

An aerial photograph of a rugged coastal landscape. A dirt road winds through a green, grassy field towards a rocky coastline where waves are breaking. In the bottom right corner, a person is riding a bicycle on the dirt road.

'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.



Chain Path During Up-Shifting



Chain Path During Down-Shifting



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 M-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.



PD-M535

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.



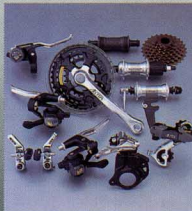
SHIMANO ACERA

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

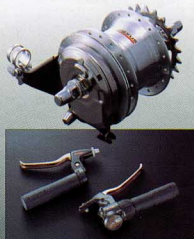
All-new economy road component group positioned beneath RX-100. Features STI levers, choice of double or triple cranksets, and other features.



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.



ponents

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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.



SHIMANO XTR

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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



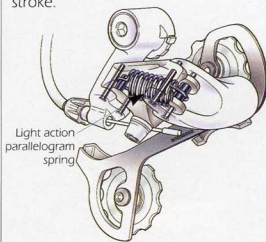
A quick glance at the indicator helps you plan shifts and do less gear hunting. XTR's indicator is conveniently angled so it's easy to see in both sitting and standing positions. The OGD unit can now be easily removed or replaced without taking the lever set off of the handle bars.

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.



Light action parallelogram spring

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



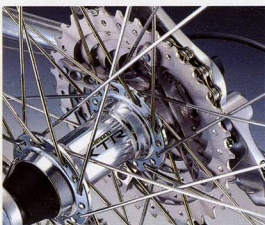
The Parallax hub makes a stronger, more rigid wheel through an oversize body that provides more support for the spoke flanges. Stainless steel bearings and mirror-polish races for a precision rotating action. Alloy axle and quick-release reduces weight.



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

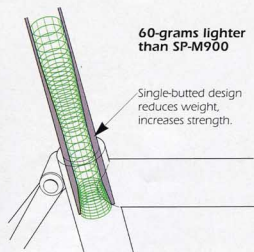


M-System brakes keep working even when they're wet or muddy. Separate front and rear cantilever designs plus stronger A-type unit link cable assure dependable braking. Oversize cartridge-type pads feature new M-System compound. Two-finger competition lever with modulated servo-wave action.



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.



60-grams lighter than SP-M900

Single-butted design reduces weight, increases strength.



SHIMANO DEORE XT

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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.



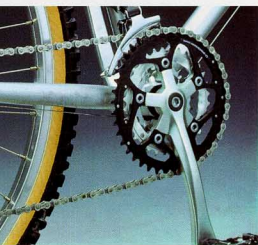
Parallax Hubs with Alloy Quick Release

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.



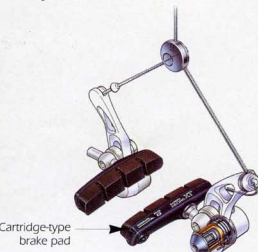
HyperDrive-C

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.



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.





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



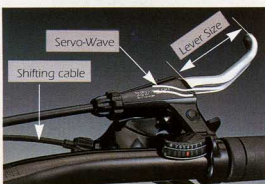
Dual SIS delivers error-free chainwheel shifting with click-stop precision for both rear and front derailleurs. Deore LX uses 8-speed HG cassette sprockets for a wider gear selection. New SP36 shift cable improves gear changing performance with a more precise cable action.



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.

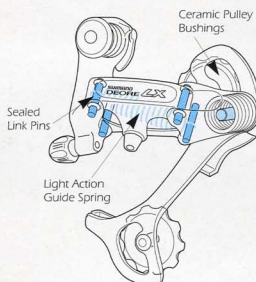
Cartridge type M65T
M-System pad



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.



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



SM-SP17



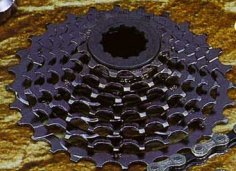
HP-MC30
HP-MC31



PD-M323



CS-IG60



CN-IG50



FH-MC33



ST-MC33



FD-MC33



HB-MC33



RD-MC33



BR-MC33



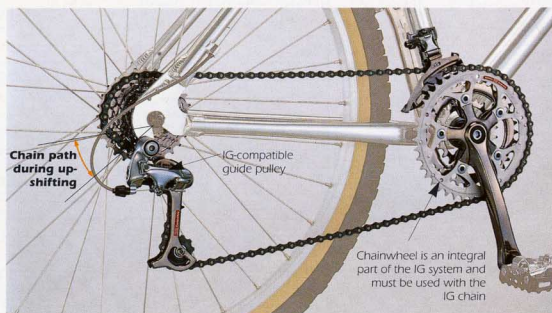
STX-RC is for cyclists who demand both performance and style. A new high-performance version of the STX group introduced in 1994, STX-RC uses the new IG drivetrain for the best SIS shifting performance yet. STX-RC offers top-mounted competition-type Optical Gear Displays on the Rapidfire Plus levers. 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.



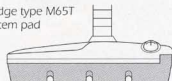
Anti-Vibration M-System Brakes

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.

Cartridge type M65T
M-System pad



■ 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
FRONT DERAILLEUR	Inner pulley cage	anodized aluminum		anodized aluminum	steel		chrome plated steel		black painted steel
	Weight	221g		210g	235g		285g		294g
	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
RAPIDFIRE PLUS	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
	Model No.	ST-M910		ST-M738	ST-M566		ST-M565	ST-M564	ST-M563
	Rear (Dual SIS)	8-speed		8-speed	8-speed		8-speed	7-speed	7-speed
	Front (Dual SIS)	triple		triple	triple		triple	triple	triple
	Lever Length	2-finger		2-finger	2-finger		2.5 finger	2-finger	2.5 finger
	Weight	389g		383g	384g		378g	378g	394g
	Model No.	BR-M900-C		BR-M737	BR-M565		BR-MC33		
	Arm length	M		M	M		L	M	L
CANTILEVER BRAKE	Link type	special Y-type		special Y-type			Y-type		Y-type
	Weight	364g (F&R)		364g (F&R)			370g (F&R)		346g (F&R)
	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 - 175 - 175 - 180mm		165 - 170 - 175 - 180mm	170 - 175mm		170 - 175mm		170 - 175mm
	Chain type	HG		HG	HG		HG		IG
	Chain guard	available		available	available		available		available
	Weight	697g (46-36-26T/170mm)		694g (42-32-22T / 175mm)	681g / 170mm		681g / 170mm		764g / 170mm
	Model No.	BB-UN91		BB-UN71	BB-UN51		BB-UN51		
CARTRIDGE BOTTOM BRACKET	Marking	MM107 LL113		MM107 LL113	MM107 LL113		MM110 LL113		MM110 LL113
	Chain line	47.5mm 50.0mm		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
	Axle width	107mm 113mm		107mm 113mm	107mm 113mm		107mm 113mm		110mm 113mm
	Weight	255g		272g	308g		316g		308g 316g
	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
REAR FREEHUB	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	chromicla 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	26.8/26.8/27/27.2mm	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

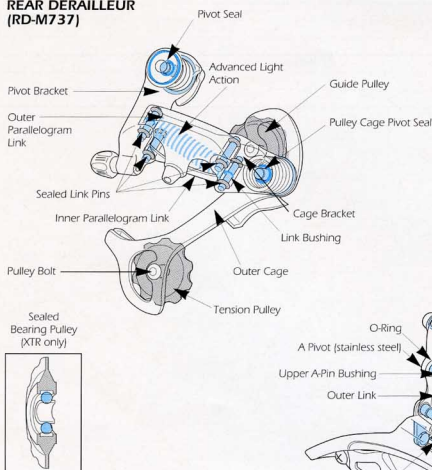
Model No.	Sprockets	Group Identification	Gear Combination	Compatible Freehubs
CS-M900	8	P	12, 14, 16, 18, 21, 24, 28, 32	FH-M910 FH-M900 FH-M737 FH-M565
		Q	12, 13, 14, 16, 18, 21, 24, 28	
CS-M737	8	R	11, 12, 14, 16, 18, 21, 24, 28	FH-M910 / FH-M737 / FH-M565 FH-M565
CS-HG70-8	8	ah	11, 12, 14, 16, 18,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

■ Off-Road Component Feature Comparison Chart I

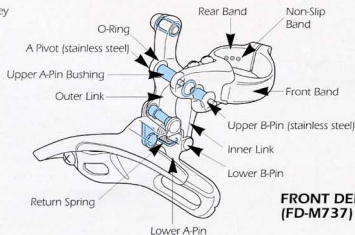
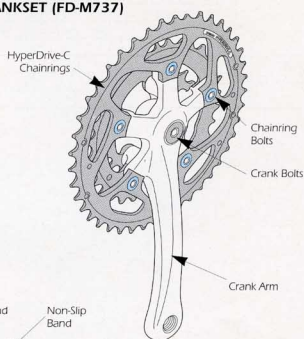
Component	Item	XTR	DEORE XT		DEORE LX	STX-RC
REAR DERAILEUR	Model No.	RD-M910	RD-M737-GS	RD-M737-SGS	RD-M56S	RD-MC33
	Advanced Light Action	○	○	○	○	○
	IG compatibility					
	Rear sprockets	8-speed	8-speed	8-speed	7 or 8-speed	7-speed
	Guide pulley bushing	sealed ceramic	sealed ceramic	sealed ceramic	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	pivot & pulley brackets	
Bracket & pulley bolts	stainless steel	stainless steel	stainless steel	stainless steel	stainless steel	
FRONT DERAILEUR	Model No.	FD-M900 / FD-M901	FD-M737		FD-M56S	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 DERAILEUR (RD-M737)



CRANKSET (FD-M737)

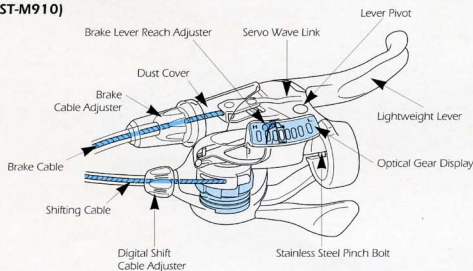


FRONT DERAILEUR (FD-M737)

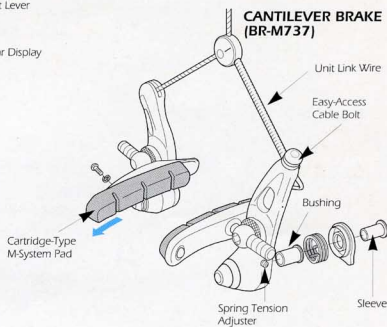
Component	Item	XTR	DEORE XT	DEORE LX				STX-RC
RAPIDFIRE PLUS LEVER	Model No.	ST-M910	ST-M738	ST-M566	ST-M565	ST-M564	ST-M563	ST-MC33
	Advanced Light Action	○	○	○	○	○	○	○
	Rear Sprockets	8-speed	8-speed	8-speed	8-speed	7-speed	7-speed	7-speed
	Servo Wave Brake Lever	○	○			○		
	Optical Gear Display	above 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 Chaining	7075 aluminum*	7075 aluminum*	aluminum				aluminum
	Middle Chaining	7075 aluminum*	7075 aluminum*	7075 aluminum*				steel
	Inner Chaining	7075 aluminum*	steel	steel				steel
	Crank Bolts	titanium	chrome-moly steel	chrome-moly steel				stainless steel
	Chaining Bolts	7075 aluminum*	stainless steel	stainless steel				stainless steel
	Chaining 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)

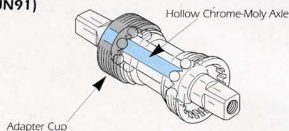


■ Off-Road Component Feature Comparison Chart II

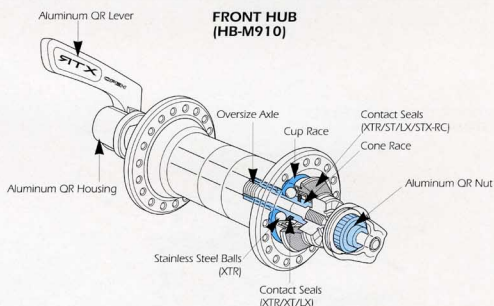
Component	Item	XTR	DEORE XT	DEORE LX	STX-RC			
CARTRIDGE BOTTOM BRACKET	Model No.	BB-UN91	BB-UN71	BB-UN51	BB-UN51			
	Axle	chrome-moly (hollow)	chrome-moly (hollow)	chrome-moly (solid)	chrome-moly (solid)			
	Adapter	aluminum	aluminum	steel	steel			
REAR FREE- HUB	Model No.	FH-M910	FH-M737-A	FH-M565	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	Borazon*	Borazon*	Borazon*	Borazon*	Borazon*		
	Cup Races	Borazon*	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	Borazon*	Borazon*	Borazon*	Borazon*	Borazon*	Borazon*	Borazon*
	Cup Races	Borazon*	polished	polished	polished	polished		
	Contact Sealing	double	double	double	double	double	single	single

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

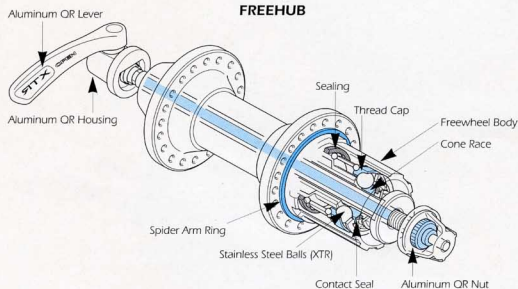
CARTRIDGE BOTTOM BRACKET (BB-UN91)



FRONT HUB (HB-M910)

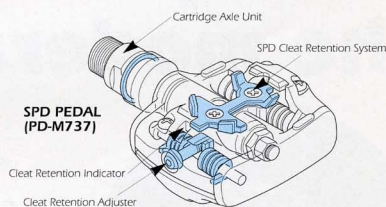
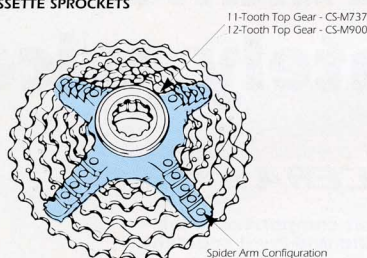


FREEHUB

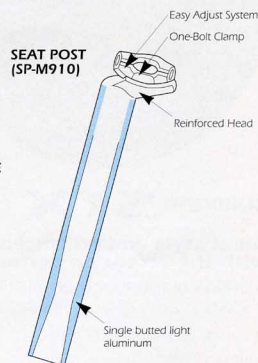
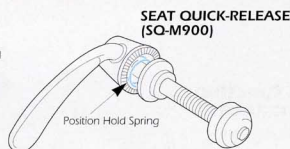
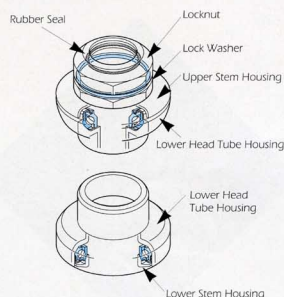


Component	Item	XTR	DEORE XT	DEORE LX		STX-RC
CASSETTE SPROCKETS	Model No.	CS-M900-8	CS-M737-8	CS-HG70-8	CS-HG70-C	CS-IG60
	Sprocket Type	HG	HG	HG	HG	IG
	Speeds	8	8	8	7	7
	Spider Arm	aluminum	aluminum			
	11T Top Gear		○	○	○	○
HEADSET	Model No.	HP-M900 / HP-M901 / HP-M902	HP-M740 / HP-M741 / HP-M742	HP-M563 / 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
	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.



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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**

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.





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.



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.



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.

NEXUS

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



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SHIMANO
700CX
SHIMANO
400CX

SHIMANO STX

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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.



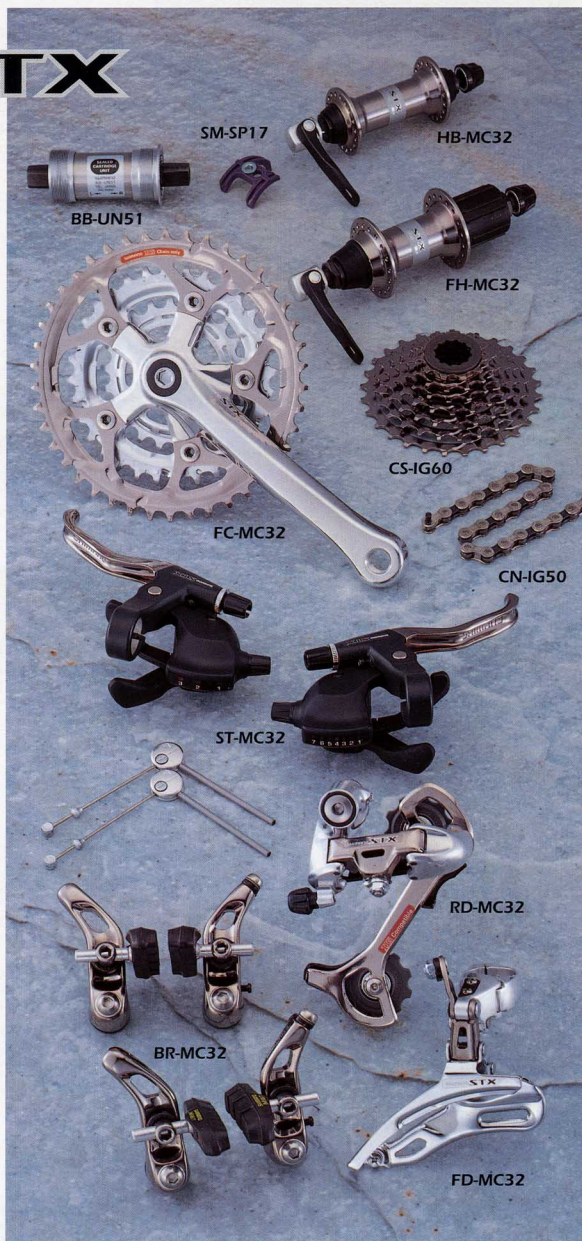
Anti-Vibration M-System brakes work silently in all weather conditions.



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.

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ALIVIO

SHIMANO

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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 chain-wheel shifting effort.



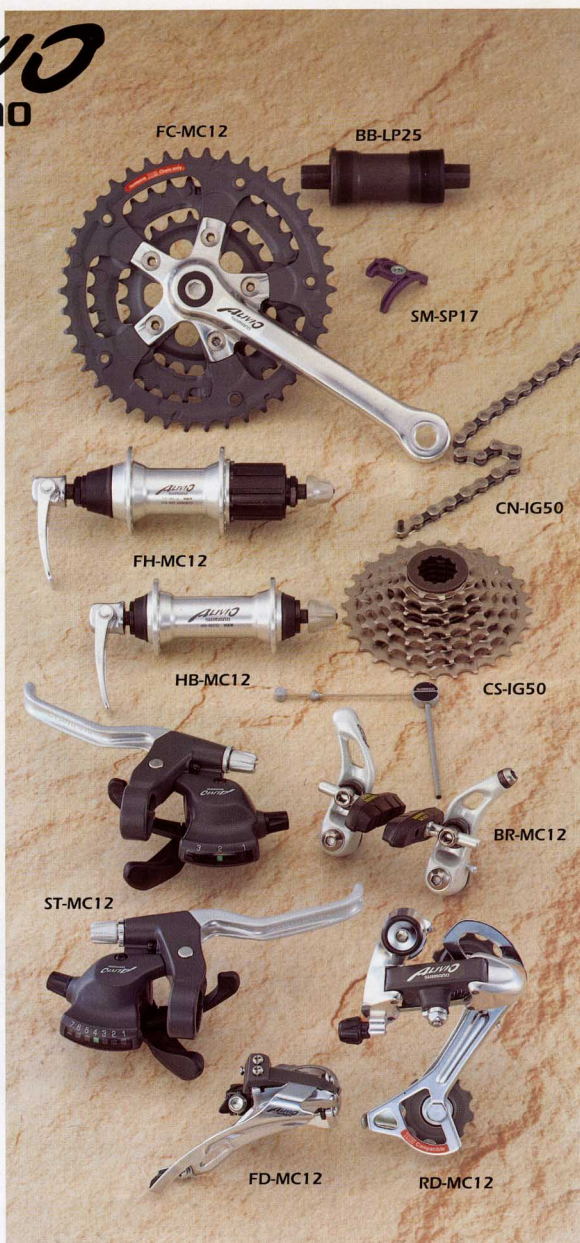
HyperDrive-C reduces chaining and sprocket size to save weight.



Anti-Vibration M-System brakes work silently and effectively in all weather conditions.

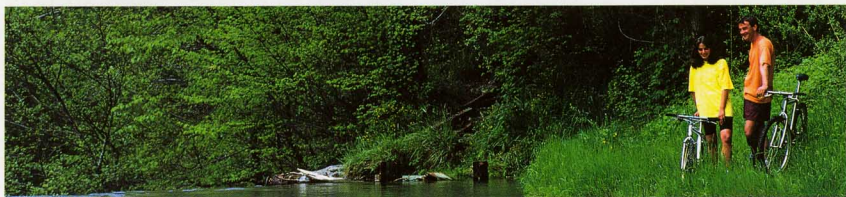


Aluminum QR levers reduce wheel weight and resists rust.



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.





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.

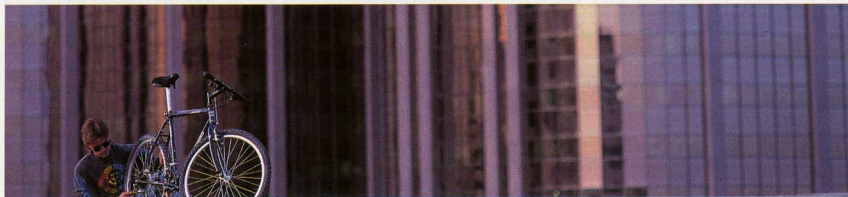


HyperDrive C drivetrain reduces weight and increases ground clearance.



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 aluminum 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

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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.



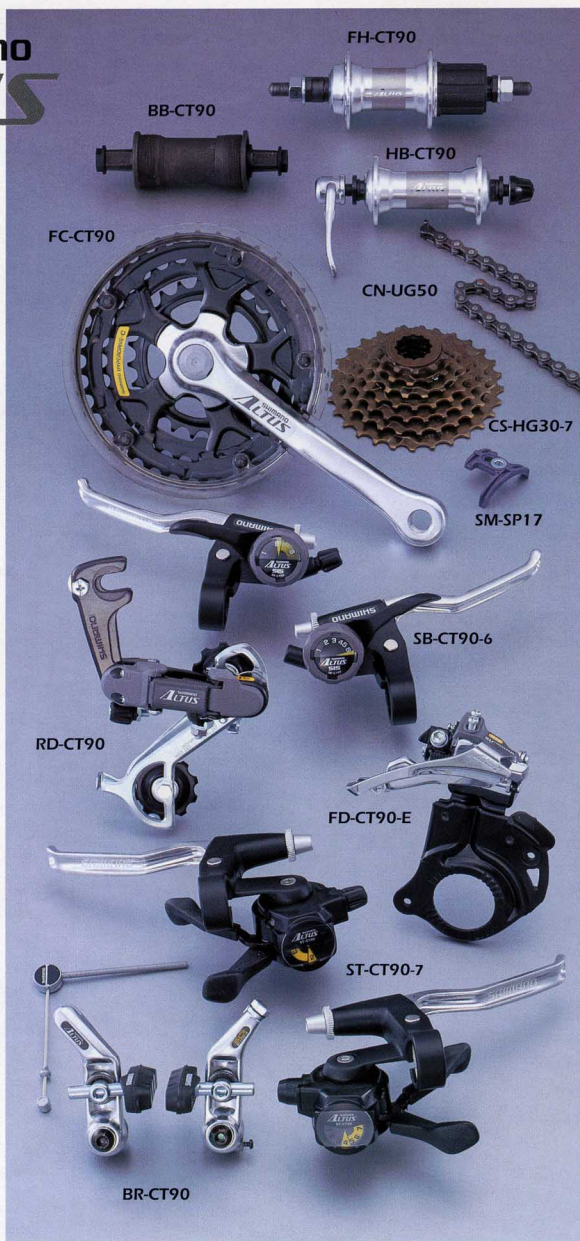
Parallax Hubs increase wheel strength.



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	○		○	
Front Derailleur	Stainless Steel Fasteners	○		○	
	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	○		○	
RapidFire Plus	Dual SIS	○		○	
	Top Swing Action	○		○	
	Stainless Steel Fasteners	○		○	
	Model No.	ST-MC32	ST-MC35	ST-MC12	ST-MC15
	Speed	7-Speed	7-Speed	7-Speed	7-Speed
	Rear	Triple	Triple	Triple	Triple
	Front	Triple	Triple	Triple	Triple
	Lever Length	2 Finger	3 Finger	2.5 Finger	3 Finger
Cantilever Brake	Curved Handlebar	○		○	
	Advanced Light Action	○		○	
	Optical Gear Display	○		○	
	Sliding type (below bar)	Sliding type (below bar)		Sliding type (below bar)	
	Model No.	BR-MC32		BR-MC12	
	Arm Size	M, L		M, L	
	M-System Shoe Type	M65T		M65T	
	Link Type	Dynamic Type		Alignment Type	
Front Chainwheel	Anti Vibration Design	○		○	
	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	
	Model No.	BB-UN51		BB-LP25	
Sealed Cartridge Bottom Bracket	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
	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	
Freehub	Parallax Hub	○		○	
	Aluminium QR Lever	○		○	
	Hub Type	QR/Nut		QR/Nut	
	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	Chromic/Silver luster		Silver	
	Model No.	CN-IG50		CN-IG30	
	Type	IG Narrow		IG Narrow	
	Model No.	HP-MC30	HP-MC31		
Head Set	Thread	BC 1" x 24 T.P.I.		BC 1-1/8" x 26 T.P.I.	
	Stack Height	37.6 mm		37.6 mm	
	Model No.	PD-M323			
	SPD	One Side			
	Mounting Thread	BC 9/16 x 20 T.P.I.			
	Model No.	DF-M730			
	Material	Resin			
	Chain Deflector				

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 Hanger					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-CT90-75	ST-CT95-75	ST-CT90-65
	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-CT90-75		SB-CT90-65
	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-CT90-75		FH-CT90-65
	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		OR/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		OR/Nut		OR/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

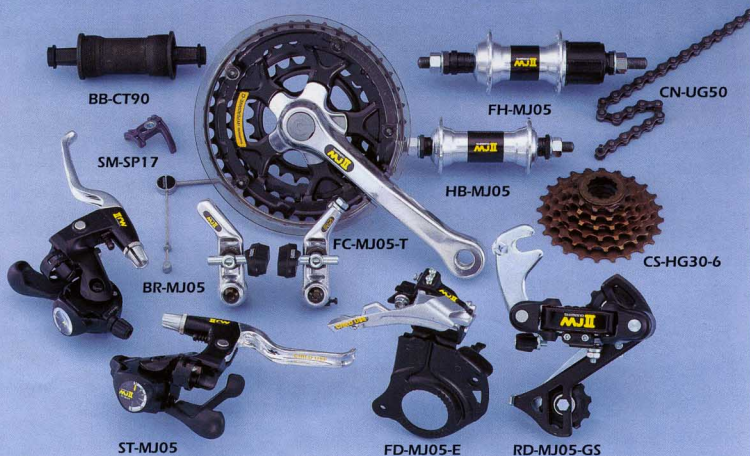
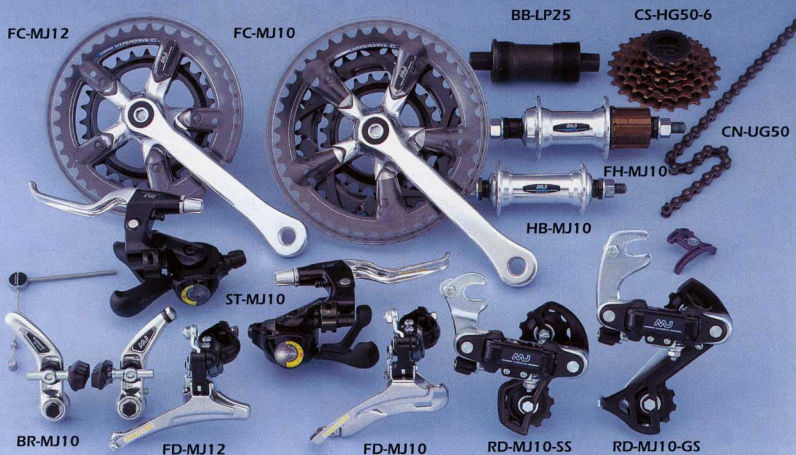
Dial-type Optical Gear Displays helps teach gearing fundamentals while making it easier and more fun for youngsters to shift the derailleurs. It also appeals to children because the same function is found on adult bikes.



ST-MJ05



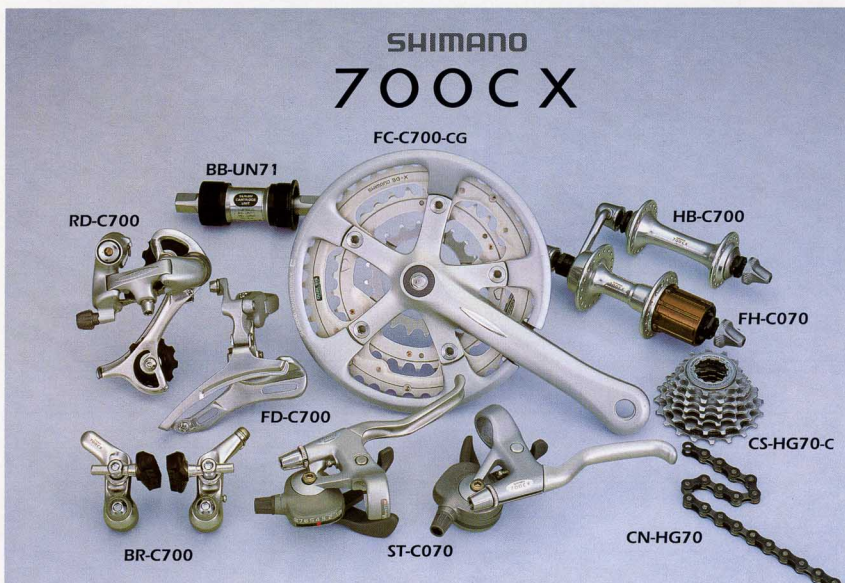
SB-MJ05/SB-MJ06



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 Hanger	○	○		○					
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	○	○	6-Speed	○	○	6-Speed			
	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	○	○	○	○	○	○	○	○	
	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	
	Model No.								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	○			○					
Front Hub	Hub Type	Nut			OR/Nut					
	Model No.	HB-MJ10			HB-J05					
	Over Lock Nut Dimension	100 mm			100 mm					
	Spoke Holes	36/32 H			36/32 H					
	Parallax Hub	○			○					
Cassette Sprockets	Hub Type	Nut			Nut					
	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.



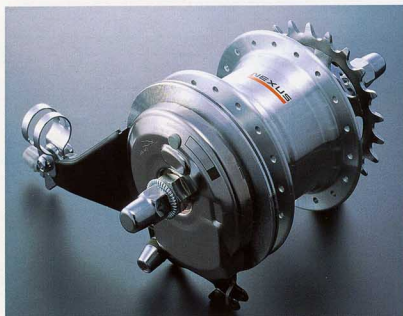
Specification		Series		SHIMANO 700 CX	SHIMANO 400 CX
Rear Derailleur	Model No.	RD-C700		RD-C400	
	Speed (SIS)	7-Speed		7-Speed	
	Max. Sprocket	21T		21T	
	Min. Sprocket	11T		11T	
	F/Difference	22T or less		22T or less	
	Total Capacity	32T		32T	
	Finish	Paint Finish		Barrel Finish	
Front Derailleur (Set 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
RapidFire Plus	Model No.	ST-C070		ST-M040	
	Dual SIS	7-Speed		7-Speed	
	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" x 24 T.P.I.	BC1" x 26 T.P.I.	BC1" x 24 T.P.I.	BC1" x 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" x 20 T.P.I.	BC 9/16" x 20 T.P.I.	BC 9/16" x 20 T.P.I.	BC 9/16" x 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.



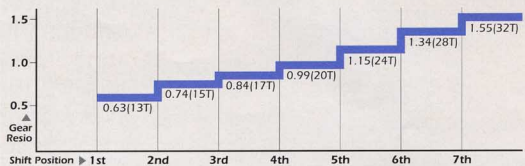
The Inter-7 hub features 7-speed internal gearing and an integral Inter-M roller brake. Unlike conventional geared hubs, Inter-7 can be shifted while pedaling. Inter-7's wide-range 7-speed gearing offers just the right gear for hill climbing, cruising, or fast downhill riding. Shifting is easy with the 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.



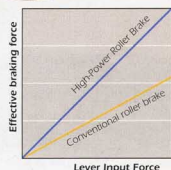
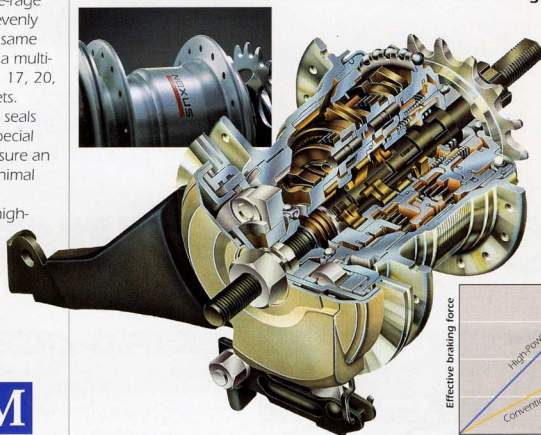
For further information
please contact your distributor

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-range 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.



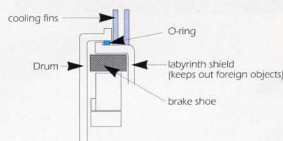
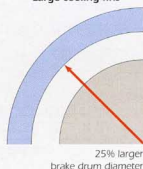
Inter-7 Wide-Range Gearing



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.

Large cooling fins



Back pedal coaster brake is also available in German-speaking and Scandinavian 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 gear 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.





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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



SL-B550-8



CS-7401



CN-7401



SL-7402-8



HP-7410



ST-7400



RD-7402



FD-7410



BR-7403



PD-7410



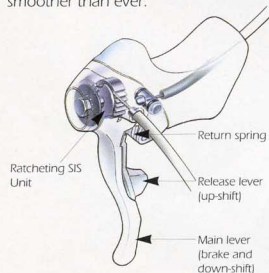
DURA-ACE

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



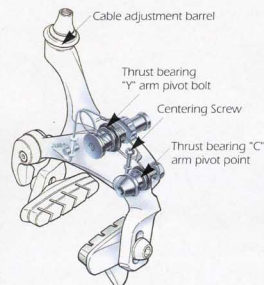
Shimano freehub design allows wider bearing spacing which eliminates axle bending and increase rigidity for more power transfer efficiency. Precision stainless steel bearings and polished races last longer and run smoother. Efficient labyrinth seal keeps out dirt and water. The handy lube hole allows 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.



Single-butted design reduces weight, increases strength.

40-grams lighter than SP-7400



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

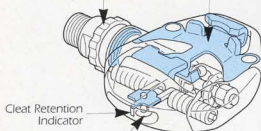


PD-6500 SPD racing pedal offers the same lightweight and compact design as the Dura-Ace model. Pedal features chrome moly spindle, cartridge bearing unit, and adjustable cleat tensioning. Two cleat sets are offered for fixed or rotational binding (allows 12 degrees of rotation).



Easy Maintenance
Cartridge Axle

SPD Cleat System



Cleat Retention
Indicator

Cleat Retention Adjuster

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

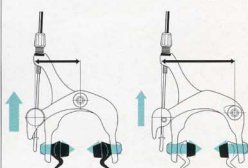
The rear derailleur features all-alloy construction to save weight. Hard ceramic bushing in the guide pulley reduces friction without the need for lubrication. Effective link pin sealing keeps both derailleurs working smoothly in wet and muddy environments. Front and rear derailleurs offer adjustable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

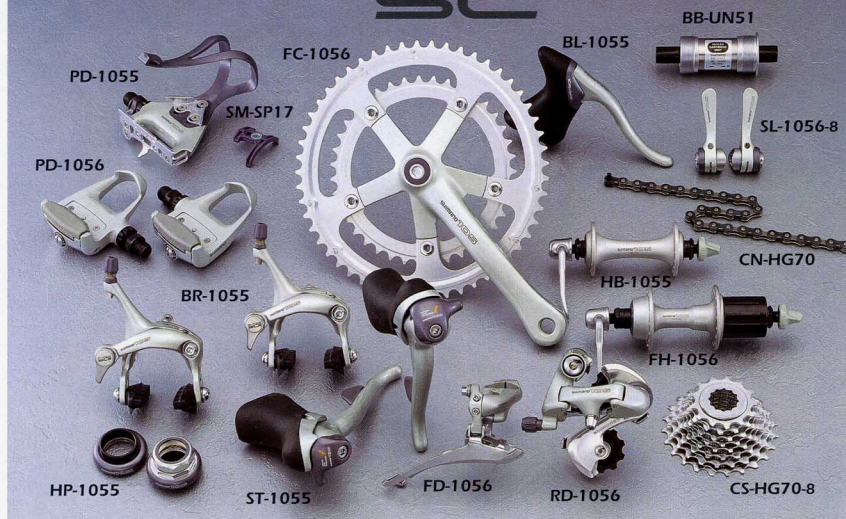
Longer pivot-cable distance increases leverage and braking power.

Stylish Design

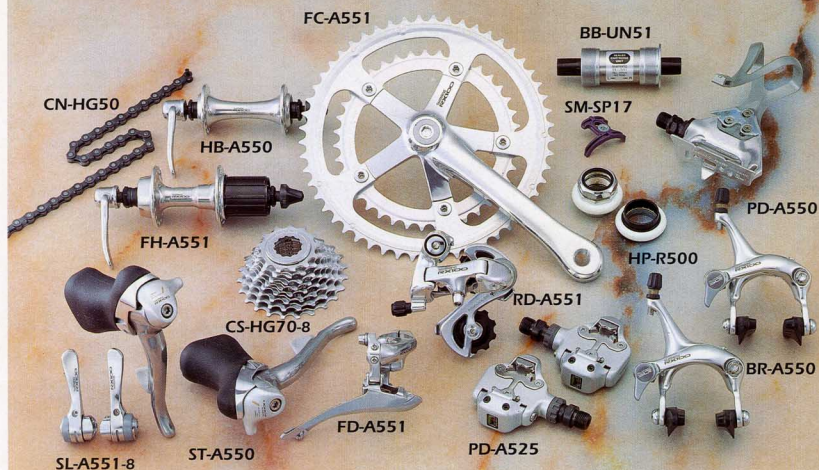
The 600 Ultegra-equipped bicycle looks as good as it goes. The seamless contour design and high-tech gray surface treatment give the sport-racing bicycle an ultra-modern look of functionality and high-performance.



SHIMANO 105 SC



SHIMANO RX100



Real racing performance for sport cyclists.

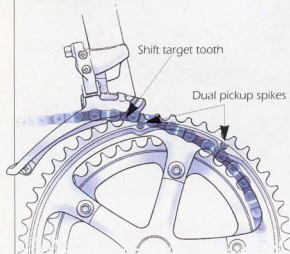
Shimano 105-SC and RX-100 are sport/racing component groups positioned just beneath 600 Ultegra. They offer the full range of advanced Shimano functions including 8-speed HG cassette sprockets, STI dual control levers for hands-on-the-bars shifting, and super SLR dual-pivot brake calipers. These component 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.

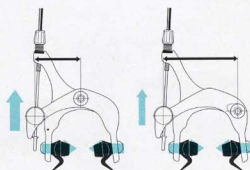


Super SLR Brakes



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.



[illegible]

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	SHIMANO 105-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	
FRONT DERAILLEUR	Inner Pulley Cage			anodized aluminum	polished aluminum	pearl bright finish steel	
	Weight			209g	215g	247g	
	Model No.			FD-7410-B	FD-7410-F	FD-6401-B	FD-6401-F
	Capacity			15T	15T	14T	14T
	Mounting			band	braze on	band	braze on
	Band Diameter			28.0-28.6mm		28.0-28.6mm	
	Chain Stay Angle			61-66°	61-66°	61-66°	61-66°
	Band			forged aluminum/ anodized	gray painted aluminum	gray painted aluminum	painted aluminum
	Outer Link			forged aluminum/ anodized	silver painted aluminum	painted aluminum	painted aluminum
	Chain Cage			chrome plated steel	chrome plated steel	chrome plated steel	chrome plated steel
DUAL CONTROL LEVER	Weight			97g	107g	105g	
	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-B	SL-B550-B	SL-6401	SL-B564-B
	Speeds (SIS)			8-speed	8-speed	8-speed	8-speed
	Mount Position			down tube	bar end	down tube	bar end
	Tube Diameter			braze-on	19.022.0mm (inside)	braze-on	braze-on
	Material & Surface			painted aluminum	painted aluminum	gray painted aluminum	gray painted aluminum
	Cable			SIS sealed	SIS-SP sealed	SIS sealed	SIS-SP sealed
	Weight			67g	183g	67g	180g
						70g	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	
	Model No.			BR-7403	BR-6403	BR-1056	
	Reach			49mm	49mm	49mm	57mm
DUAL PIVOT CALIPER BRAKE	Caliper			anodized forged aluminum	forged aluminum / painted	forged aluminum / painted	
	Weight			432g (F&R)	423g (F&R)	360g (F&R)	
	Model No.			FC-7410	FC-6400	FC-1056	
	Gearing			53-42 / 53-39 / 52-42T	53-42 / 52-42T (round SC)	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		polished aluminum		aluminum & resin	Pivot & Pulley Brackets	
polished aluminum		polished steel		polished steel	Outer Link	
pearl bright steel		polished steel	black steel	polished 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	brazo-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			polished 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		Mount Position	
brazo-on			brazo-on	28.6mm or brazo-on	Tube Diameter	
polished aluminum			pearl bright aluminum	7-speed	Material & Surface	
SIS			SIS	barrel finish aluminum	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		Calliper	
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	Bot. 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	polished 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	SHIMANO 105-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
FRONT HUB	Finish	anodized	anodized	anodized	anodized	anodized
	Weight	467g	648g	428g	427g	415g
	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
CASSETTE SPROCKETS	Material	forged aluminum		forged aluminum		forged aluminum
	Finish	anodized		anodized		anodized
	Weight	235g		212g		228g
	Model No.	CS-7401-8		CS-HG90-8		CS-HG70-8
	Speeds	8		8		7
	Group Identification	S, T, U, V, W		S, T, U, V, W		E, H, J, L, M
	Color	champagne gold		chrome plated		silver
CHAIN	Weight	258g (5 group)		250g		278g (J group)
	Model No.	CN-7401		CN-HG91	CN-HG90	CN-HG70
	Type	HG narrow		HG narrow	HG narrow	HG narrow
	Inner Link Color	nickel plating		gray	black	gray
	Outer Link Color	nickel 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" x 24 TPI		BC 1" x 24 TPI		BC 1" x 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
	Cleat Type	SPD	Shimano clipless	SPD	Shimano clipless	Shimano clipless
	Spindle Thread	BC 9/16" x 20 TPI		BC 9/16" x 20 TPI		BC 9/16" x 20 TPI
	Body	anodized finish aluminum		polished aluminum	gray painted aluminum	painted aluminum
	Spindle Material	nickel chrome moly		chrome moly	nickel 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	25.0/25.8/26.0/26.2/26.4/26.6/26.8/27.0/27.2/27.4	25.0/25.8/26.0/26.2/26.4/26.6/26.8/27.0/27.2	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	
	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	36 / 32H	Spoke Holes	
45mm	45mm	45mm	45mm	45mm	Spoke Hole Circle	
aluminum	aluminum	aluminum	aluminum	aluminum	Material	FRONT HUB
mirror polished	mirror polished	die cut	die cut		Finish	
427g	420g		235g		Weight	
	HB-A550	HB-A410	HB-RM50		Model No.	
	100mm	100mm	100mm 96mm		Over Locknut	
	108mm	108mm	108mm 104mm		Axle Length	
	36 / 32H	36 / 32H	36 / 32H		Spoke Holes	CASSETTE SPROCKETS
	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.	
8	7	7	7		Speeds	CHAIN
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 (J group)					Weight	
	CN-HG70	CN-HG50	CN-HG50		Model No.	
	HG narrow	HG narrow	HG narrow		Type	
	gray	black	black		Inner Link Color	HEADSET
	black	black	black		Outer Link Color	
	335g	335g	335g		Weight	
	HP-1055	HP-R500	HG-R500		Model No.	
					Sealed Cartridge	
	BC 1" x 24TPI	BC 1" x 24TPI	BC 1" x 24TPI		Thread	
	32.7mm	33.5mm	33.5mm		Stack Height	PEDAL
	101g	121g	121g		Weight	
PD-A525	PD-A550				Model No.	
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	

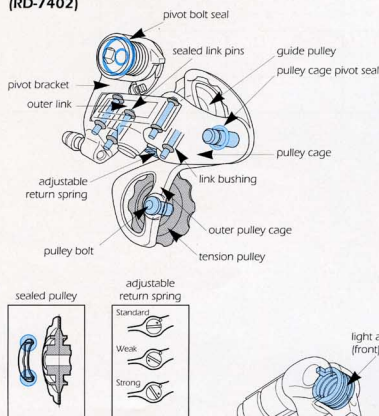
Cassette Sprocket Gear Combinations

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	12, 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

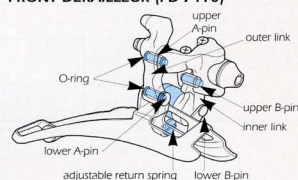
Road Group Feature Comparison Chart

Feature		DURA-ACE	SHIMANO 600 ULTEGRA	SHIMANO 105SC	SHIMANO RX100	SHIMANO RSX	SHIMANO 300EX
Item	Model No.	RD-7402	RD-6401	RD-1056	RD-A551 RD-A553	RD-A410	RD-A300
REAR DERAILLEUR	Advanced Light Action					○	
	Speeds	8	8	8	8	7	7
	Guide Pulley Bushing	ceramic (sealed)	ceramic (sealed)	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	
FRONT DERAILLEUR	Adjustable Return Spring	○	○	○	○		
	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		lower A-pin	lower A-pin		
DUAL CONTROL LEVER	Bushings	upper & lower AB pins	lower A-pin		lower A-pin		
	Top Swing Design					○	
	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	
	Model No.	SL-7402 SL-B550-8	SL-6401 SL-B564-B	SL-1056-8 SL-1056-7 SL-B550-7	SL-A550 SL-A551	SL-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)	○	○	○	○	○	
	Model No.	BL-7402	BL-6403	BL-1055	BL-A550	BL-A410	BL-A251
	SLR (return spring)	○	○	○	○		

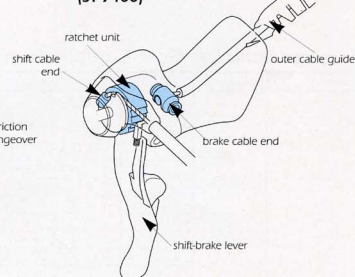
REAR DERAILLEUR (RD-7402)



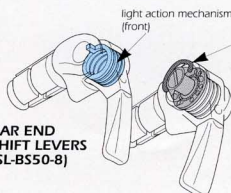
FRONT DERAILLEUR (FD-7410)



DUAL CONTROL LEVER (ST-7400)



BAR END SHIFT LEVERS (SL-B550-8)



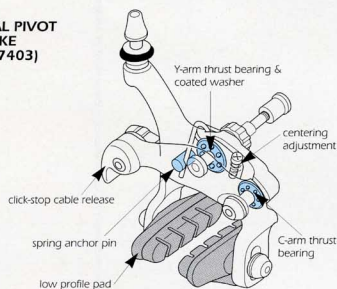
Item	Feature	DURA-ACE	SHIMANO 600 ULTEGRA	SHIMANO 105SC	SHIMANO RX100	SHIMANO RSX	SHIMANO 300EX
DUAL-PIVOT BRAKE CALIPER	Model No.	BR-7403	BR-6403	BR-1055	BR-A550	BR-A410	BR-A250
	System	Super SLR	Super SLR	Super SLR	Super SLR	M-System	
	Coated Pivot Washer	Y / C arms	C arm	C arm	C arm		
	Thrust Bearing	Y / C arms	Y arm	C arm			
	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 FH-7463	FH-6402	FH-1056 FH-1055	FH-A551-HG FH-A550-7	FH-A410	FH-HG50
	Contact Sealing	double	double	double	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)	(2)	(3)	(3)		
	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. Choose the appropriate type cleat for the desired retention mode.

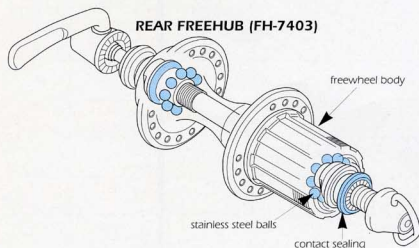
(2) The PD-6402 clipless pedal allows selection of fixed or self aligning cleat retention.

(3) The PD-1056 clipless pedal allows selection of lateral or multi-directional cleat release

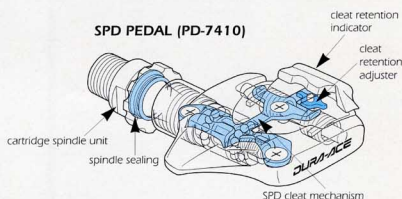
DUAL PIVOT BRAKE (BR-7403)



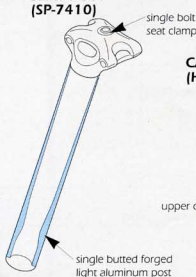
REAR FREEHUB (FH-7403)



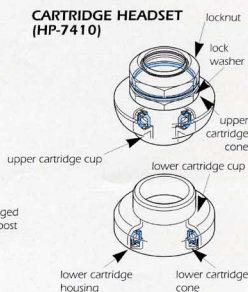
SPD PEDAL (PD-7410)



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		60
							Shimano IG	
							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	70
							M-Shoe	72
					M50		Carnegie Shoe	
							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.

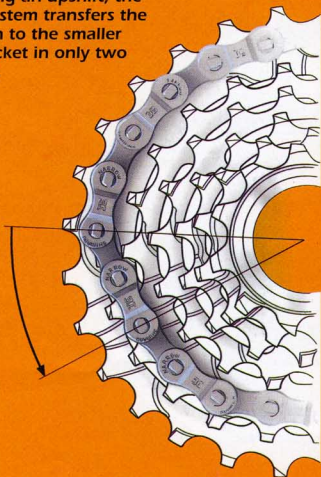


IG stands for "Interactive Glide." It's a new Shimano drive system incorporating further design improvements in IG-compatible sprockets, derailleurs, chainwheels, and chain.

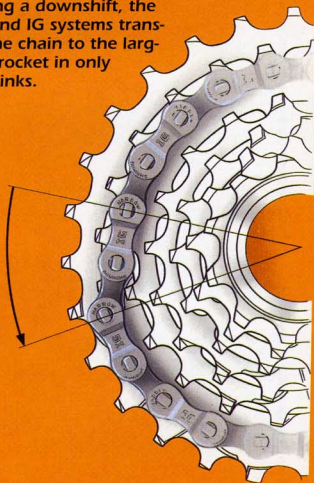
While offering the same fast and smooth downshifting of HyperGlide sprockets, IG also provides improved upshifting. Specifically, the IG system controls the chain better during downshifting because the chain is only allowed to separate from the IG sprocket at the designated release points. The chain 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.



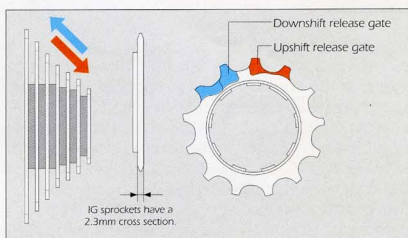
During a downshift, the HG and IG systems transfer the chain to the larger sprocket in only two links.





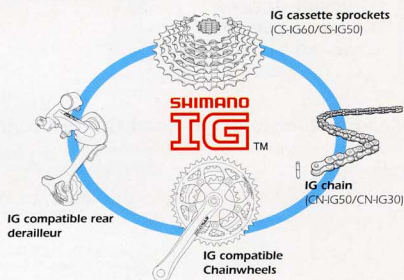
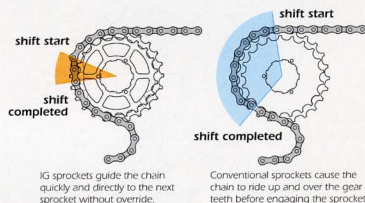
IG sprockets offer improved upshifting performance.

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.



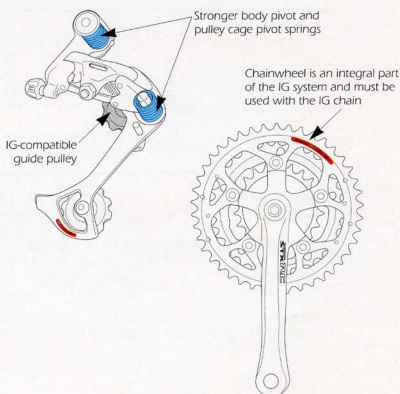
IG is an integrated shifting system.

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.

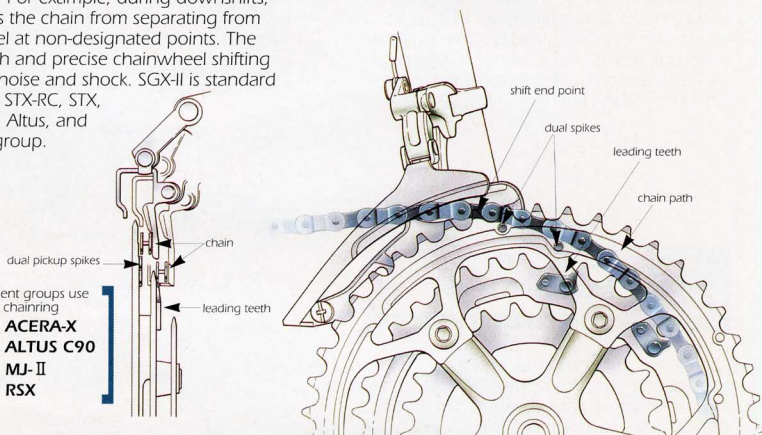




SGX-II chainwheels improve front SIS shifting.

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.

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.



These component groups use the SGX-II chainring

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

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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.

1995 Model	0.79	DEORE XT, LX,STX (42/32/22 front, 11-28 rear)		3.82
	0.86	ALIVIO, ACERA-X (42/34/24 front, 11-28 rear)		3.82
	0.86	ALTUS C90 (38/32/24 front, 11-28 rear 7-SPEED)		3.45
	1.0	(38/32/24 front, 11-24 rear 6-SPEED)		3.45
1994 Model	0.79	DEORE XT, LX (42/32/22 front, 11-28 rear)		3.82
	0.86	STX, ALIVIO (42/34/24 front, 11-28 rear)		3.82
	1.0	ALTUS C50 (48/38/28 front, 14-28 rear)		3.43
1993 Model	0.93	DEORE XT, LX (46/36/26 front, 12-28 rear)		3.83
	0.93	EXAGE (46/36/26 front, 13-28 rear)		3.54
	1.0	ALTUS C10 (48/38/28 front, 14-28 rear)		3.43
0.80 0.90 1.00 3.40 3.50 3.60 3.70 3.80				

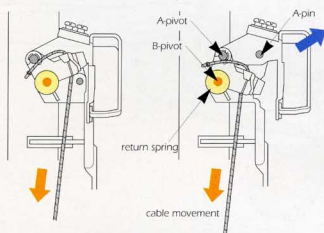


New Top-Swing front derailleur reduces shifting effort, improves shifting performance.

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.

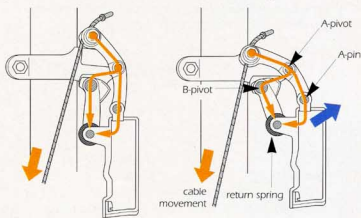
Top-Swing FD Mechanism

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 unnecessary 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 $2F$ at the top position, so a shifting effort of $2F$ is needed to move the chain from the large to the small chainring.

Diagram 1

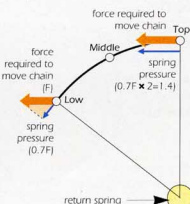
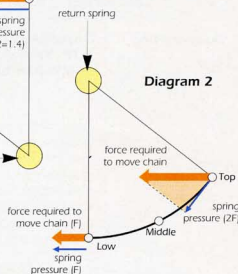
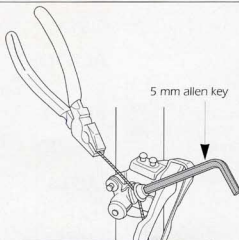
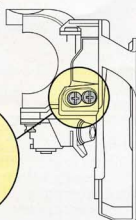
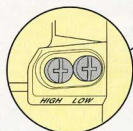


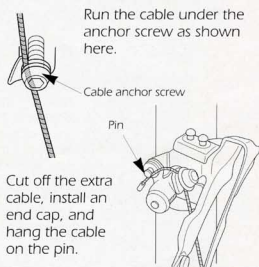
Diagram 2



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.}



Run the cable under the anchor screw as shown here.

Cut off the extra cable, install an end cap, and hang the cable on the pin.

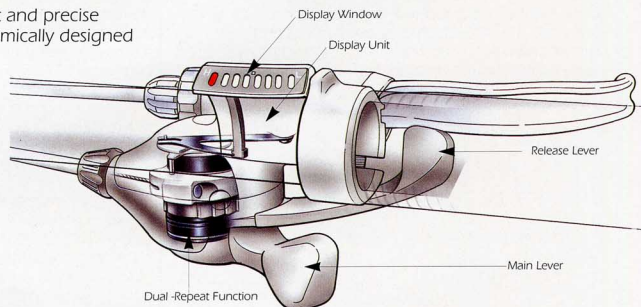


Keep a better grip while you brake and shift.

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...

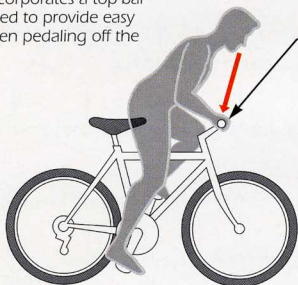
Left Lever (front derailleur)		Right Lever (rear derailleur)	
Downshifting Downshift to the next smaller chainring in one-step increments by pulling the trigger lever.	Upshifting (XTR, XT and ST-M566 of LX) Push the thumb lever until you feel a distinct "click" and the chain will shift from the small 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.	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.	
	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.	XT LX Upshifting Shift from a larger sprocket to the next smaller one in single gear increments by pulling the trigger lever once for each shift.	
		STX-RC STX ALIVIO 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.	
		ACERA X 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-II	



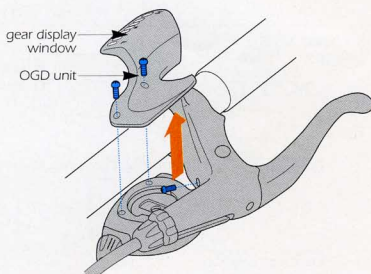
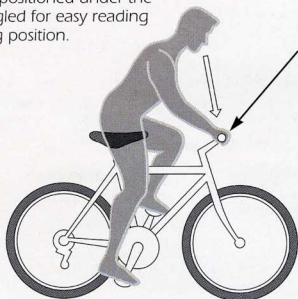
Optical Gear Display lets you check your gear at a glance.

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.



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.



XTR / Deore XT



Top bar oversize digital linear display

Deore LX / STX RC



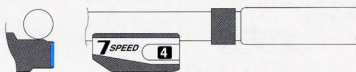
Top-bar digital linear display

STX / Alivio



Below-bar linear digital display

Acera-X



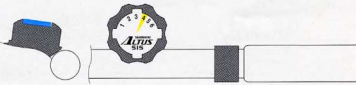
Below bar window-type digital display

MJ / MJ-II / Altus C90



Below bar dial display

MJ / MJ-II / Altus C90

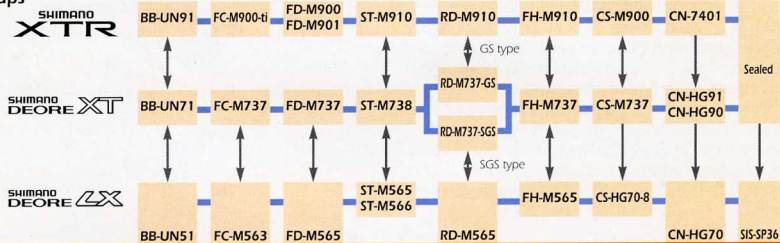


Top-bar dial display

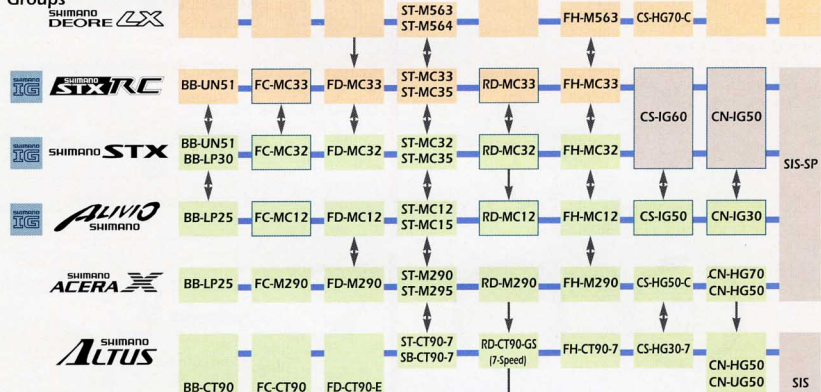
DUAL SIS COMPATIBILITY CHART

Bottom Bracket Front Chainwheel Front Derailleur Rapidfire Pulis Lever Rear Derailleur Freehub Cassette Sprockets Chain Outer Casing

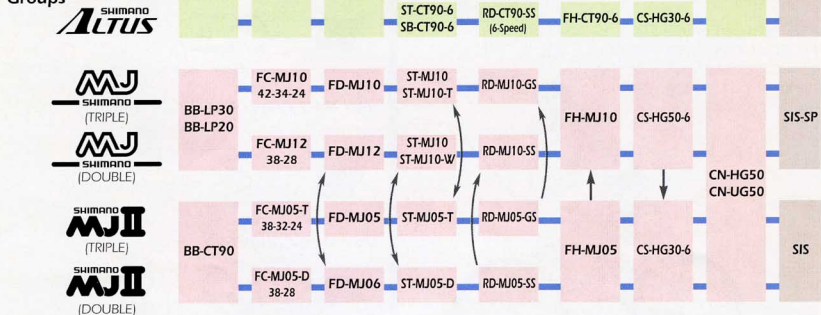
8-Speed MTB Groups



7-Speed MTB Groups



6-Speed MTB Groups



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.

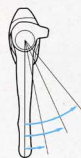
The main lever (brake lever) has two functions; it can shift the derailleur to a larger sprocket (down-shift) as well as apply the brakes. That's why it's called "Dual Control." A smaller release lever behind the main lever is used to release the cable for up-shifts to smaller sprockets. And it's all done with your hands on the bars in any braking position.

COMBINATION CHART

	DURA-ACE	ULTEGRA	SHIMANO SC	RX100	SHIMANO RSX
Dual Pivot Brake	BR-7403	BR-6403	BR-1055	BR-A550	BR-A410
	SLR outer casing				
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 interchangeable components.

Down shifting Up shifting



Braking

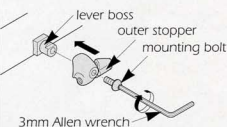


Main lever is used for braking and down-shifting. The release lever behind the main lever is used to release the cable to up-shift to a higher gear.

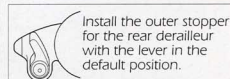
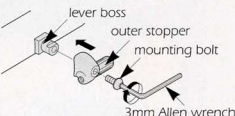
Outer Stopper

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

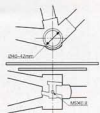


Tightening torque:
1.5 - 2.0 Nm {13 - 18 in. lbs.}

Bottom Bracket Cable Guide

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

SM-SP17

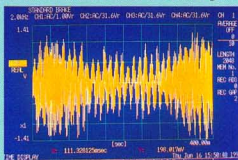


All-weather stopping performance without squealing or chattering.

ANTI-VIBRATION M-SYSTEM

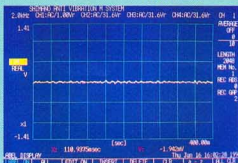
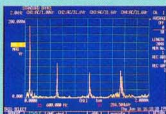
Cyclists know that caliper and cantilever brakes lose much of their effectiveness when the pads and rims get wet, muddy, or covered with dust. The Shimano M-System was designed to keep the brakes working under any condition you're like to encounter on your bike. STX-RC, STX, and Alivio now feature the 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

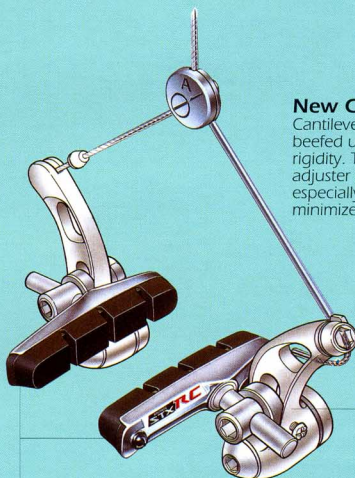


Wave pattern of vibration frequencies produced during low-pitched brake squeal.

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.

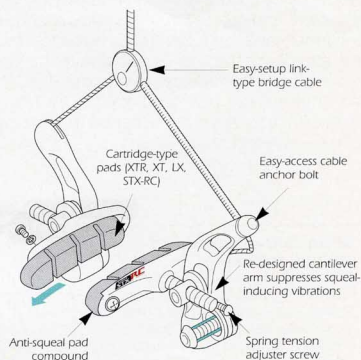


Shimano cantilever brakes are easier to install and adjust, work better in all environments.

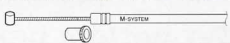
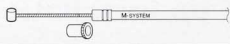
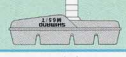
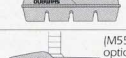
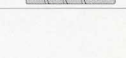
The Shimano M-System cantilever brake delivers effective stopping performance in all types of weather. Redesigned cantilever arms and new pad compounds used in the Anti-Vibration M-System brakes (STX-RC, STX, Alivio) suppress the vibrations that induce squealing. Unit-type bridge cable, easy-access cable 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		
	DEORE XT	ST-M738	BR-M737		XTR and Deore-XT are interchangeable.
	DEORE LX	ST-M566 ST-M565 ST-M564 ST-M563	BR-M565		
ANTI-VIBRATION BRAKE SYSTEM	STX-RC	ST-MC33	BR-MC33		Deore-LX and STX-RC are interchangeable.
	STX	ST-MC32 ST-MC35	BR-MC32		
	ALIVIO	ST-MC12 ST-MC15	BR-MC12		
	ACERA-X	ST-M290 ST-M295	BR-M290		
	ALTUS C90	ST-CT90 ST-CT95 SB-CT90	BR-CT90		 (M55T pad is optional)
	700CX	ST-C070	BR-C700 BR-C701		
	400CX	ST-C040	BR-C400 BR-C401		
	MJ	ST-MJ10 BL-MJ10	BR-MJ10		
	MJ-II	ST-MJ05 BL-MJ05 BL-MJ06	BR-MJ05		 (M55T pad is optional)
	RSX	ST-A410 BL-A410	BR-A410		

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.

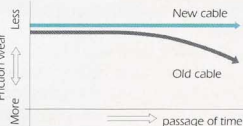
SP-36 shift cable reduces shifting friction.

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



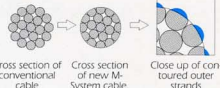
M-System cable uses contoured outer strands that provide a smoother cable action with less friction.

Cable operates more precisely over a longer period of time.



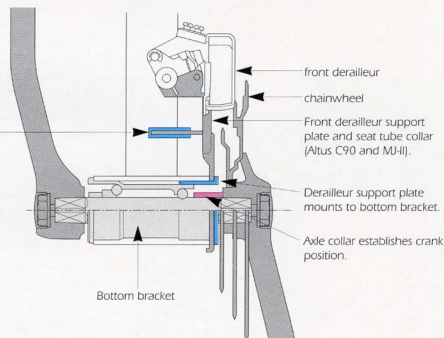
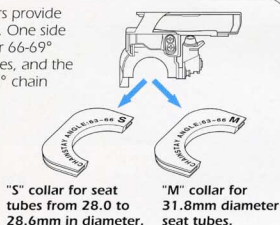
New liner material reduces friction.

M SYSTEM



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.



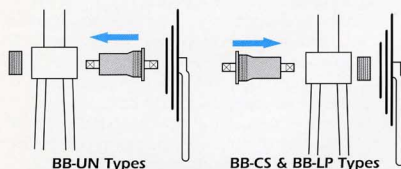
The new Altus C90 and MJ-II component groups feature the Easy-Set bottom bracket and front derailleur system. The derailleur is mounted directly to the bottom bracket through a special support plate. A seat tube spacer provides added rigidity. The new BB-CT90 bottom bracket (Altus C90 and MJ-II) installs 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.



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	Easy-Set (BB & FD)
	FC-MJ12	BB-LP20	110.5	MM110	68, 70	43.5	
MJ-II	FC-MJ05	BB-CT90	116	YL116	68, 70	47.5	
			121	ZL121	70, 73	50	
MJ-II	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	
	FC-A551	BB-UN51	107	MM107	68, 70	43.5	
RX100	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	

Fixing Bolt

Hollow Axle (BB-7410, BB-UN91, BB-UN71)

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.

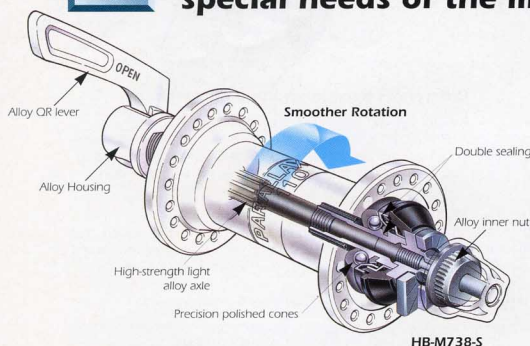
BB-CS & BB-LP Types

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.



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



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 11 mm alloy axle used on XTR and Deore XT front hubs retains its 11 mm 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

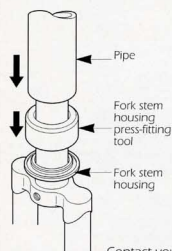
the top and bottom head tube facings. The cartridges are completely sealed to shut out water, mud, and dirt. The Shimano cartridge headset rotates smoother, lasts longer, and doesn't need periodic maintenance.

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



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.

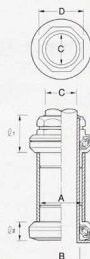
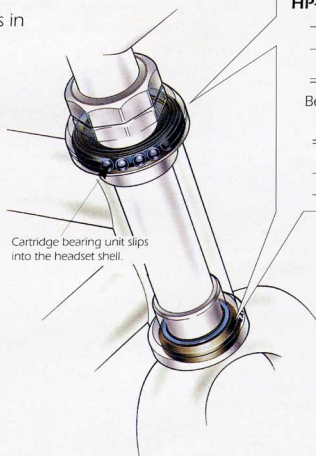


Cartridge Head set Tool
TL-HP50 (1")
 (HP-7410, HP-6500, HP-M740, HP-M563 and HP-MC30)
 Code No. 7200105-0

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

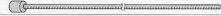
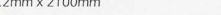
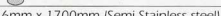
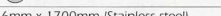
	Model No.	ℓ 1	ℓ 2	ℓ 1+ℓ 2	Thread	A	B	C	D	Sealed Mecha.
DURA-ACE	HP-7410	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm 30.0mm (JIS)	26.4mm 27.0mm (JIS)	22.3mm	32.0mm	rubber ring seals*
					M25 × P1.0	30.2mm	26.4mm			
Shimano 600 ULTEGRA	HP-6500	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm 30.0mm (JIS)	26.4mm 27.0mm (JIS)	22.3mm	32.0mm	rubber ring seals*
					M25 × P1.0	30.2mm	26.4mm			
Shimano DEORE XT	HP-M740	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm 30.0mm (JIS)	26.4mm 27.0mm (JIS)	22.3mm	32.0mm	rubber ring seals*
	HP-M741	24.1mm	13.5mm	37.6mm	BC1-1/8" × 26T.P.I.	34.0mm	30.0mm			
	HP-M742	26.4mm	13.5mm	39.9mm	BC1-1/4" × 26T.P.I.	37.0mm	33.0mm			
Shimano DEORE LX	HP-M563	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm 30.0mm (JIS)	26.4mm 27.0mm (JIS)	22.3mm	32.0mm	resin seals
	HP-M564	24.1mm	13.5mm	37.6mm	BC1-1/8" × 26T.P.I.	34.0mm	30.0mm			
	HP-MC30	24.1mm	13.5mm	37.6mm	BC1" × 24T.P.I.	30.2mm 30.0mm (JIS)	26.4mm 27.0mm (JIS)			
Shimano STX	HP-MC31	24.1mm	13.5mm	37.6mm	BC1-1/8" × 26T.P.I.	34.0mm	30.0mm	25.5mm	36.0mm	resin seals

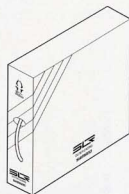
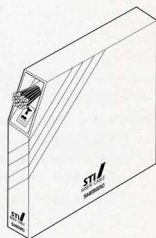
* Rubber seals offer a precision fit that provides superior sealing.

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

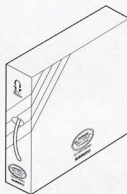
PART NO.	DESCRIPTION	PCS. PER BOX
600 9851	For Shifting Lever  $\phi 1.2\text{mm} \times 2000\text{mm}$ (Stainless steel)	100
600 9852	For Shifting Lever  $\phi 1.2\text{mm} \times 2100\text{mm}$	100
600 9853	For Shifting Lever  $\phi 1.1\text{mm} \times 2100\text{mm}$ (Stainless steel)	100
800 9851	For ATB Brake Lever  $\phi 2.0\text{mm} \times 1700\text{mm}$	50
800 9855	For ATB Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$ (Stainless steel)	100
800 9852	For ATB Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$	100
800 9857	For ATB Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$ (Semi Stainless steel)	100
800 9856	For Racing Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$ (Stainless steel)	100
800 9853	For Racing Brake Lever  $\phi 1.6\text{mm} \times 1700\text{mm}$	100



M-system Outer Casing File Box

($\phi 5\text{mm} \times 30\text{m}$ /98.5ft.)

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



SLR Outer Casing File Box

($\phi 6\text{mm} \times 25\text{m}$ /82ft.)

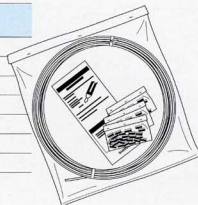
PART NO.	DESCRIPTION
80A 0020	$\phi 6\text{mm} \times 25\text{m}$ /White (#507) For $\phi 2.0\text{mm}$ Inner Cable
80A 0026	$\phi 6\text{mm} \times 25\text{m}$ /Black (#607) For $\phi 2.0\text{mm}$ Inner Cable

SIS-SP Outer Casing

(25ft./7.62m) w/Outer Cap

End caps included ($\phi 6\text{mm}$ -30pcs/5.5mm-15pcs/4mm-15pcs)

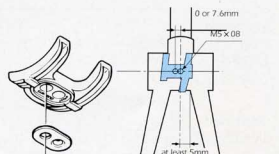
PART NO.	COLOR
60B 9760-1	Silver (#537)
60B 9761-1	White (#207)
60B 9762	Red (#107)
60B 9763-1	Blue (#207)
60B 9765	Black (#607)
60B 9768	Yellow (#407)
60B 9769	Gray (#637)



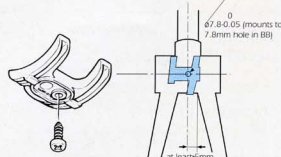
Cable Guides

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

SM-SP17-M



SM-SP17-T



SIS-SP Outer Casing

(10m) w/Outer Cap

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

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

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



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



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

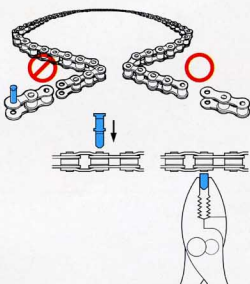


Replacing the Pin



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.

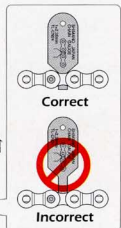
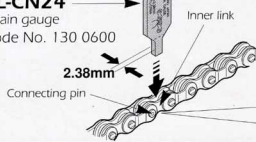


For IG, HG and UG chains, insert the chain gauge (TL-CN24) into the inner link which is next to the chain connector pin to check that the inner link width is correct.

TL-CN24

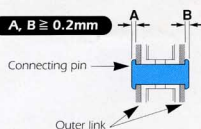
Chain gauge

Code No. 130 0600

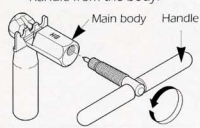


Check that the connecting pin protrudes past the outer link by the same amount on both sides, and that the amount of protrusion is 0.2 mm or more.

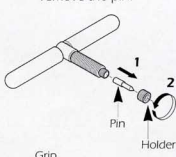
A, B ≥ 0.2mm



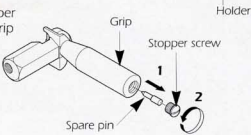
1. Completely unscrew the handle from the body.



2. Unscrew the collar and remove the pin.



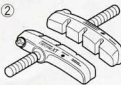
3. Remove the stopper screw from the grip and take out a new pin for replacement.

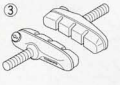


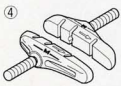
SMALL PARTS & TOOLS

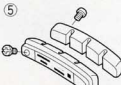
Replacement Shoes for Cantilever Brakes

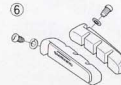
1 
Brake shoes for BR-M900

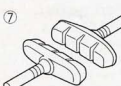
2 
M-System brake shoes for BR-M737

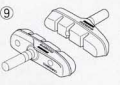
3 
M-System brake shoes for BR-M565 / BR-MC33

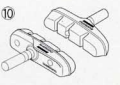
4 
M-System brake shoes for BR-M734-M / BR-M651-M / BR-M650-M

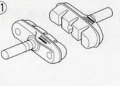
5 
Brake shoes for BR-M737

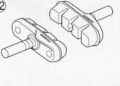
6 
Replacement M-System cartridge-type brake shoes for BR-M565 / BR-MC33

7 
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

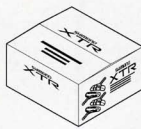
9 
Brake shoes for BR-MC32 / BR-MC12

10 
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

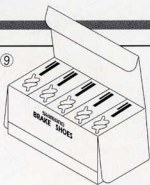
11 
M-System brake shoes for BR-CT90 / BR-TY21 / BR-TY23 / BR-CT50 / BR-TY21 / BR-M290 / BR-CT20BR-TY22 / BR-MJ05 / BR-CT51 / BR-TY20 / BR-TY20 / BR-MJ05

12 
Brake shoes for BR-CT90 / BR-MJ05

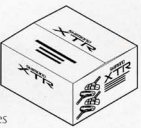
4 pcs



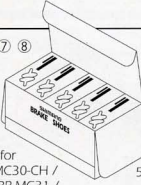
5 pairs



2 pairs



5 pairs

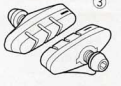


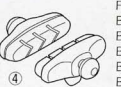
PART NO.	DESCRIPTION
1 83P 9806	BR-M900 brake shoe set (4 pcs)
2 83X 9801	BR-M737 brake shoe set (4 pcs)
3 8BA 9801	M65T cartridge brake shoe set (2 pcs)
4 83S 9801	M-System brake shoe set (long/4 pcs)
5 83X 9802	BR-M737 brake shoes & fixing screws set (2 pairs)
6 8BA 9802	M65T brake shoes & fixing screws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

1 2 
For BR-7403 calipers.

3 
For BR-5000, BR-6400, & BR-6208 calipers.

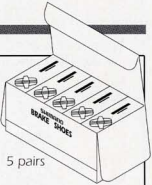
4 
For the following calipers:
BR-6403 / BR-1055 / BR-1050 / BR-A550 / BR-A500 / BR-A450 / BR-A350 / BR-A250 / BR-E700 / BR-R500 / BR-L490 / BR-L570

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

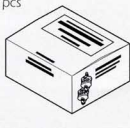
Pair



5 pairs



4 pcs



5 pairs



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



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-PD30

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



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

* 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.

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



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

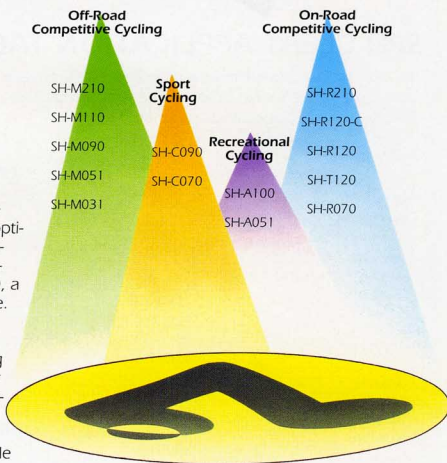
Shimano was the originator of the mountain bike cycling shoe. There are now five different types of SPD shoes for the special requirements of the off-road cyclist. For example, the top-line SH-M210 was designed to stand up to the punishment of pro-level mountain bike racing. Four other models meet the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

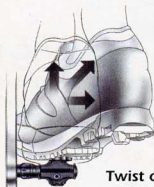
The shoe and pedal system that widens the cycling experience.



Step in to engage the SPD binding.



Cleated cycling shoes you can walk in.



Twist out to release – SM-SH55 cleat



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.

NEW

SH-M031

SPD flexibility and performance at an entry-level price.

SH-M110

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

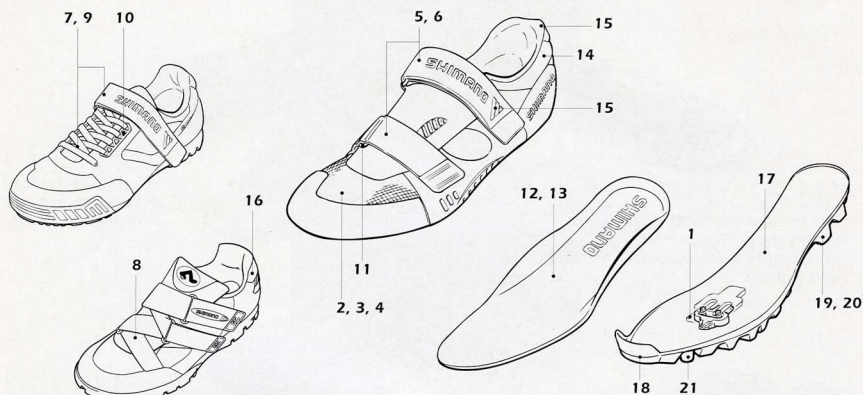
SH-M051

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	Hytrex 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 leather, 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

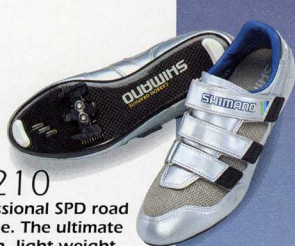


SPD MOUNTAIN BIKE SHOE FEATURES

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 walking			●	●	●
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.

SH-T120

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



NEW

SH-R120-C

Full carbon graphite sole reduces weight, increases rigidity.



NEW

SH-R070

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

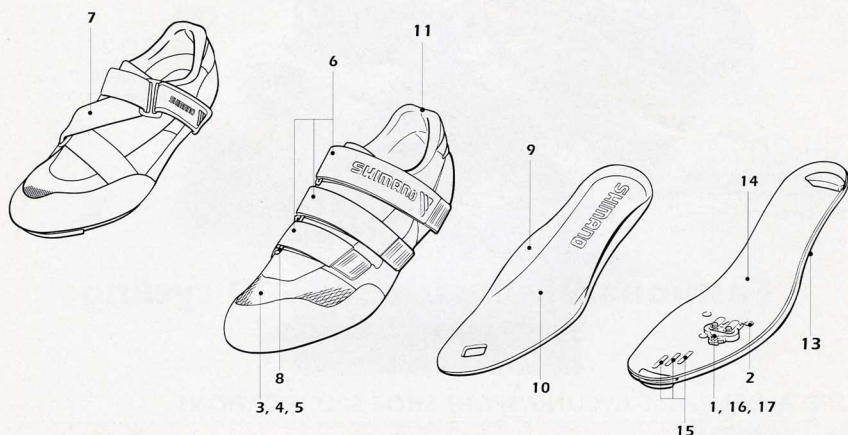


SPD shoes for road racing, performance cycling, and fast touring.

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-R120C	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.		●	●	●	●

SH-C090

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

NEW

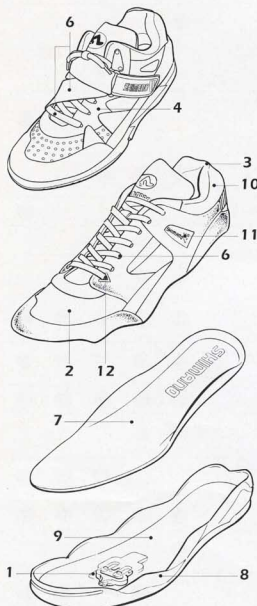
SH-C070

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

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 com-
fortable, 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 wholes 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

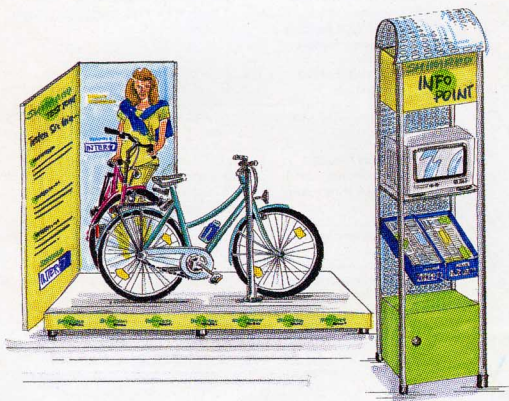
US	4	5	5-1/2	6-1/2	7	8	8-1/2
Europe	36	37	38	39	40	41	42
US	9	10	11	11-1/2	12	13	
Europe	43	44	45	46	47	48	

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**

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**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:

SHIMANO (EUROPA) GmbH
"TEST POINT"
Postfach 7 70
D-40707 Hilden, Germany
Fax 0 21 03/50 05 61

PAUL LANGE & CO.

Hofener Straße 114 Postfach 102928 D-70372
Stuttgart Germany Phone 0711-25880 Fax 0711-2588305

ETS BERTIN

Rue Georges Clemenceau BP 45 F-62052
St-Laurent-Blangy Cédex France Phone 21732525 Fax 21558427

M.I.C. MILAN INTERNATIONAL COMMERCE

Via Piscane 23/25 I-20027 Rescaldina (MI) Italy
Phone 0331-469026 Fax 0331-469006

CILO BIKE SERVICE

Ch. de l'Orto 30a Case Postale 89 CH-1032 Romanel Switzerland
Phone 021-6461371 Fax 021-6480160

SHIMANO BENELUX B.V.

Industrieweg 24, 8071 CT Nunspeet, Netherlands
Phone (31) 3412 72210 Fax (31) 3412 58691

MADISON CYCLES PLC

Buckingham House East
The Broadway, Starmore, Middlesex HA7 4EA U.K.
Phone 081-9547798 Fax 081-9542950

THALINGER GMBH

Schubertstraße 12 Postfach 182 A-4600 Wels Austria
Phone 07242-4970 Fax 07242-497248

EVERTON TRADING A/S

Postbox 609 Torupvej 63-65 DK-5210 Odense NV Denmark
Phone 066-164411 Fax 066-164436

CASA MASFERRER, S.A.

Pollgono Congast Avenida San Julien, S/No E-09400
Grenollers Spain Phone 03-8466051 Fax 03-8465356

MACARIO LLORENTE, S.A.

Capitán Blanco Argibay 137 E-28029 Madrid Spain
Phone 01-3157600 Fax 01-7330617

VELIMSA

C/Becolarra, 2 Zona Industrial Ali-Gobeo E-01010
Vitoria Spain Phone 045-246500 Fax 045-248897

SOCIEDADE COMERCIAL DO VOUGA

Apartado 7, 3751 Agueda Codex Portugal
Phone (351) 34 601500 Fax (351) 34 601159

SHIMANO

SHIMANO EUROPE B.V.

Industrieweg 24, 8071 CT Nunspeet, Netherlands Phone (31) 3412 72210 Fax (31) 3412 58691

SHIMANO AMERICAN CORPORATION

One Shimano Drive P.O. Box 19615 Irvine California U.S.A. 92713-9615 Phone 714-951-5003

SHIMANO INC.

77 Oimatsu-cho 3-cho Sakai Osaka 590 Japan Phone 0722-23-3243



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