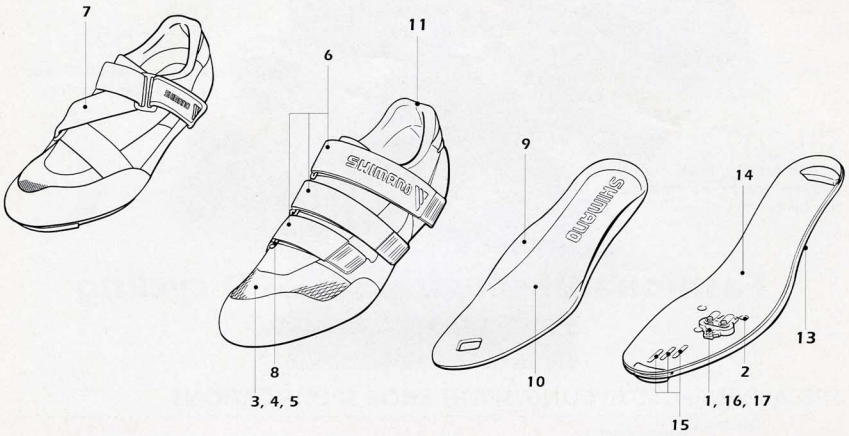
Comfortable pedaling efficiency from lightweight materials and new Z-strap closure.

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

SPD ROAD RACING & LIGHTWEIGHT PERFORMANCE SHOE SPECIFICATIONS

Model	Weight (pair-w/o cleats)	Compatible SPD Pedal	Upper	Closures	Inner Sole	Mid Sole	Outer Sole	Color	Size
SH-R210	580g (size 43)	PD-7410 PD-6500	Vectran mesh, synthetic leather	triple extra-long straps	cup molded Cambrelle w/EVA backing	texon	carbon fiber	silver	39-47 whole sizes
SH-R120-C	610g (size 43)	PD-7410 PD-6500	synthetic leather, nylon mesh	triple extra-long straps	cup molded Cambrelle w/EVA backing	texon	carbon fiber	dark gray	39-48 whole sizes
SH-R120	640g (size 43)	PD-7410 PD-6500	synthetic leather, nylon mesh	triple extra-long straps	cup molded Cambrelle w/EVA backing	fiberglass-reinforced nylon	fiberglass reinforced nylon	dark gray	36, 37-47 in half sizes, 48,49
SH-T120	630g (size 43)	PD-7410 PD-6500	nylon mesh, polyurethane-coated split leather	double straps	Cambrelle w/EVA backing	fiberglass-reinforced nylon	fiberglass reinforced nylon	black	36-48 whole sizes
SH-R070	700g (size 43)	PD-7410 PD-6500	nylon mesh, polyurethane-coated split leather	criss-cross Z-strap	Cambrelle w/EVA backing	fiberglass-reinforced nylon	fiberglass reinforced nylon	green or yellow	36-48 whole sizes

NOTE: All of the shoes shown on this page are pre-drilled for mounting Shimano clipless cleats and Look®-type cleats as well as SPD cleats.



SPD ROAD RACING SHOE FEATURES

Feature	Benefit	SH-R210	SH-R120-C	SH-R120	SH-T120	SH-R070
1. **Adjustable SPD cleat mount**	15mm fore-aft, and 5mm lateral positioning of SPD cleat position.	●	●	●	●	●
2. **SPD/Shimano clipless pedal (Look® type) compatibility**	Pre-drilled to mount your choice of SPD or Look® cleats.	●	●	●	●	●
3. **Vectran mesh & synthetic leather upper panels**	Super strong Vectran mesh ventilates but will not stretch. Synthetic leather is pliable, waterproof, and stretch-resistant.	●				
4. **Synthetic leather & nylon mesh upper panels**	Waterproof synthetic leather, breathable nylon mesh.		●	●		
5. **Nylon mesh & polyurethane-coated split leather upper panels**	Nylon mesh breathes for ventilation. Polyurethane split leather panels resist stretching and keep their shape.				●	●
6. **Triple strap closures**	Extra-long triple straps help shoe conform better to the shape of the foot.	●	●	●	2-straps	
7. **Criss-cross Z-strap closure**	Criss-cross straps provide 4 closure points with one strap.					●
8. **Alloy strap rings**	Alloy strap rings reduce weight and prevent corrosion.	●	●	●		
9. **Cup molded inner sole**	Cupped sole cradles the foot to provide a more comfortable fit.	●	●	●		
10. **Cambrelle & EVA inner sole**	EVA cushions and soft Cambrelle absorbs moisture to help keep foot dry.	●	●	●	●	●
11. **Natural fit heel**	Anatomic design holds heel better to reduce squirm and increase pedaling efficiency.	●	●	●	●	●
12. **Strap & heel reflectors**	Increased safety – makes cyclist more visible at night.	●	●	●	●	●
13. **Carbon graphite outer sole**	Light weight and excellent rigidity for power transfer efficiency	●	●			
14. **Nylon-fiberglass outer sole**	Fiberglass reinforced nylon sole is light and rigid for power transfer efficiency.			●	●	●
15. **Air vents**	Air vents on front sole help keep feet dry and fresh.	●	●	●	●	●
16. **Polyurethane cleat protectors**	Hard polyurethane cleat protectors prevent cleat from being damaged when walking.	●				
17. **Rubber cleat protectors**	Rubber cleat protectors prevent cleat from being damaged and provide a non-slip walking surface.		●	●	●	●



NEW

SH-C070

With the SH-C070, you're always ready to ride.

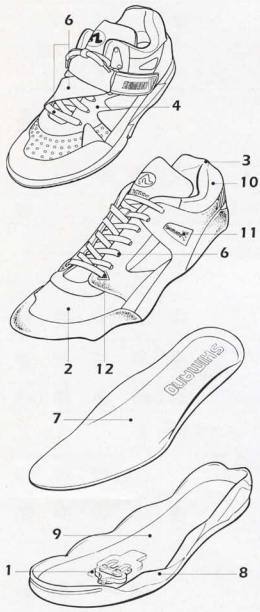
SH-C090

A high quality, fashionable shoe that delivers great performance on or off the bike.

Fashionable all-purpose SPD cycling and sport shoes.

SPD ALL-PURPOSE CYCLING/SPORT SHOE SPECIFICATIONS

Model	Weight (pair-w/o cleats)	Compatible SPD Pedal	Upper	Closures	Inner Sole	Mid Sole	Outer Sole	Color	Size
SH-C090	812g (size 42)	PD-M737 PD-M525 PD-M323 PD-A525	nylon mesh, split leather, synthetic leather	laces	cup molded Cambrelle w/EVA backing	Super tough nylon	EVA & rubber w/sport tread pattern	gray	36-48 whole sizes
SH-C070	700g (size 43)	PD-M737 PD-M525 PD-M323 PD-A525	nylon mesh, split leather, synthetic leather	laces, dual-anchor Y-strap	cup molded Cambrelle w/EVA backing	Super tough nylon	EVA & rubber w/sport tread pattern	green	36-48 whole sizes



FEATURES

Feature	Benefit	SH-C090	SH-C070
1. **SPD sole patch**	Use as a cleated or non-cleated shoe. Sole patch removes easily for SPD cleat mounting.	●	●
2. **Nylon mesh, split leather, and synthetic leather upper**	Nylon mesh for breathability. Layered split leather and synthetic leather for stretch-resistance, shape retention, and durability.	●	●
3. **High ankle design**	High ankle panels protect and support rear of foot, reduce heel lift.	●	●
4. **High-top upper**	High-top upper provides increased support like a good sport shoe.		●
5. **Strap & lace closure**	Three-point strap plus laces provide a snug and comfortable fit.		●
6. **Lace closure**	Standard shoe lace closure system	●	
7. **Cup molded Cambrelle and EVA inner sole**	Provides a natural cradle for the foot plus a smoother transition between sole and upper. EVA cushions while soft Cambrelle absorbs moisture to help keep foot dry.	●	●
8. **Rubber sport sole**	High-traction rubber sport sole for comfortable walking and off-bike activities.	●	●
9. **Nylon mid-sole**	Provides increased rigidity for pedaling efficiency while protecting foot.		●
10. **Reflectorized panels**	Reflector panels for night-time safety.	●	●
11. **Reflectorized logos**	Reflectorized logos on heel and side for night-time safety.	●	●
12. **Resin eyelets**	Resin eyelets on crown riser prevent laces from tearing upper.	●	●



SH-A100

SPD performance and flexibility in a comfortable, lightweight cycling shoe.

SH-A051

A great value in an all-around SPD cycling shoe.

Lightweight SPD sport shoes for recreational and sport cyclists.

SPD SPORT SHOE FEATURES SPECIFICATIONS

Model	Weight (pair-w/o cleats)	Compatible SPD Pedal	Upper	Closures	Inner Sole	Mid Sole	Outer Sole	Color	Size
SH-A100	640g (size 43)	PD-M737 PD-M525 PD-M323 PD-A525	nylon mesh, polyurethane-coated split leather	double extra-long straps	cup molded Cambrelle w/EVA backing	fiberglass reinforced nylon	rubber with sport tread pattern	White or black	36, 37-47 in half sizes 48
SH-A051	630g (size 43)	PD-M737 PD-M525 PD-M323 PD-A525	nylon mesh, polyurethane-coated split leather	single extra-long strap and laces	Cambrelle w/EVA backing	fiberglass reinforced nylon	rubber with sport tread pattern	blue	36-48 whole sizes



FEATURES

Feature	Benefit	SH-A100	SH-A051
1. **SPD sole patch**	Use as a cleated or non-cleated shoe. Sole patch removes easily for SPD cleat mounting.	●	●
2. **Nylon mesh & polyurethane-coated split leather upper panels**	Nylon mesh for breathability. Polyurethane-coated split leather for stretch-resistance, water-resistance, and durability.	●	●
3. **Double strap closure**	Double strap closure provides a snug and comfortable fit and a shoe that can be put on quickly and easily.	●	
4. **Strap and lace closure**	Strap and lace closure system keeps shoe from loosening. Strap keeps laces out of the crank.		●
5. **Cup molded Cambrelle and EVA inner sole**	Cup molding provides a natural cradle for the foot plus a smoother transition between sole and upper. EVA cushions while soft Cambrelle absorbs moisture to help keep foot dry.	●	Cambrelle and EVA
6. **Rubber sport sole**	Rubber outer sole uses a low-profile sport tread pattern for comfortable walking.	●	●
7. **Reflectorized strap & heel**	Reflectors on strap and heel for night-time safety.	●	●

SIZE REFERENCE CHART

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

SHIMANO®
TEST POINT

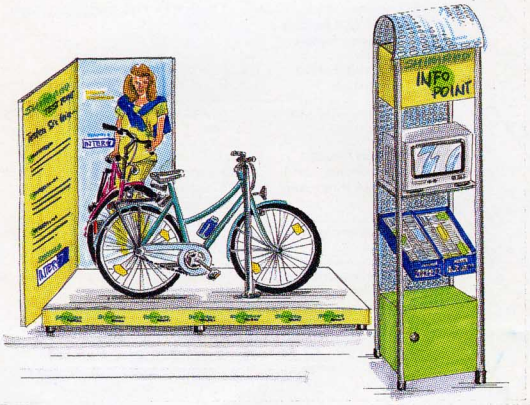
Competent sales promotion for your business

- Active selling needs more than words. TEST POINT provides action and an exciting experience. The most convincing argument for your customers is to let them try things out personally. And with TEST POINT in your shop, they can. The TEST POINT module is designed as a permanent shop fixture. It only takes minutes to change the test bicycle and the decor - so your TEST POINT will always be up to date.

- SHIMANO TEST POINT is an integrated concept. TEST POINT dealers can pride themselves on possessing an attractive bicycle tester. And what's more, they will always have the latest information material from SHIMANO - without delay and free of charge. In addition, joint promotion activities involving TEST POINT dealers and SHIMANO have been planned.

- The TEST POINT is the ideal instrument for anybody wanting to openly demonstrate competence in bicycle matters together with SHIMANO.

- The SHIMANO TEST POINT concept is in the preparation phase and due to start in the spring of 1995. We invite you to help us refine the TEST POINT concept. Let us have your suggestions and comments on TEST POINT, either by contacting us at exhibitions or writing to SHIMANO EUROPA.



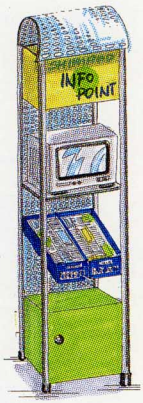
An attractive TEST POINT with INFOTHEQUE is being designed as a permanent shop fixture for TEST POINT dealers.

We are looking for exclusive TEST POINT dealers across Europe!

Only dealers with a high level of commitment can present SHIMANO technology with the TEST POINT module. TEST POINT is destined for an exclusive number of dealers who share our vision of the future. We are investing in the TEST POINT concept because we want to actively shape the future. Introducing the TEST POINT concept will also require a small, but effective investment on your part.
We invite you to upgrade your business with TEST POINT and to achieve higher turnover by targeted sales promotion.

TEST POINT also means SHIMANO Information Centre

A TEST POINT dealer will always have the latest SHIMANO information and promotion material on hand. You can also use the SHIMANO TEST POINT for attractive video presentations. Demonstrate your competence with the TEST POINT Infotheque. At a later date, we envisage enhancing the Infotheque still further with an integrated CDI information system. Join us in going for the most advanced information technology!



Together we will promote your business

Input from you and from us will form the basis for a joint promotion strategy with SHIMANO. Together we will attract customers to your bicycle shop.



More details:

More information can be had at bicycle exhibitions and dealer presentations or by applying to:

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