

**ARCHIVE**

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# SHIMANO

**2005-2006**

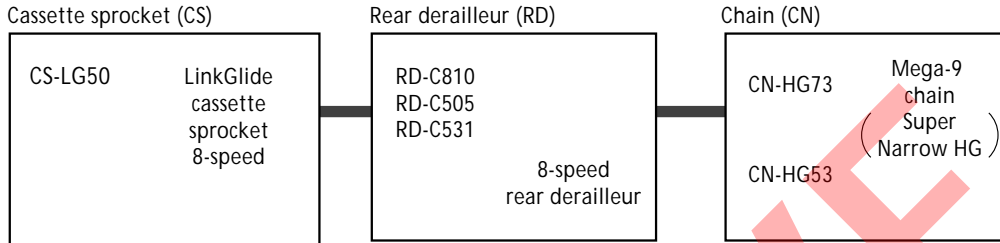
**Products compatibility information**

# Drivetrain Interchangeability

## Rear drivetrain for Comfort & MTB Components

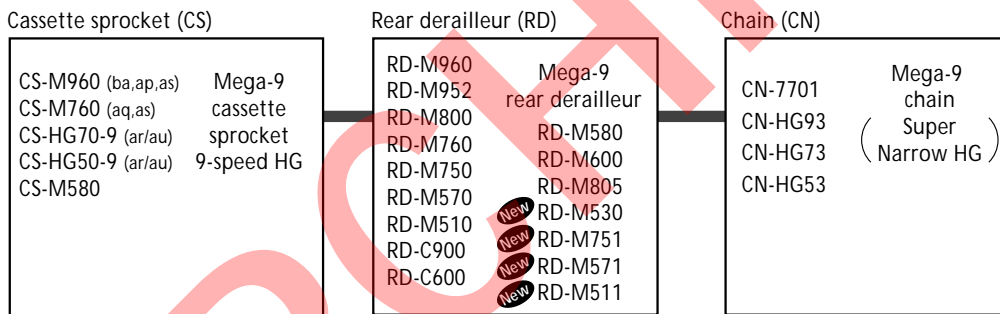
When using components of different series together, be aware of the points given below.  
 "New" is shown if it is a new product and "MC" is given if only minor changes have been made.

### 8-Speed LinkGlide

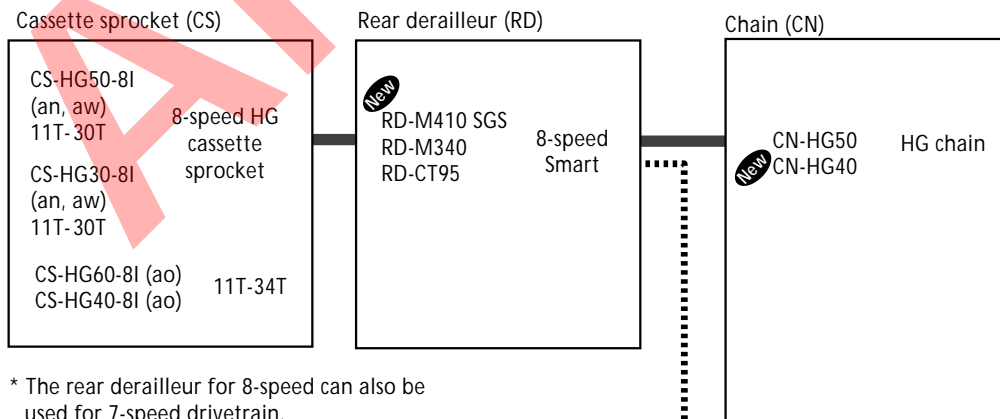


The full performance of LinkGlide will not be realized in combinations other than these. Also, HG performance will be reduced if RD-C505, C531 and C810 are used with HG gears other than LinkGlide gears. LinkGlide shifting performance is achieved when combined with ST-C503-A(R) as the shifting lever. (RD-C505/C531)

### Mega-9 Drivetrain (9-speed HG)

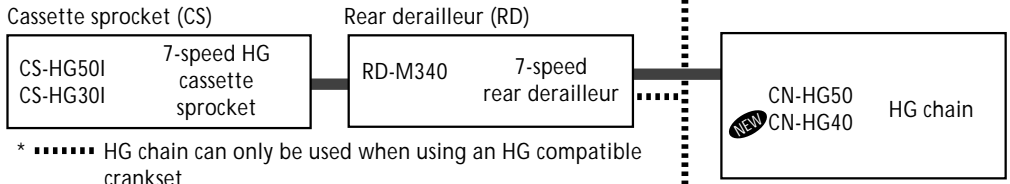


### 8-Speed HG

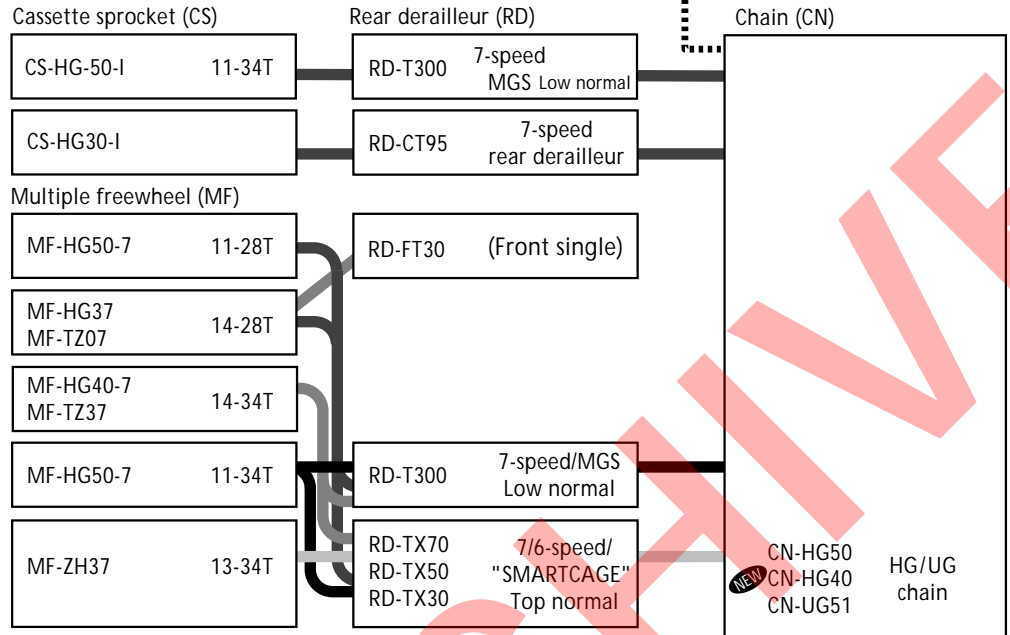


\* The rear derailleur for 8-speed can also be used for 7-speed drivetrain.

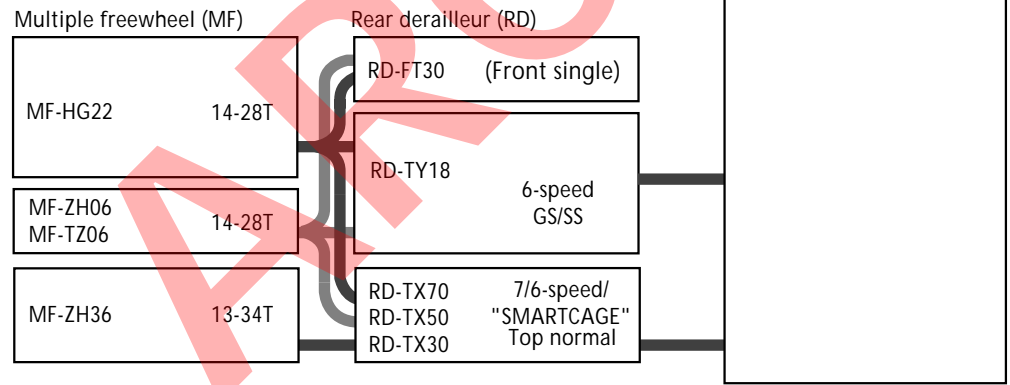
**7-speed HG**



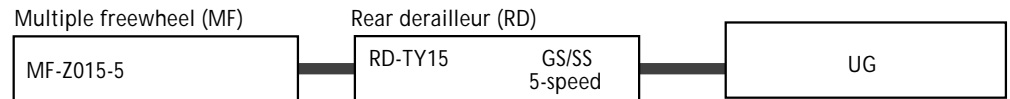
**7-speed HG/ZH**



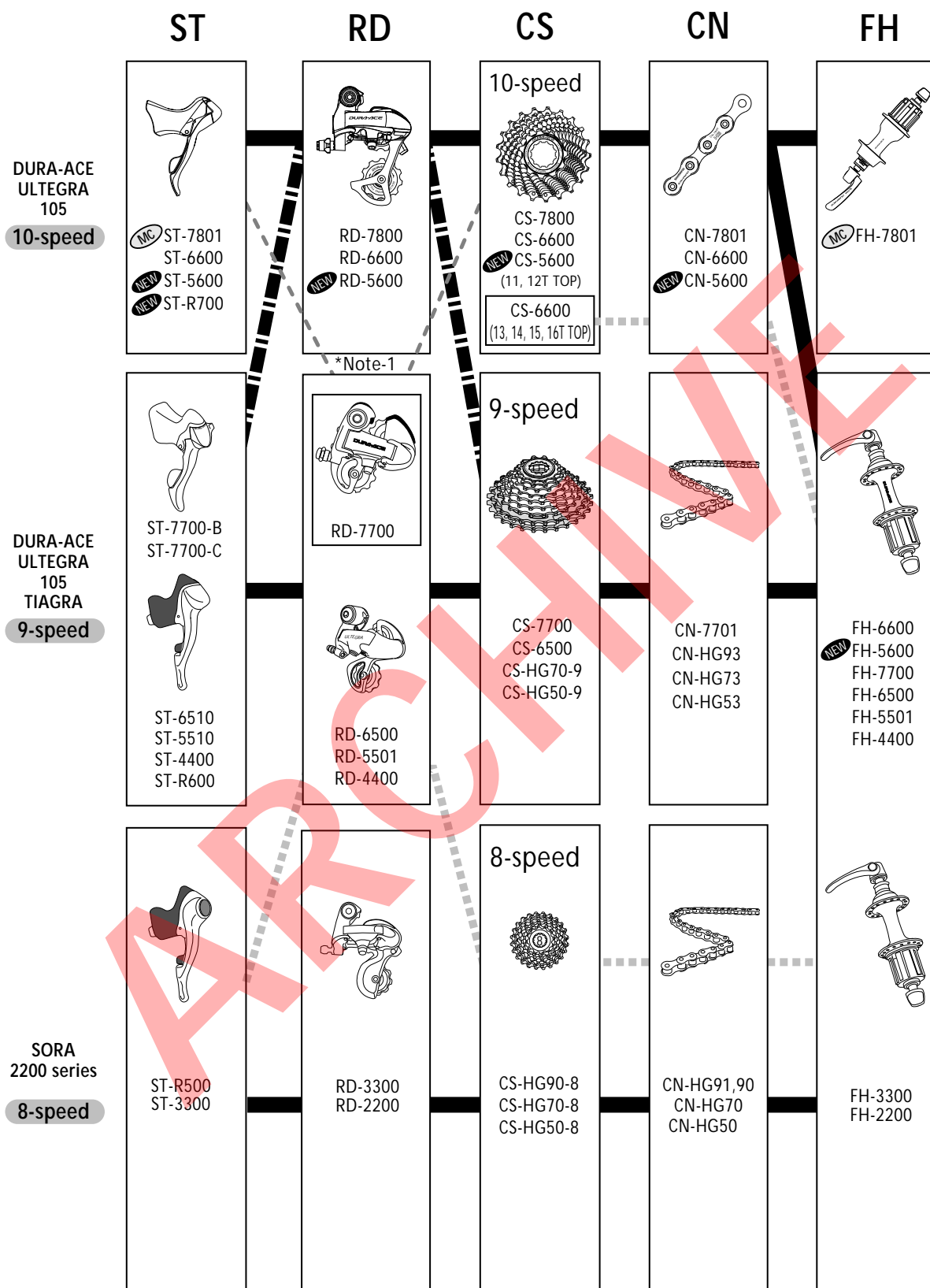
**6-speed HG/ZH**



**5-speed UG**



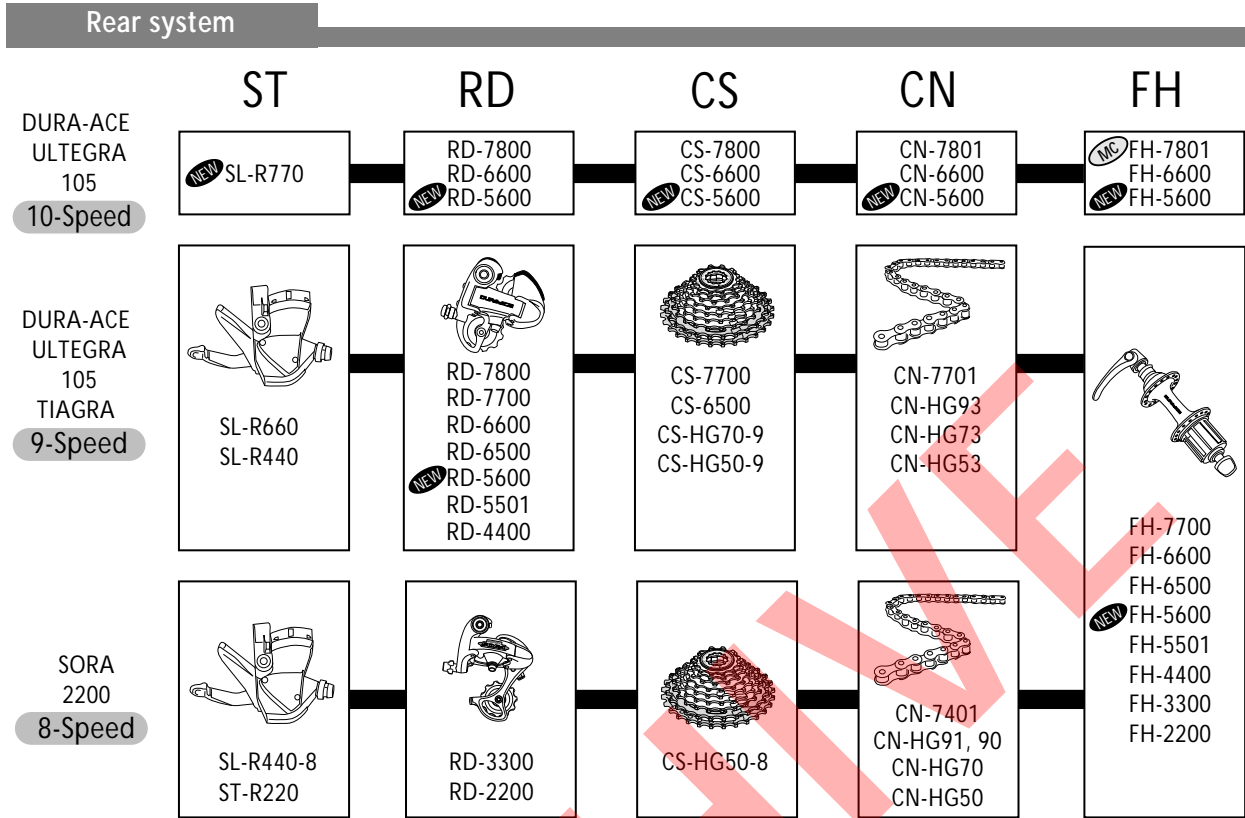
# Rear drivetrain for Road bike components



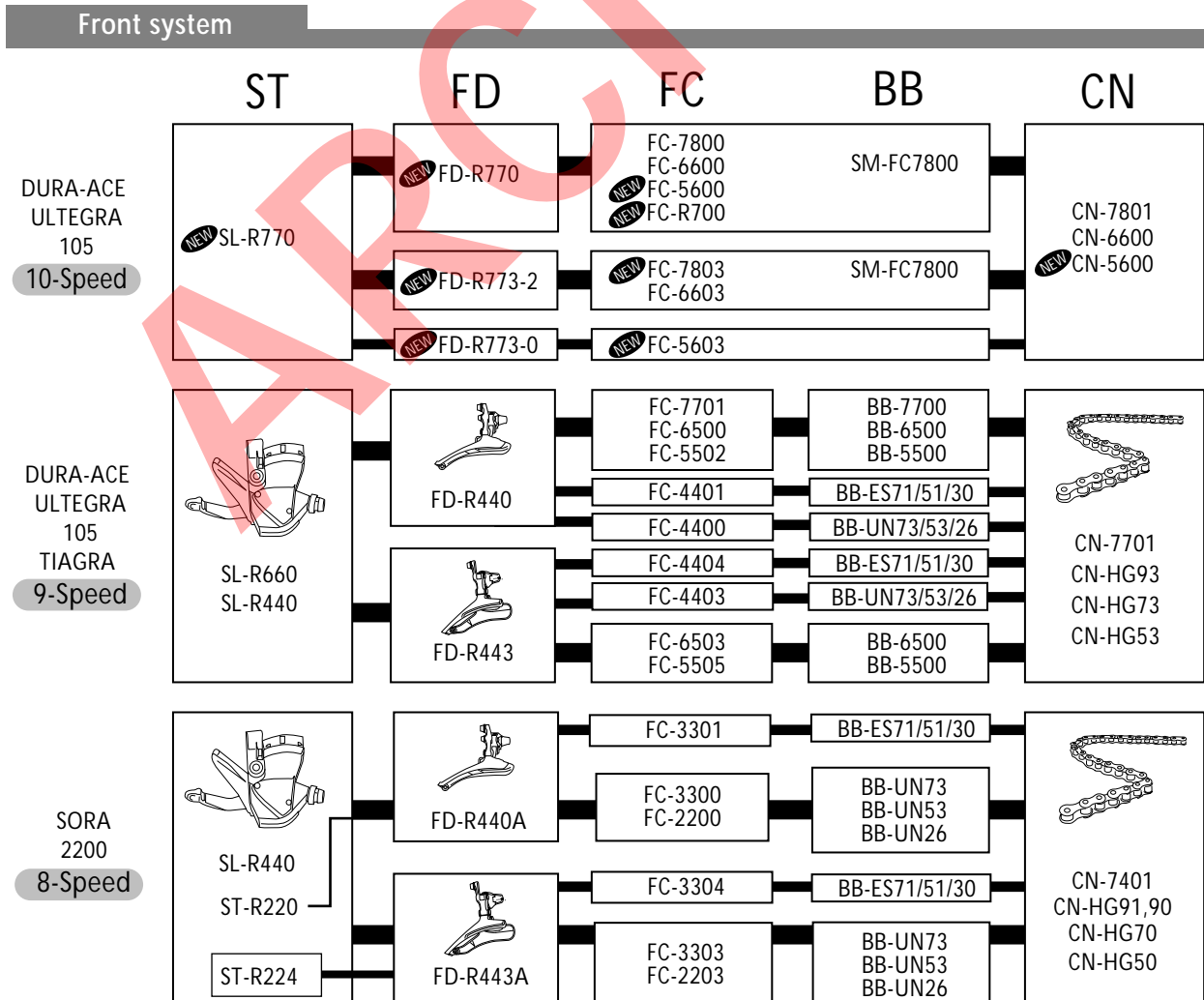
Note-1: Can not use this combination with a spoke protector.

Note-2: CS-6600; Do not use front triple chainwheel with 14, 15, 16 top sprockets combination.

# Interchangeability for flat handlebar

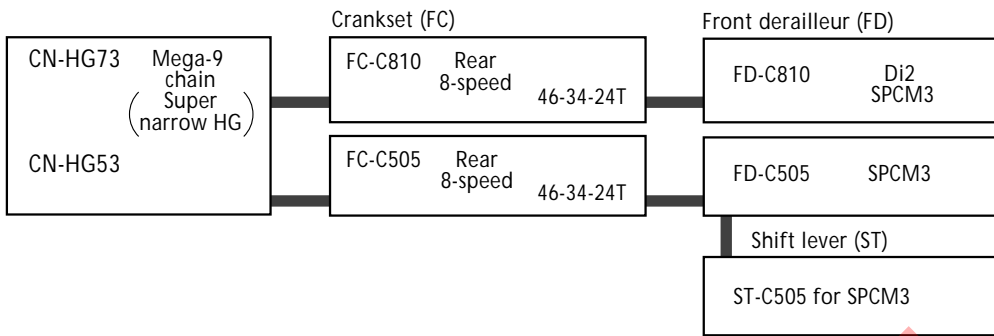


Note: CS-6600; Do not use front triple chainwheel with 14, 15, 16 top sprockets combination.

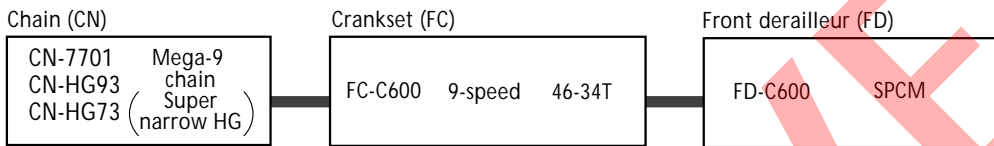


# Front drivetrain interchangeability (MTB front SIS)

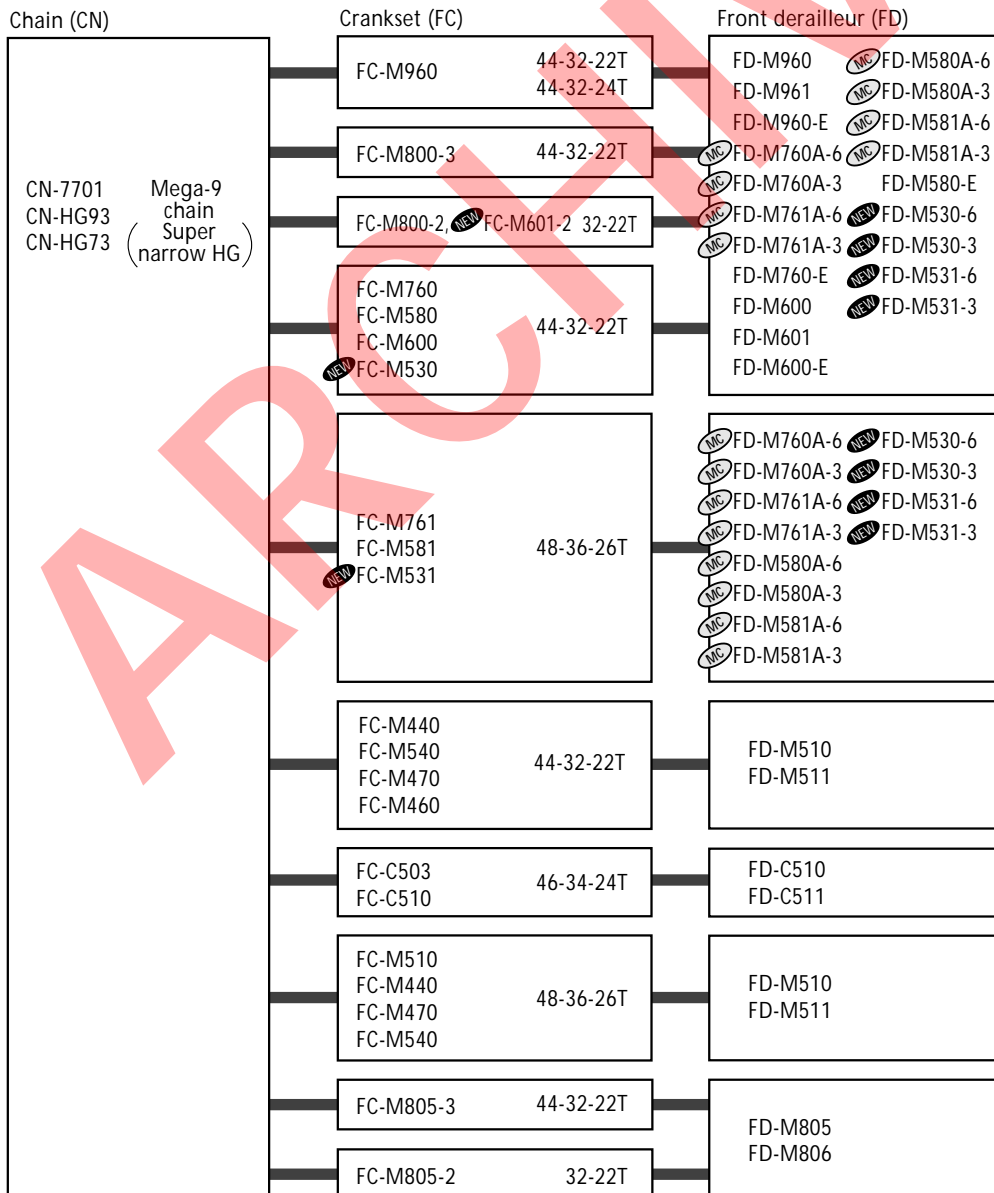
## SPCM (TRIPLE)



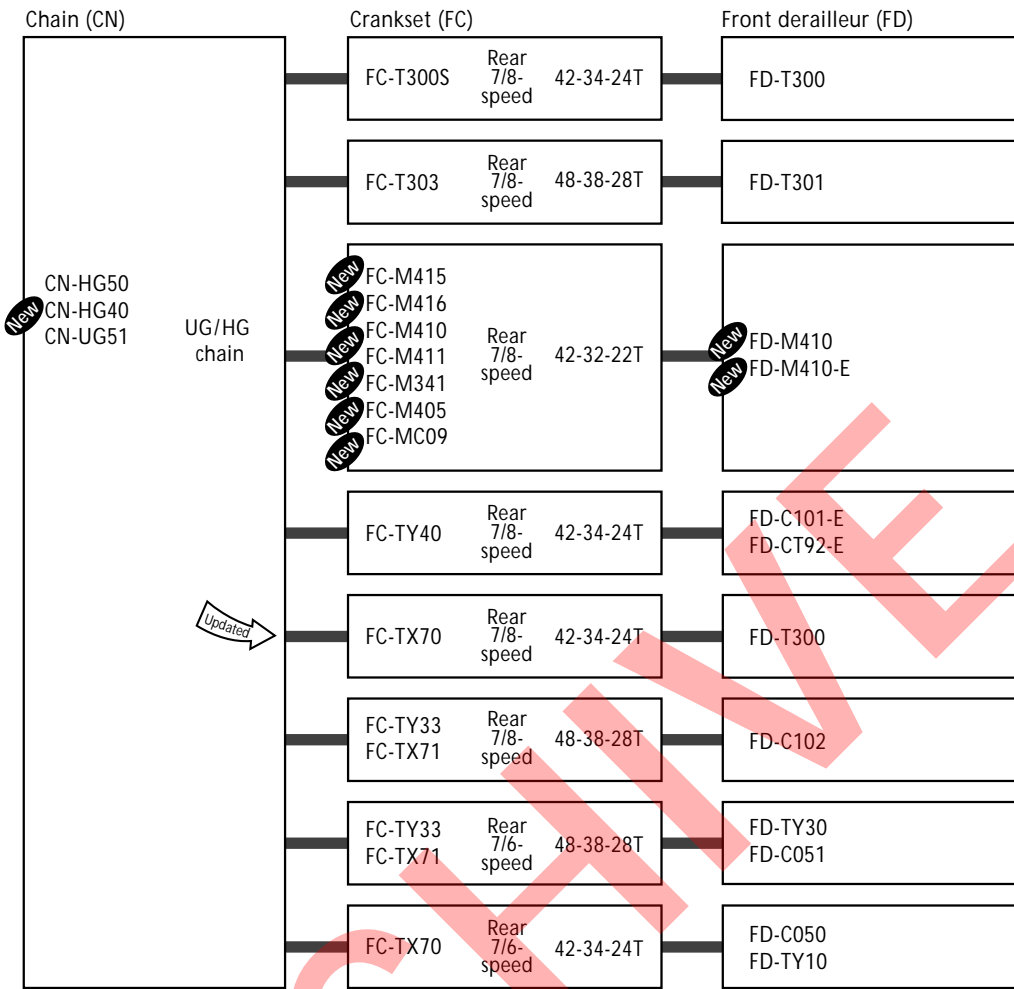
## SPCM (DOUBLE)



## Mega-9 drivetrain (9-speed HG) / LinkGlide (8-speed)

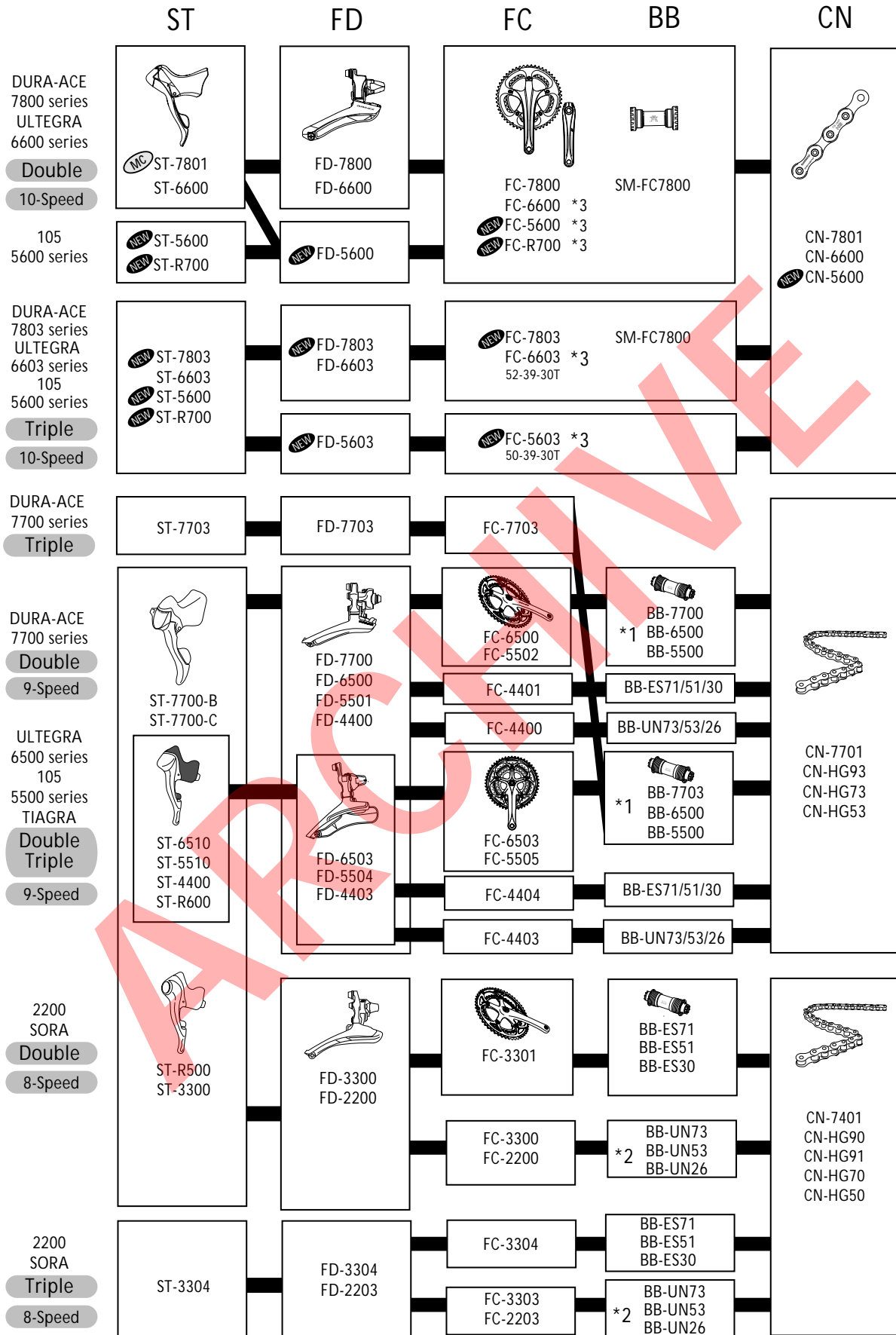


HG triple (8 and 7-speed)



\* When using the front derailleur designed for a 7-speed system on an 8-speed system, the front derailleur plate may interfere with the chain even if it's installed correctly.

# Front drivetrain interchangeability (Road bike components)



\*Notes 1 and 2: Axle length is different

\*Note 3: Adapters are shipped with FC refer spec. handbook.



## Front derailleur and Crankset

The allowable combinations of front derailleurs and rear derailleurs depend on the difference in the number of teeth of the gears and the shape of the front derailleur plate.

If the conditions given below are not satisfied, then the desired shiftability may not be obtained.



- FC (top gear) - (low gear)  $\cong$  FD (top and low capacity)
- FC (top gear) - (middle gear)  $\cong$  FD (minimum difference in teeth number between top and middle)

Front derailleurs and the number of teeth for corresponding cranksets are given in the chart below.

### Front derailleur specifications (TRIPLE)

	Mega-9 drivetrain					SPCM (Triple)	SPCM (Double)	NEW FD-M410-6	FD-T301	FD-T300	FD-TY30
	FD-M960 FD-M960-E FD-M961 MC FD-M760A-E FD-M600 FD-M601 FD-M600-E MC FD-M580A-E	FD-M805 FD-M806	MC FD-M760A-6 MC FD-M760A-3 MC FD-M761A-6 MC FD-M761A-3 MC FD-M580A-6 MC FD-M580A-3 MC FD-M581A-6 MC FD-M581A-3	FD-M510 FD-M511 FD-C510 FD-C511	FD-M761-3 FD-M581-3-48T	FD-C810 FD-C505	FD-C600	NEW FD-M410-3 NEW FD-M410-E FD-MC21 FD-M330 FD-M330-E	FD-C102 FD-TZ31 FD-C051	FD-T300-E FD-C101-E FD-C050 FD-TY10 FD-CT92-E FD-TZ30 FD-TY10	
Top gear teeth number	44T		44/48T	48/44T	48T			42T	48T	42T	48T
Top-Middle min. teeth difference	12T	44-32-22 32-22	12T	12T	12T	SPCM (46/34/24T)	SPCM (46/34T)	10T	10T	8T	10T
Capacity	22T	22T	22T	22T	22T			20T	20T	18T	22T

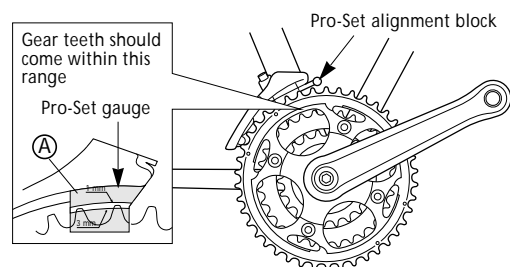
### Crankset specifications

	For Super Narrow chain							For IG Chain	For HG Chain			
	FC-M960 (44-32-24) *option FC-M805-3 FC-M800-3 FC-M760 FC-M600-3 FC-M580 FC-M540 FC-M530 NEW FC-M531 FC-M510 FC-M470 FC-M440 FC-TS95	FC-M510 FC-M761 FC-M581 FC-M440 FC-M470 FC-M540 NEW FC-M530 NEW FC-M531 FC-TS95	FC-C510	FC-C810 FC-C505	FC-C600	FC-M805-2 FC-M800-2 NEW FC-M601-2	FC-M805-1 FC-M800-1	FC-C530	FC-T410	NEW FC-M415 NEW FC-M416 NEW FC-M410 NEW FC-M411 NEW FC-M405 NEW FC-MC09 NEW FC-M341	FC-T300S FC-TY40 FC-C050 FC-TX70	FC-T303 FC-TY33 FC-C051 FC-TX71
Top gear	44T	48T	46T	SPCM 46/34/24T	SPCM 46/34T	Bash Guard	34/38/42/46	38/33T	42T	42T	42T	48T
Middle gear	32T	36T	34T			32T	(-)		32T	32T	34T	38T
Low gear	22T	26T	24T		(-)	22T			22T	22T	24T	28T

NOTE: When using the front derailleur designed for a 7-speed system on an 8-speed system, the front derailleur plate may interfere with the chain even if its installed correctly.

How to set position for FC with bigger top gear chain ring in the same series.

- 1) set A
- 2) Check if outer plate and bigger chainring have clearance
- 3) Reposition height of FD in case problem at process (2)



## Front derailleur and Chain line

The Shimano line-up for front derailleurs and the chainlines they support are given in the chart below.

### ■ Front derailleur and chain line (MTB)

		Ø 28.6 (S)	Ø 31.8 (M)	Ø 34.9 (L)
XTR	FD-M960 FD-M960-E FD-M961	50 mm		
SAINT	FD-M805, FD-M806	57.5 mm (shell width of 83 mm)		
DEORE XT	FD-M760A-6/M760A-3 FD-M761A-6/M761A-3 FD-M760A-E	50 mm		
DEORE LX	FD-M580A-6/M580A-3 FD-M581A-6/M581A-3 FD-M580A-E			
HONE	FD-M600, FD-M600-E FD-M601			
DEORE	FD-M530-6/M530-3 FD-M531-6/M531-3			
ALIVIO	FD-M410-6/M410-3 FD-M410-E			
DEORE	FD-M510, FD-M511			
Non-Series	FD-MC21	When using the FD-MC18SE with a seat tube of diameter 34.9 mm (L) the chainstay angle should be between 66 and 69		
ACERA	FD-M330	47.5/50 mm For the E-type (BB mounting front derailleur): 47.5 mm (shell width of 68 mm) 50 mm (shell width of 73 mm)		the chainstay angle should be between 66 and 69
	FD-M330-E			
NEXAVE	FD-C600	52.5 mm (shell width of 68 mm)		
	FD-C810, FD-C505	50 mm (shell width of 68 mm)		
	FD-C510	50 mm		
	FD-T300, FD-T301	47.5 mm (shell width 68 mm), 50 mm (shell width 73 mm)		
C-series	FD-C101-E FD-C102 FD-C050	With seat tube of diameter 34.9 mm (L), the chainstay angle should be between 66 and 69 For the E-type (BB mounting front derailleur): 47.5 mm (shell width of 68 mm) 50 mm (shell width of 73 mm)		
	FD-C102	For the E-type (BB mounting front derailleur): 47.5 mm (shell width of 68 mm) 50 mm (shell width of 73 mm)		73 mm shell width/66 and 69

Shimano front derailleurs, with the exception of some of the C-series and the Tourney class, support chain lines of 47.5 and 50 mm. The Tourney front derailleurs and corresponding chain lines are given in the chart below.

### ■ Front derailleur and chain line (Tourney)

		Ø 28.6 (S)	Ø 31.8 (M)	Ø 34.9 (L)	
TOURNEY 30	FD-TY18 FD-TY30	47.5/50 mm (down pull only)			
TOURNEY 22	FD-TY22GS	45/47.5 mm			
	FD-TY22SS	43.5/45 mm (down pull only)			
TOURNEY 15	FD-TY15GS	47.5/50 mm (down pull only)			
	FD-TY15SS	43.5/45 mm (down pull only)			
TOURNEY 10	FD-TY10	47.5/50 mm			
TZ	FD-TZ30 FD-TZ31				

# Crankset, Bottom bracket, and Chain line

In order to use SIS to its full extent, the required correct chain line, along with the crankset and bottom bracket required to obtain that, are given in the chart below.

## ■ Comfort bike and MTB Components

Series	Model NO.	Crankset			Bottom Bracket	Chainline & Axle mark			
		Type of Crank				Model NO.	47.5mm	50.0mm	52.5mm
Spline	Square	Chaincase							
XTR	FC-M960	X			include	Chainline: 50 mm			
SAINT	FC-M805-1	X			include	Chainline: 57.5 mm			
	FC-M805-2								
	FC-M805-3								
	FC-M800-1	X			include	Chainline: 50 mm			
FC-M800-2									
FC-M800-3									
Deore XT	FC-M760	X			include	Chainline: 50 mm			
	FC-M761	X		X***	include				
Deore LX	FC-M580	X			include				
	FC-M581	X		X***	include				
HONE	FC-M601-2	X			include				
	FC-M600								
Deore	FC-M530	X			BB-ES51/30	-	113	-	-
	FC-M531	X		X***	BB-ES51/30-AK	-	121	-	-
	FC-M510-O	X			BB-ES51(-E)	113	118	-	-
	FC-M510-KO	X		X	BB-ES51-K	-	-	-	121
	FC-M540	X			BB-ES51(-E)	113	118	-	-
	FC-M540-K	X		X	BB-ES51-K	121	126	-	121
	FC-M470(44T)	X		X	BB-ES51/30(-K)	121	126	-	121
	FC-M470(48T)	X		X	BB-ES51/30(-K)	121	126	-	121
	FC-M460		X	X	BB-UN26(-K)	117.5	LL123	-	117.5
	FC-M440 (48T)		X	X	BB-UN26(-K)	117.5	LL123	-	117.5
	FC-M440-O	X			BB-ES51/30(-E)	113	118	-	-
	FC-M440		X		BB-UN26(-E)	MM110	LL113	-	-
NEXAVE	FC-C810		X	X***	BB-UN26	-	130	-	-
	FC-C505		X	X***		-	130	-	-
	FC-C600		X	X	BB-UN26-K	-	-	117.5	-
	FC-C530		X	X	BB-TS30/UN26-K	****	****	****	****
	FC-C510**		X	X***	BB-UN26	-	123SP	-	-
	FC-T410		X	X	BB-UN26-K	-	-	-	117.5
	FC-T300-S		X	X	BB-UN26(-E)	YL117	ZL122	-	-
	FC-T303		X	X				-	-
Alivio	FC-M415		X		BB-UN26	-	LL113	-	-
	FC-M416		X	X***	BB-UN26(-K)	-	LL123	-	-
	FC-M410		X		BB-UN26	-	LL113	-	-
	FC-M411		X	X***	BB-UN26(-K)	-	LL123	-	-
Acera	FC-M340		X	X	BB-UN26(-E)/(-K)	MM110	LL113	-	MM110
Non-Series	FC-M341		X	X***	BB-UN26(-K)	-	LL123	-	-
	FC-M405		X	X***		-	LL123	-	-
	FC-MC09		X	X***		-	LL123	-	-
Tourney	FC-TY40		X		BB-UN26(-E)/(-K)	YL117	ZL122	-	-
	FC-TX70/TX71		X	X	BB-UN26(-K)	D-NL(122.5)	-	-	D-NL(122.5)

\* without chaincase stay  
 \*\* BB-UN25 bottom brackets parts for FC-C510 includes 1.8 mm and 0.7 mm thickness spacers.  
 In case of without chain case, use both spacers between hanger and right hand BB adaptor.  
 In case of with chain case, use 0.7 mm thickness spacer only. Put chain case stay with 0.7 mm thickness spacer between hanger and right hand BB adaptor.  
 \*\*\* Chain case stay thickness should be 1.5 mm to 2.1 mm.  
 \*\*\*\* YL117: Chainline 44+t D-NL: Chianline 47+t  
 117.5: Chianline 46+t D-EL: Chianline 49.5+t

## ■ Capreo series components

The combinations of the front chainwheel and the bottom bracket to obtain proper chain line, which are necessary for the SIS (= Shimano Indexed System) to function well, are presented in the following chart.

Series	FC			BB	Chain Line & Axle mark				
	Model No.	type of Crank			Model No.	46.0 mm	48.5 mm	50.0 mm	52.5+t mm
		Spline	Square	Chaincase					
Capreo	FC-F700		X	X	BB-UN40	MM110	LL113	-	-
					BB-UN40-K	-	-	-	*117.5
					BB-UN26	MM110	LL113	YL117	-
					BB-UN26-K	-	-	-	*117.5

\* This specification can be used without the chain case as 52.5 mm chain line. In that case, a space is to be left between the shell and the adapter on the left side of the BB, but there is no problem in actual use.

X: Yes

## Octalink Bottom Bracket

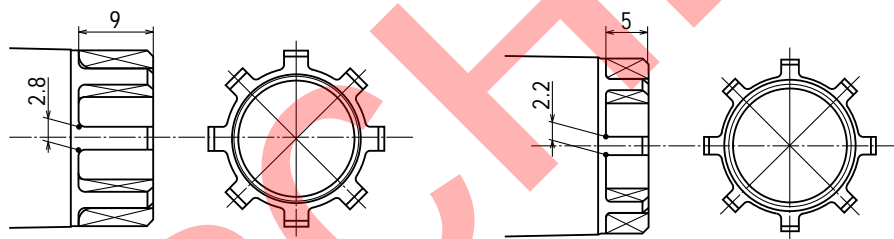
The dimensions of the eight serrations on the BB are shown below.

The dimensions for BB-ES71/51/30 are different from those for BB-M952/7700/7703/7710/6500/5500.

Be aware that these models are not compatible.

BB-ES71  
BB-ES51  
BB-ES30  
BB-C900

BB-M952  
BB-7700  
BB-7703  
BB-7710  
BB-6500  
BB-5500



## Chain, Chaining and Cassette sprocket

The allowable combinations for the Shimano chain (CN), chainrings (FC), and cassette sprockets (CS) are given in the chart below. These chains are available in order to match the type of drivetrain. Select the combination you desire after checking the chart below.

		Mega-9		LG		IG		HG	
		Cassette sprocket	Crankset	Cassette sprocket	Crankset	Cassette sprocket	Crankset	Cassette sprocket	Crankset
<b>FC/CS</b>		CS-M960 CS-M760 CS-M580 CS-HG70-9 CS-HG50-9	FC-M960 FC-M805 FC-M800 FC-M760 FC-M761 FC-M600 <b>NEW</b> FC-M601 FC-M581 FC-M580 FC-M572 FC-M540 <b>NEW</b> FC-M530 <b>NEW</b> FC-M531 FC-M470 FC-M460 FC-M445 FC-M440 FC-C600	CS-LG50	FC-C810 FC-C505 FC-C503 FC-C530 FC-C510	CS-IG60	FC-T410	CS-HG40-8I CS-HG60-I CS-HG50-8I CS-HG50-I CS-HG30-I CS-HG30-8I	<b>NEW</b> FC-M415 <b>NEW</b> FC-M416 <b>NEW</b> FC-M410 <b>NEW</b> FC-M411 <b>NEW</b> FC-M341 <b>NEW</b> FC-M405 <b>NEW</b> FC-MC09 FC-T411 FC-T300-S FC-T303 FC-TY40 FC-TX70 FC-TX71 FC-TS38 FC-TS31
<b>Chain</b>	Mega-9 Super Narrow chain CN-7701 CN-HG93 CN-HG73 CN-HG53	Good	Good	Good	Good	Not good	Not good	Not good	Not good
	IG Chain CN-IG51 CN-IG31	Not good	Not good	Not good	Not good	Good	Good	Good (Note 1)	Not good poor performance
	HG Chain CN-7401 CN-HG50	Not good	Not good	Not good	Not good	Not good poor performance	Not good Will not work	Good	Good

Note 1: When used together with the HG cassette sprocket CS-M737/HG70-8, the adjustable range is very narrow and requires great care.

## Spoke protector

Select the spoke protector after checking the chart below.  
It is decided by hole number of hub and number of the gear teeth.

Hub	Protector	21T	25T	26T	28T	30T	32T	34T
for 28H hub	5.4"				CP-FH40			
for 32H hub	7.5"						CP-FH56*	CP-FH75*
							CP-FH76**	
	6.3"						CP-IF52***	
	5.4"			CP-FH35				
	ø109	CP-FH02						
for 10 speed 32H hub	ø109	CP-FH05						
for 36H hub	7.5"				CP-FH50		CP-FH53	CP-FH75*
							CP-FH76**	
	6.3"						CP-IF53***	
	5.4"		For 8 speed CP-FH30-8 (24T - 26T)	CP-FH31 (26T - 28T)				
	ø109	CP-FH01						
for 10 speed 36H hub	ø109	CP-FH06						
for Shimano Wheel	CP-WH71	for WH-7701/R540						
	CP-WH10/11	*** for WH-M965/M765/M565/M540/T565/T560						
	CP-WH20-A	for WH-7801-carbon/7801-SL/7801/7800/R600/R560/R550						
	CP-FH02/35	for WH-R500						
for (6-bolts) Shimano Disc Brake Hub	CP-FH75*	for FH-M755/M756/M525/M475						
	CP-FH76**	for FH-M755/M756/M525/M475						
for IF-C530 INTEGO 36H Freehub	CP-IF53***							
for IF-C530 INTEGO 32H Freehub	CP-IF52***							

\* Using with light alloy sprocket carrier    \*\* Using with standard cassette sprocket

\*\*\* Compatible cassette sprocket

CP-WH11: for CS-M750/M760/M960 (11-32T)

CP-WH10: for CS-M953/M960 (12-34T)

CS-M750/M760 (12-34T/11-34T)

CS-HG70-9 (11-32T/11-34T)

CS-HG50-9 (11-32T)

Note: A spoke protector is included with the cassette sprocket CS-LG50.

## Spoke protector for Capreo

Choose an appropriate spoke protector in the chart below.

FH		Spoke Protector
FH-F700	24H	CP-FH35/FH31
	32H	CP-FH35
	36H	CP-FH31

# Cassette sprocket, Rear freehub and Wheel (10-speed)

Cassette sprocket compatibility will differ depending on the freehub (FH) and wheel (WH) used.

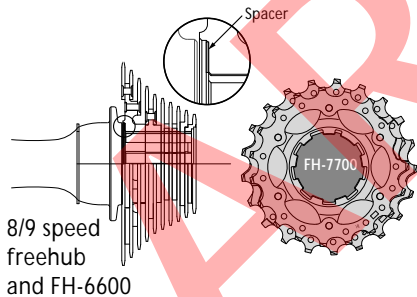
Type	Model No.	Tooth	NEW WH-7801- Carbon NEW WH-7801- SL NEW WH-7801 FH-7800 WH-7800	FH-6600/ 8/9 speed freehub	WH-7700	WH-6500	WH-R535	WH-7701	WH-R540	WH-R500	WH-R550	NEW WH-R600	NEW WH-R560	
10 speed standard	CS-7800	11 - 21	X	X	—	—	—	X	—	X	X	X	X	
		12 - 21	X	X	—	—	—	X	X	X	X	X	X	
	CS-7800 CS-6600	11 - 23	X	X	—	—	—	X	X	X	X	X	X	X
		12 - 23	X	X	—	—	—	X	X	X	X	X	X	X
		12 - 25	X	X	X	X	—	X	X	X	X	X	X	X
	NEW CS-5600	12 - 27	X	X	X	X	—	X	X	X	X	X	X	X
		11 - 23	X	X	X	X	—	X	X	X	X	X	X	X
12 - 25		X	X	X	X	—	X	X	X	X	X	X	X	
10 speed JUNIOR	CS-6600	12 - 27	X	X	X	X	—	X	X	X	X	X	X	
		13 - 25	—	X	X	X	—	X	X	X	X	—	X	
		14 - 25	—	X	X	X	—	X	X	X	X	—	X	
		15 - 25	—	X	X	X	—	X	X	X	X	—	X	
		16 - 27	—	X	X	X	—	X	X	X	X	—	X	

X = Yes — = No

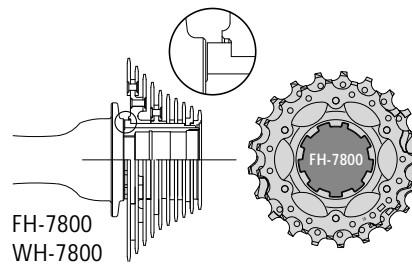
Be aware that freehub (FH) and wheel (WH) compatibility with CS-6600 might differ depending on the tooth combination.

\*The tooth combination for CS-6600 JUNIOR type cannot be installed on FH/WH-7800.

A 1 mm spacer is required when combining CS-7800 and CS-6600 (except junior types) with a 8/9 speed freehub (FH) and FH-6600.

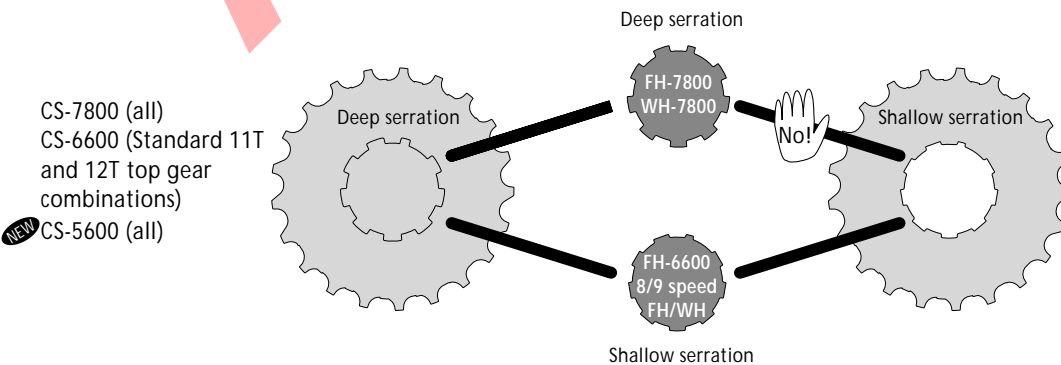


CS-7800 and CS-6600 (all)



CS-7800 and CS-6600 (standard 11 tooth and 12-tooth top gear tooth combination)

\*The tooth combination for JUNIOR type cannot be installed on FH/WH-7800.



CS-6600 (13, 14, 15, 16 top gear combinations for JUNIOR type)

\*The serration depth is the same as for the 8 and 9 speed cassette sprocket.









Note: CS-6600 (14 - 25, 15 - 25, 16 - 27) cannot work with tripple front drive system. If combine, bad shifting performance could be happend.

# Disc brake


## Combination Chart (Hydraulic Disc)

### ■ Shimano Hydraulic Disc Brake combination chart

In order to realize the best performance, we recommend that the following combination be used.

Series	Caliper	Mount type	Brake Lever	Roter	PAD (option)	Hose	Remarks
XTR	BR-M965	International standard	ST-M966	SM-RT96 SM-RT75S	M07 Resin (M06 Metal)	SM-BH96	—
	BR-M966	Post mount					Front Only
SAINT	BR-M800	*1	ST-M800 BL-M800	SM-RT80 SM-RT80S SM-RT75-DH	M06 Metal (M07-S resin)	SM-BH63	*1 Front: Boxxer, Post (Manitou) & International standard available. Rear: International standard
Deore XT	BR-M765	*2	 ST-M766  BL-M765	SM-RT77 SM-RT75S	M07-S resin (M06 Metal)	SM-BH63	*2 Front mount: International standard / Post mount Rear mount: International standard
Deore LX	BR-M585	*2	ST-M585 BL-M585	 SM-RT63	M07-S resin (M06 Metal)	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
HONE	BR-M601		ST-M600 BL-M525	SM-RT62-M SM-RT62-L	M06 Metal (M07-S resin)		
Deore	 BR-M535	*2	 ST-M535  BL-M535	 SM-RT63 SM-RT62-M SM-RT62-L	M07-S Resin (M06 Metal)	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
	BR-M525	*2	 ST-M535 BL-M525	SM-RT61	M08 Resin	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
NEXAVE	BR-C901	International standard	BL-C901		C01 Metal	SM-BH60/61	—

### ■ Rotor Specification

Series	Model No.	Outside Diameter	CENTERLOCK System	Oversized CENTERLOCK System	PCD 44 mm
XTR	SM-RT96	160 mm	X	—	—
SAINT	SM-RT80	203 mm	—	X	—
	SM-RT80S	160 mm	—	X	—
	SM-RT75-DH	203 mm	—	—	X
Deore XT	SM-RT77L	203 mm	X	—	—
	SM-RT77	160 mm	X	—	—
	SM-RT75S	160 mm	—	—	X
	SM-RT75M	170 mm	—	—	X
Deore LX HONE Deore	 SM-RT63	160 mm	X	—	—
	SM-RT62	160 mm	X	—	—
	SM-RT62M	180 mm	X	—	—
	SM-RT62L	203 mm	X	—	—
Deore / NEXAVE	SM-RT61	160 mm	—	—	X

X: Yes



## ■ Hose material & length

Series	Model No.	Compatible brake lever & caliper	Material	Hose length (mm)		
				for Front	for Rear	
XTR	SM-BH96	ST-M965/BR-M965,M966	Resin	900, 1300, 1700 mm		Cutable
SAINT Deore XT Deore	SM-BH63	ST-M766, ST-M800 BL-M765, BL-M800 BR-M765, BR-M800		900, 1300, 1700 mm		Cutable
Deore LX HONE	SM-BH59	ST-M585/BR-M585 BL-M585 ST-M600/BR-M601 BL-M525		900, 1300, 1700 mm		Cutable
Deore / NEXAVE	SM-BH61 SM-BH60	BL/BR-C901		500-1000 (every 50mm)	1200-1700 (every 50mm)	
	SM-BH59	ST-M535/BR-M535 BL-M535 BL/BR-M525	900, 1300, 1700 mm		Cutable	

## Combination Chart (Mechanical Disc)

### ■ Shimano Mechanical Disc Brake combination chart

In order to realize the best performance, we recommend that the following combination be used.

Series	Caliper	Mount type	Brake Lever	Rotor	PAD
NEXAVE Non-series	BR-M495	*	V-brake BL (1.5-2.5 finger)	SM-RT52 For resin pad only	M08 Resin
	BR-M465	*			

\* FRONT MOUNT: International standard/Post mount

\* REAR MOUNT: International standard

### ■ Mechanical Disc brake and Brake lever interchangeability

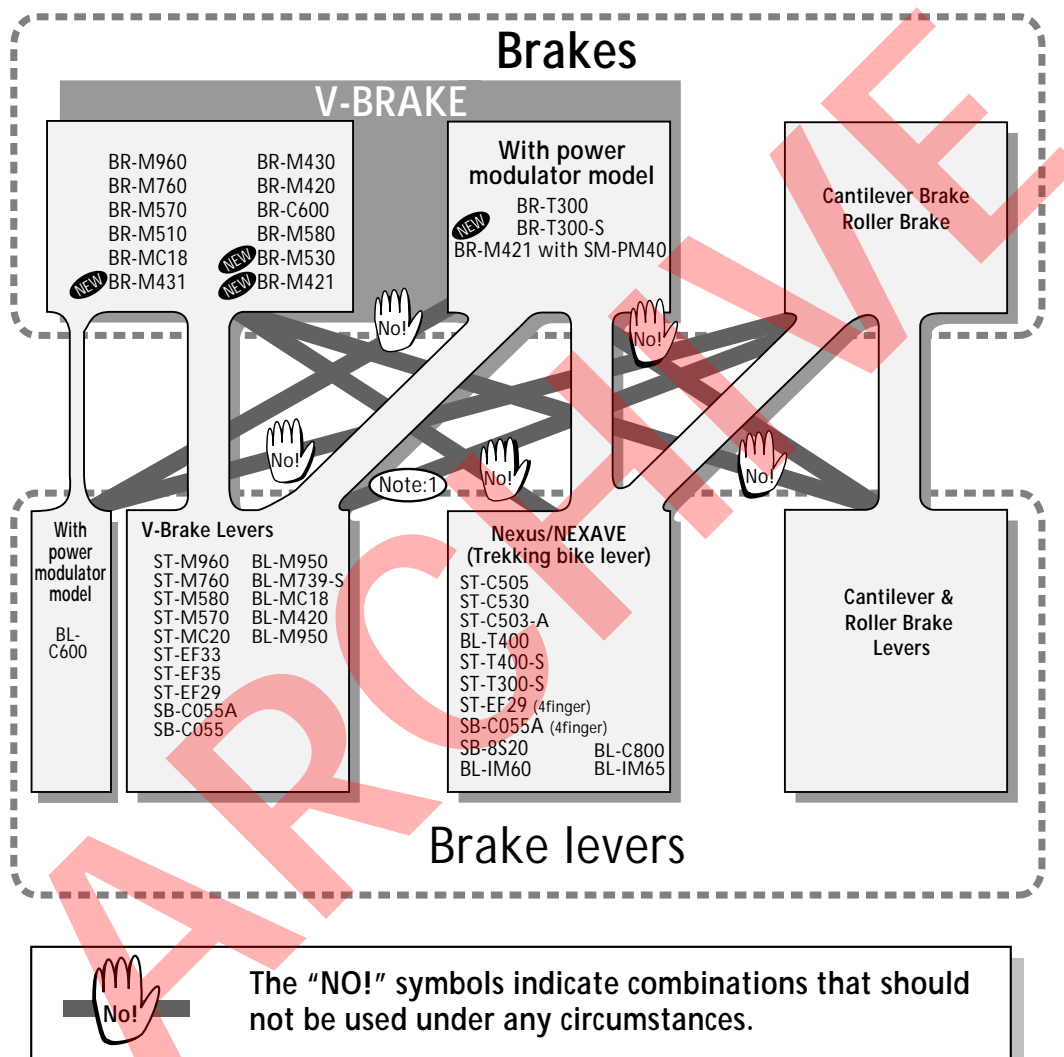
Model NO.	BL type			
	2 finger	4 finger	4 finger w/modulator	
			BL-C900/C600 type or w/SM-PM40	w/SM-PM50
BR-M495	Good	Not good	Not good	Good
BR-M465	Good	Not good	Not good	Good

# V-BRAKE and Canti-brake

## Interchangeability between brake systems

Depending on the brake and brake lever combination to be used, the relationship between the input at the brake lever and the actual braking force output at the wheels is very easily affected.

Be very careful when combining a brake and brake lever. Incorrect combinations can cause accidents or insufficient braking forces due to improper cable strokes. Be sure to carefully consult the chart below and select the brake and the matching brake lever.

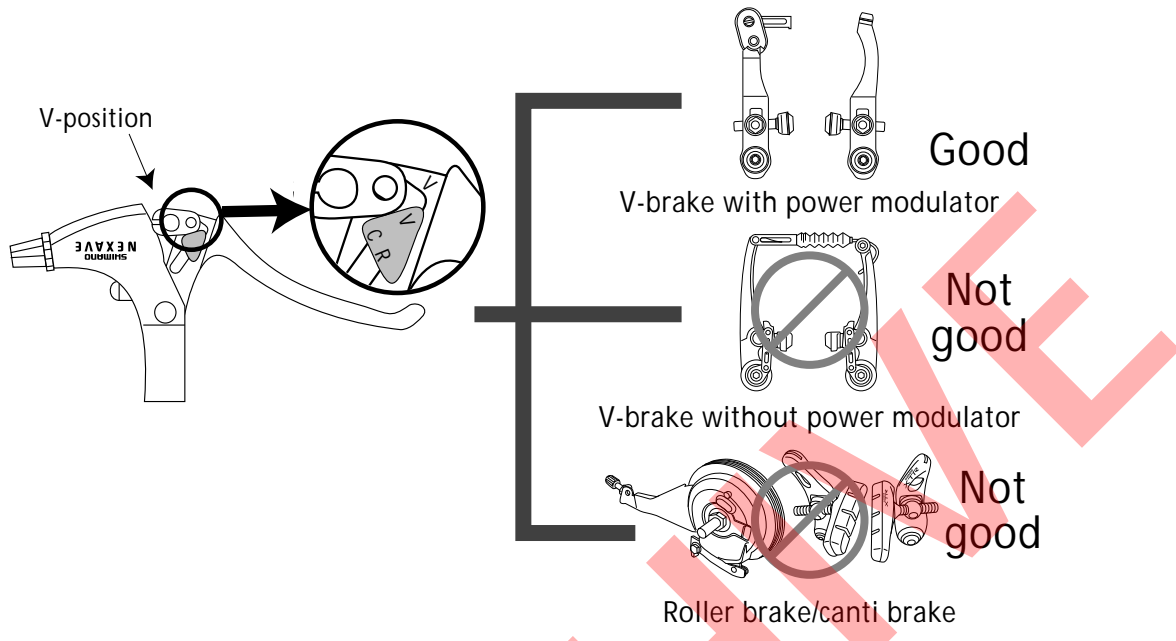


Note 1: This combination will not provide the sufficient amount of braking force.

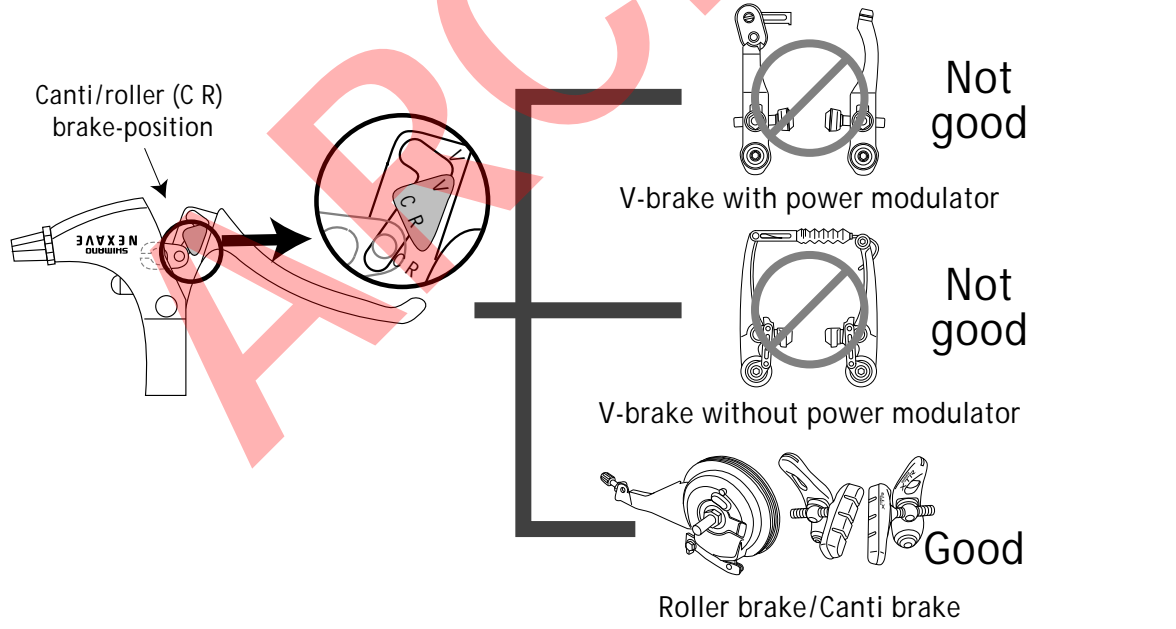
# Brake component interchangeability

ST-T400/BL-T400/ST-T300/ST-EF29/SB-C055A/SB-7S45/BL-IM45 brake levers are equipped with a switch to change between the V-brake with modulator mode (BR-T300 and BR-M420 with SM-PM40) and the cantilever or roller brake mode.

## ■ For V-brake (with power modulator) mode



## ■ For Canti/Roller-brake.

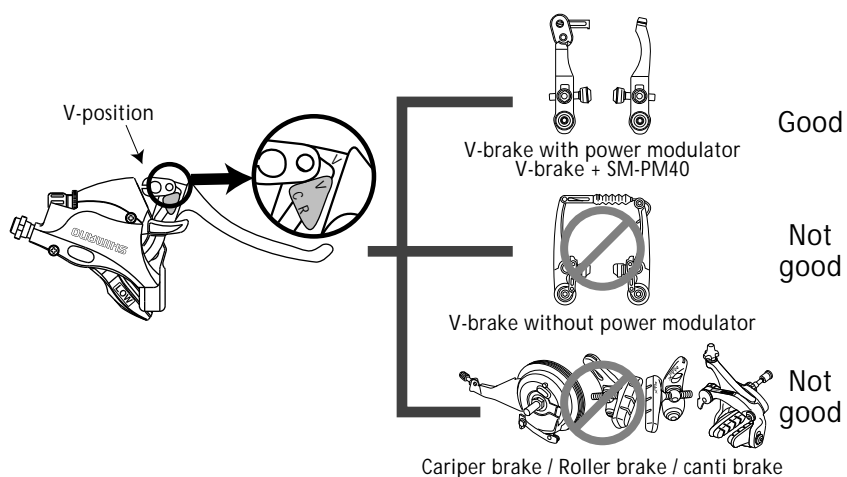


### WARNING:

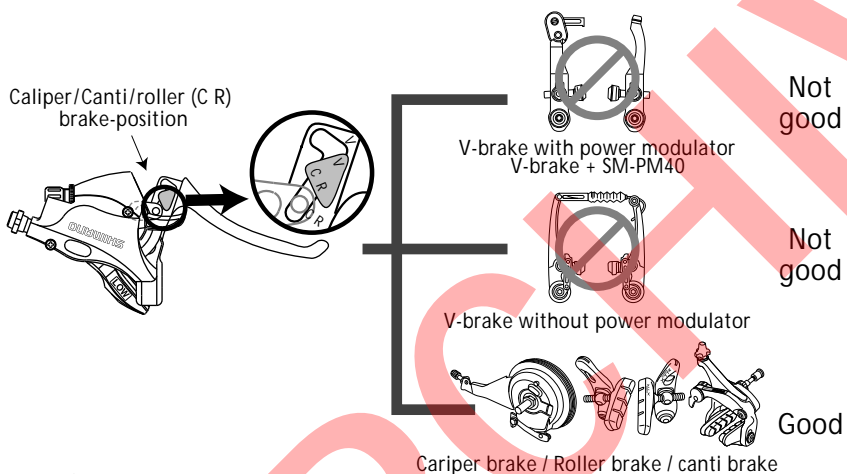
If the mode is not matched to the type of brake being used, this could result in inadequate or excessive braking power. Please proceed with caution when selecting the correct mode for the corresponding brake.

ST-R220/R224/R223 brake levers are equipped with a switch to change between the V-brake with modulator mode and the caliper brake, canti brake or roller brake mode.

■ For V-brake (with power modulator) mode



■ For Caliper/Canti/Roller-brake.



**WARNING:**

If the mode is not matched to the type of brake being used, this could result in inadequate or excessive braking power. Please proceed with caution when selecting the correct mode for the corresponding brake.

# Hub roller brake

## Interchangeability between hub and roller brake

### ■ Hub roller brake and Front hub w/modulator

Model NO.	Modulator Level	type	BR-IM75-F	BR-IM70-F	BR-IM50-F	BR-IM41-F	BR-C050-IM-F
HB-IM70	Hyper	QR	⊙	⊙	not good	not good	not good
HB-IM50	Normal	QR	○	○	⊙	⊙	not good
HB-IM45	Normal	NUT	○	○	⊙	⊙	○
HB-IM40	Normal	NUT	○	○	⊙	⊙	○
HB-C052-IM	Hyper	NUT	⊙	⊙	not good	not good	⊙
HB-IM20-E	Hyper	NUT	⊙	⊙	not good	not good	⊙

⊙: Recommended combination  
○: Usable

### ■ Hub roller brake and Front hub w/modulator For 20" to 24" bike ( for Children )

Model NO.	Modulator Level	type	BR-IM75-F	BR-IM70-F	BR-IM50-F	BR-IM41-F	BR-C050-IM-F	
HB-IM30	20-24inches	NUT	good					
HB-IM20-EC	20-24inches	NUT						
HB-C052C-IM	20-24inches	NUT						

### ■ Hub roller brake and Hub Dynamo w/modulator

Model NO.	Modulator Level	type	BR-IM75-F	BR-IM70-F	BR-IM50-F	BR-IM41-F	BR-C050-IM-F
DH-3R40	Hyper	QR	⊙	⊙	not good	not good	not good
		NUT	⊙	⊙	not good	not good	⊙
DH-2R40	Hyper	NUT	⊙	⊙	not good	not good	⊙
HB-NX50	Normal	QR	○	○	⊙	not good	not good
		NUT	○	○	⊙	⊙	○
HB-NX60	Normal	NUT	○	○	⊙	⊙	○
HB-C051-DR	Hyper	NUT	⊙	⊙	not good	not good	⊙
HB-C050-DR	Hyper	NUT	⊙	⊙	not good	not good	⊙

⊙: Recommended combination  
○: Usable

### ■ Hub roller brake and Hub Dynamo w/modulator For 20" to 24" bike ( for Children )

Model NO.	Modulator Level	type	BR-IM75-F	BR-IM70-F	BR-IM50-F	BR-IM41-F	BR-C050-IM-F	
HB-C051-DRC	20-24inches	NUT	good					
HB-C050-DRC	20-24inches	NUT						

# Brake shoe

## Brake shoe (for V-brake and Canti-brake)

### ■ Brake/Shoe line-up

	M70R2	M70R2 (Severe Condition shoe)	Ceramic	M70T3	M70T4	M70CT4 (Severe Condition shoe)	M70W	M65T3	M65T4	S70C	S70C (Severe Condition shoe)	S70T	S65T
BR-M960	Standard	—	Option	—	—	—	—	—	—	—	—	—	—
BR-M760	Option	—	Option	Low noise	Option	—	—	—	—	Standard	—	—	—
BR-M580	—	—	—	Option	Option	—	—	—	—	Standard	—	—	—
<b>NEW</b> BR-M530	—	—	—	Option	Option	—	—	—	—	—	—	Standard	—
<b>NEW</b> BR-M431	Option	—	—	—	—	—	—	—	—	Standard	—	—	—
<b>NEW</b> BR-M421	—	—	—	—	—	—	—	Option	Option	—	—	—	Standard
BR-T300	—	—	—	Option	Option	—	—	—	—	—	—	Standard	—
BR-R550	—	Option	—	—	—	Option	—	—	—	—	Standard	—	—

### ■ Shoe characteristics

	Cartridge shoe	M-system	Length	Threaded shoe post	Brake shoe characteristics
M70R2	X	X	70 mm	X	A race shoe that performs well in dry and wet conditions, and is also highly resistant to wear. may give off noise.
M70R2 (Severe Condition shoe)	X	X	70 mm	X	+1mm thicker shoe with M70R2
Ceramic	X	—	70 mm	X	Specific shoe for ceramic rims.
M70T3	—	X	70 mm	X	Performs especially well in wet conditions and may pass DIN standards. Gives off less noise, but the pad is heavier, faster rim wear, and tends to fade.
M65T3	—	X	65 mm	X	
M70T4	—	X	70 mm	X	
M65T4	—	X	65 mm	X	
M70CT4 (Severe Condition shoe)	X	X	70 mm	X	Cartridge shoe with M70T4
S70C	X	—	70 mm	X	Performs well in dry conditions and tends to be low noise. Wears in muddy conditions.
S70T	—	—	70 mm	X	
S65T	—	—	65 mm	X	
S70C (Severe Condition shoe)	X	—	70 mm	X	+1mm thicker shoe with S70C

X: Yes

## Brake shoe (for road bikes)

### < Brake/Shoe line-up >

		R55C2	R55C +1	R55C	R55C for Carbon rim	R55C for Ceramic rim	M50T	R50T
DURA-ACE	BR-7800	Standard	Option	—	Option	Option	—	—
ULTEGRA	BR-6600	Standard	—	—	Option	Option	—	—
105	<b>NEW</b> BR-5600	Standard	—	—	Option	Option	—	—
non-series	BR-R600	—	Standard	—	Option	Option	—	—
TIAGRA	BR-4400	—	—	—	—	—	Option	Standard
SORA	BR-3300	—	—	—	—	—	Option	Standard
non-series	BR-A550-57	—	—	—	—	—	Option	Standard

### < Shoe characteristics >

	Cartridge shoe	M-system	Length	Brake shoe characteristics
R55C2	X	—	55 mm	Performs well in dry conditions and tends to be low noise. Highly resistant to wear in rainy conditions.
R55C +1	X	—	55 mm	* 1 mm thicker shoe with R55C
R55C	X	—	55 mm	Performs well in dry conditions and tends to be low noise. Wear in rainy conditions.
R55C for Carbon rim	X	—	55 mm	For Carbon rim
R55C for Ceramic rim	X	X	55 mm	For Ceramic rim only
M50T	—	X	50 mm	Performs well in wet conditions. But faster rim wear.
R50T	—	—	50 mm	Performs well in dry conditions and tends to be low noise. Wears in rainy conditions.

X: Yes

## Brake shoe (Capreo)

### < Shoe characteristics >

Shoe	Cartridge shoe	M-system	Length	Thread Shoe Post	Brake Shoe Charectristic
R55C (for F700)	X	X	55 mm	X	Performs well in wet conditions and may pass DIN standards. Tends to be low noise. But faster rim wear.

X: Yes

# Brake pad

## Brake pad line-up (for disc brake)

		M01	M02	M03	M04	M05	M06	M07	M07-S	M08	C01
Model NO.	type	Sintered Metal	Resin	Sintered Metal	Resin	Resin	Sintered Metal	Resin	Resin	Resin	Sintered Metal
BR-M965 BR-M966	Hydraulic						option	Standard			
BR-M800	Hydraulic						Standard		option		
BR-M765	Hydraulic						option		Standard		
BR-M601	Hydraulic						Standard		option		
BR-M585	Hydraulic						option		Standard		
<b>NEW</b> BR-M535	Hydraulic						option		Standard		
BR-M525	Hydraulic									Standard	
BR-M495	Mechanical									Standard	
BR-M465	Mechanical									Standard	
BR-C901	Hydraulic										Standard

M01/M03/M06: Longer pad-life, good for anti-fade, good constancy either dry/wet. May cause noise while braking.

M02/M04/M05/M07/M07-S: Same level performance as metal pad. Shorter pad-life than metal.

C01: Easy, controllable metal pad, good for trekking use.

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# Disc brake rotor

## Disc brake caliper/Rotor combination

Rotor		Caliper		BR-M966	BR-M965	BR-M800	BR-M765	BR-M585	BR-M535	BR-M525	BR-C901
SM-RT96	160 mm	140.9 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT80S	160 mm	146.4 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT80	203 mm	210.5 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT77	160 mm	148.7 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT77L	203 mm	212.8 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT75	160 mm	138.9 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT75M	170 mm	147.6 g	—	—	—	—	—	—	—	—	—
SM-RT75DH	203 mm	209.4 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
MC SM-RT63	160 mm	165.0 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT62	160 mm	165.0 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT62M	180 mm	188.0 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT62L	203 mm	233.0 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT61	160 mm	161.7 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	○
SM-RT52	160 mm	180.0 g	⊙	⊙	⊙	⊙	⊙	⊙	⊙	○	—
P / I*			P	I	P	P	P	P	P	P	I & P

Rotor		Caliper		BR-M495	BR-M465	
SM-RT96	160 mm	○	○	○	○	Center lock
SM-RT80S	160 mm	○	○	○	○	Center lock (large)
SM-RT80	203 mm	○	○	○	○	Center lock (large) / Need mount adapter
SM-RT77	160 mm	○	○	○	○	Center lock
SM-RT77L	203 mm	○	○	○	○	Center lock / Need mount adapter
SM-RT75	160 mm	○	○	○	○	Center lock
SM-RT75M	170 mm	—	—	—	—	For post-mount / Need mount adapter
SM-RT75DH	203 mm	○	○	○	○	Need mount adapter
MC SM-RT63	160 mm	○	○	○	○	Center lock
SM-RT62	160 mm	○	○	○	○	Center lock
SM-RT62M	180 mm	○	○	○	○	Center lock / Need mount adapter
SM-RT62L	203 mm	○	○	○	○	Center lock / Need mount adapter
SM-RT61	160 mm	⊙	⊙	⊙	⊙	Center lock
SM-RT52	160 mm	⊙	⊙	⊙	⊙	Center lock / Only resin pad
P / I*		P	P	P	P	

\* P: Post mount type

I: International standard type

○: Shorter pad life than ⊙.

Need mount adapter according to kind of frame mount.

Weight of rotor include bolts and plate or lock ring.

SM-RT52: Compatible with resin pad caliper specification only.

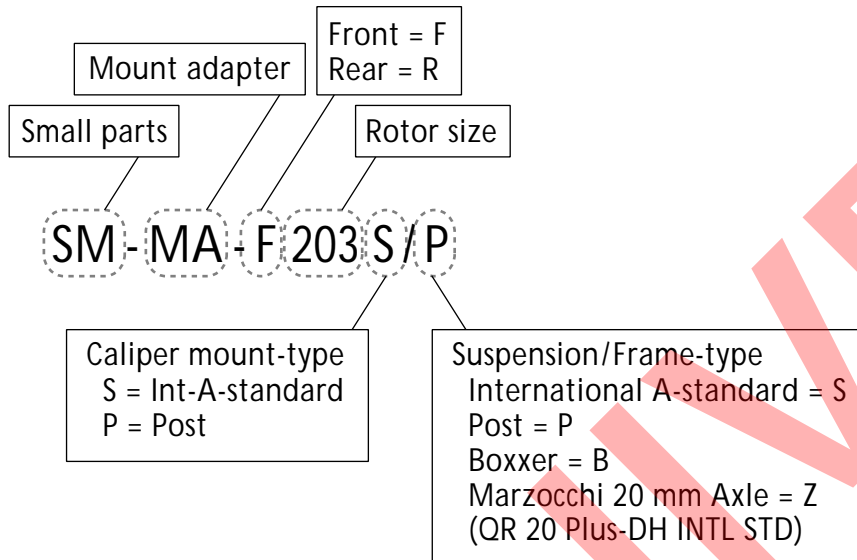
If use with caliper with metal pads, rotor will be easily damaged.

Combination & Interchangeability

# Disc brake mount adapter

## Disc brake mount adapter application

### ■ How to read Model NO.



Mount adapter / Model NO.
SM-MA-F203S/S
SM-MA-F203S/P
SM-MA-F203S/B
SM-MA-F203S/Z
SM-MA-F203P/S
SM-MA-F203P/P
SM-MA-F203P/B
SM-MA-F203P/Z
SM-MA-F180S/S
SM-MA-F180S/P
SM-MA-F180P/S
SM-MA-F180P/P
SM-MA-F170S/P
SM-MA-F160P/S
SM-MA-F160P/Z
SM-MA-R203S/S
SM-MA-R203P/S
SM-MA-R180S/S
SM-MA-R180P/S
SM-MA-R160P/S

## ■ Shimano hydraulic disc brake mount adapter application table

< For front >

Model	Rotor diameter	Mount-type			
		A-standard	MARZOCCHI 20 mm Axle (QR 20 Plus-DH INTL STD)	BOXXER-type	POST-type
BR-M965	∅ 203	SM-MA-F203S/S	SM-MA-F203S/Z	SM-MA-F203S/B	SM-MA-F203S/P
	∅ 180	SM-MA-F180S/S			SM-MA-F180S/P
	∅ 160	Direct attach			
BR-M966	∅ 203	SM-MA-F203P/S	SM-MA-F203P/Z	SM-MA-F203P/B	SM-MA-F203P/P
	∅ 180	SM-MA-F180P/S			SM-MA-F180P/P
	∅ 160	SM-MA-F160P/S	SM-MA-F160P/Z		Direct attach
BR-M800	∅ 203	SM-MA-F203P/S	SM-MA-F203P/Z	SM-MA-F203P/B	SM-MA-F203P/P
	∅ 180	SM-MA-F180P/S			SM-MA-F180P/P
	∅ 160	SM-MA-F160P/S	SM-MA-F160P/Z		Direct attach
BR-M765	∅ 203	SM-MA-F203P/S	SM-MA-F203P/Z	SM-MA-F203P/B	SM-MA-F203P/P
BR-M601	∅ 180	SM-MA-F180P/S			SM-MA-F180P/P
BR-M585	∅ 160	SM-MA-F160P/S	SM-MA-F160P/Z		Direct attach
BR-M535					
BR-M525	∅ 203	SM-MA-F203P/S	SM-MA-F203P/Z	SM-MA-F203P/B	SM-MA-F203P/P
	∅ 180	SM-MA-F180P/S			SM-MA-F180P/P
	∅ 160	SM-MA-F160P/S	SM-MA-F160P/Z		Direct attach

< For rear >

Model	Rotor diameter	A-standard
BR-M965	∅ 203	SM-MA-R203S/S
	∅ 180	SM-MA-R180S/S
	∅ 160	Direct attach
BR-M966	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S
BR-M800	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S
BR-M765	∅ 203	SM-MA-R203P/S
BR-M601	∅ 180	SM-MA-R180P/S
BR-M585	∅ 160	SM-MA-R160P/S
BR-M535		
BR-M525	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S

## ■ Shimano mechanical disc brake mount adapter application table

< For front >

Model	Rotor diameter	Mount-type			
		A-standard	MARZOCCHI 20 mm Axle (QR 20 Plus-DH INTL STD)	BOXXER-type	POST-type
BR-M495 BR-M465	∅ 203	SM-MA-F203P/S	SM-MA-F203P/Z	SM-MA-F203P/B	SM-MA-F203P/P
	∅ 180	SM-MA-F180P/S			SM-MA-F180P/P
	∅ 160	SM-MA-F160P/S	SM-MA-F160P/Z		Direct attach

Updated

< For rear >

Model	Rotor diameter	A-standard
BR-M465 BR-M495	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	M475 Adapter ( R )

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