

**ARCHIVE**

This information was updated on February 12, 2007. Shimano makes no warranty with respect to this information, including without limitation any warranty on the accuracy of measures, specifications and compatibility of the current products. Regarding any modification and new product information after February 12, 2007, please refer to the Shimano Business Customer Web Site or directly contact the sales person of our company.

# SHIMANO

**2007-2008**

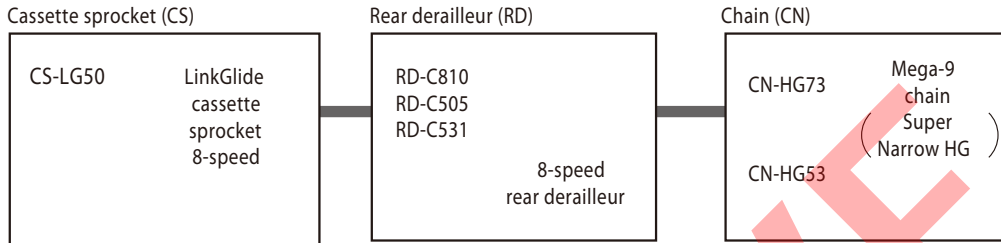
**Products compatibility information**

# Drivetrain Interchangeability

## Rear drivetrain for Comfort & MTB Components

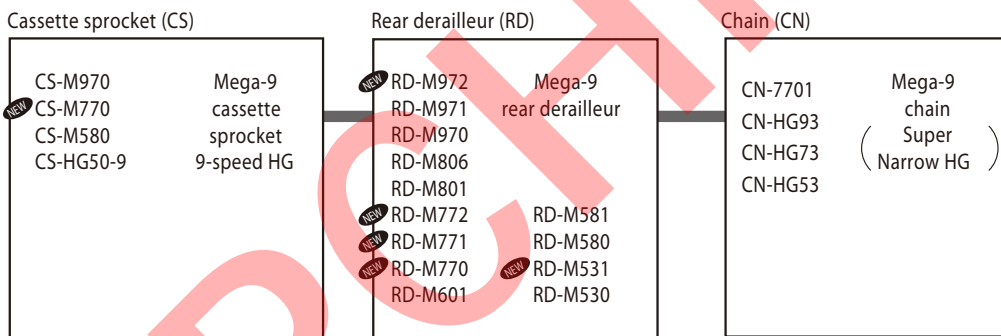
When using components of different series together, be aware of the points given below. "New" is shown if it is a new product and "MC" is given if only minor changes have been made.

### 8-Speed LinkGlide

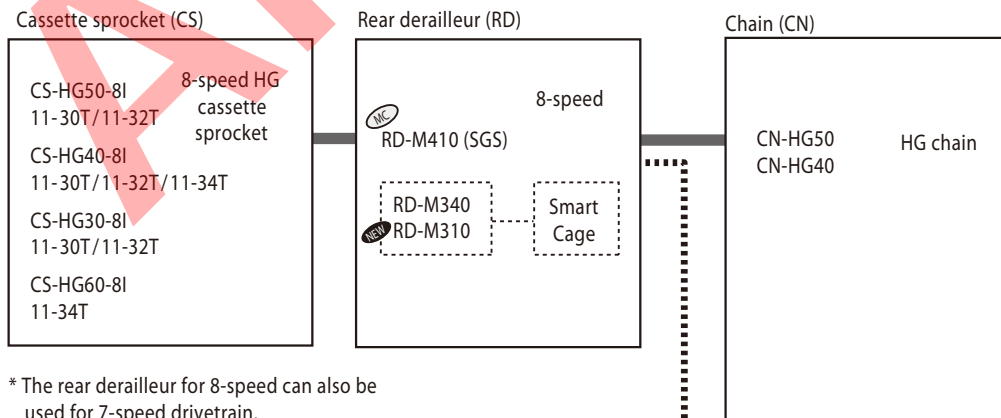


The full performance of LinkGlide will not be realized in combinations other than these. Also, HG performance will be reduced if RD-C505, C531 and C810 are used with HG gears other than LinkGlide gears. LinkGlide shifting performance is achieved when combined with ST-C503-A(R) as the shifting lever.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

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



### 8-Speed HG



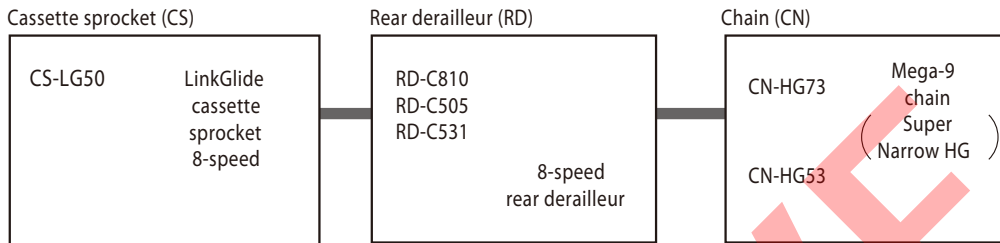
\* The rear derailleur for 8-speed can also be used for 7-speed drivetrain.

# Drivetrain Interchangeability

## Rear drivetrain for Comfort & MTB Components

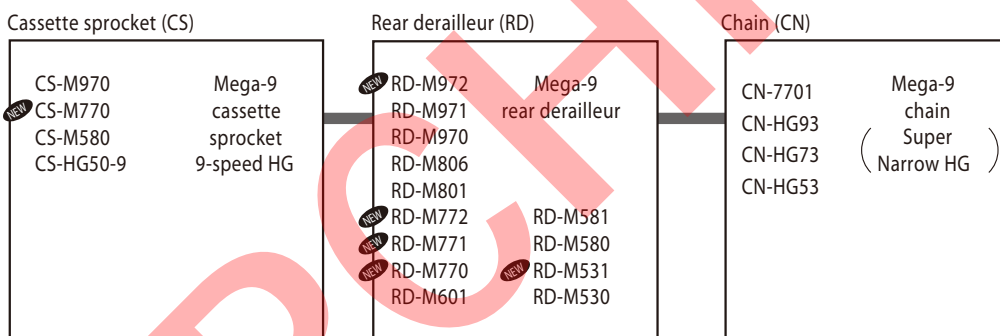
When using components of different series together, be aware of the points given below. "New" is shown if it is a new product and "MC" is given if only minor changes have been made.

### 8-Speed LinkGlide

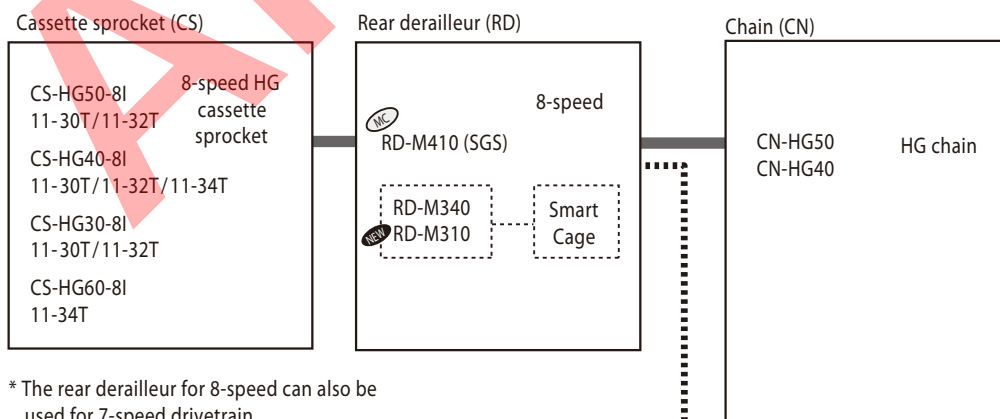


The full performance of LinkGlide will not be realized in combinations other than these. Also, HG performance will be reduced if RD-C505, C531 and C810 are used with HG gears other than LinkGlide gears. LinkGlide shifting performance is achieved when combined with ST-C503-A(R) as the shifting lever.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

Cassette sprocket (CS)

CS-HG50I 11-34T  
 CS-HG30I 11-28T  
 7-speed HG cassette sprocket

Rear derailleur (RD)

RD-M340 7-speed rear derailleur  
 RD-M310 7-speed rear derailleur

CN-HG50  
 CN-HG40  
 HG chain

\* .....HG chain can only be used when using an HG compatible crankset

7-speed HG/ZH

Cassette sprocket (CS)

CS-HG-50-I 11-34T

Rear derailleur (RD)

RD-T300 7-speed MGS Low normal

Chain (CN)

Multiple freewheel (MF) /  
 Cassette sprocket (CS)

CS-HG30-I 11-28T  
 MF-HG37 14-28T  
 MF-TZ07 14-28T

RD-FT30 (Front single)

MF-HG40-7 14-34T  
 MF-TZ37 14-34T

RD-T300 7-speed/MGS Low normal

RD-TX71 7/6-speed/  
 RD-TX51 "SMARTCAGE"  
 RD-TX31 Top normal

CN-HG50  
 CN-HG40  
 CN-UG51  
 HG/UG chain

6-speed HG/ZH

Multiple freewheel (MF)

MF-TZ06 14-28T

Rear derailleur (RD)

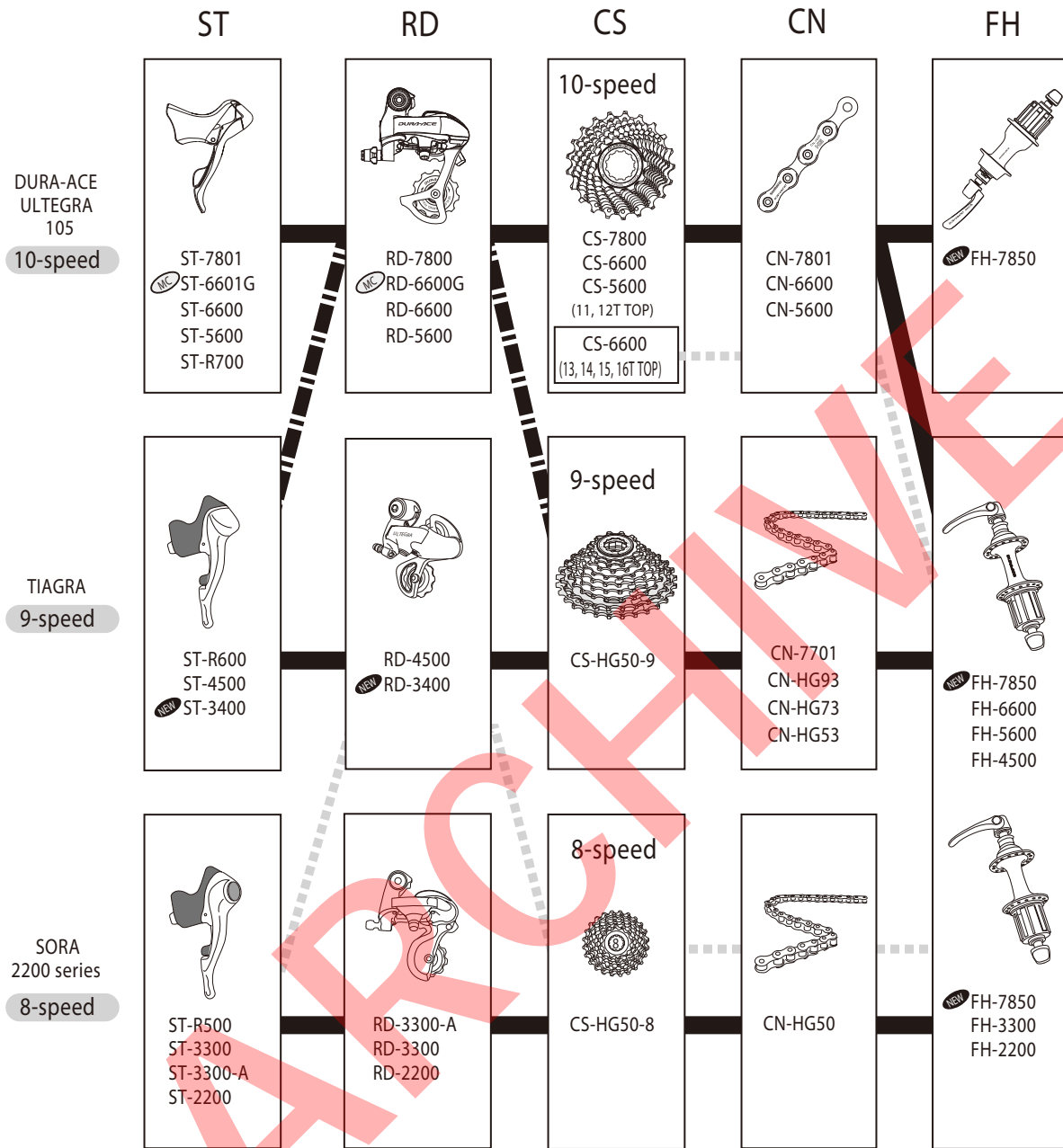
RD-FT30 (Front single)

RD-TY18 6-speed GS/SS

MF-TZ36 13-34T

RD-TX71 7/6-speed/  
 RD-TX51 "SMARTCAGE"  
 RD-TX31 Top normal

# Rear drivetrain for Road bike components



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

## Interchangeability for flat handlebar

### Rear system

	ST	RD	CS	CN	FH
DURA-ACE ULTEGRA 105 10-Speed	SL-R770	RD-7800 RD-6600G RD-6600 RD-5600	CS-7800 CS-6600 CS-5600	CN-7801 CN-6600 CN-5600	FH-7850
DURA-ACE ULTEGRA 105 TIAGRA 9-Speed	SL-R660 SL-R440	RD-7800 RD-6600G RD-6600 RD-5600 RD-4500 RD-3400	CS-7700 CS-6500 CS-HG70-9 CS-HG50-9	CN-HG93 CN-HG73 CN-HG53	FH-7850 FH-6600 FH-5600 FH-4500 FH-3300 FH-2200 FH-R505
SORA 2200 8-Speed	SL-R440-8 ST-R221	RD-3300-A RD-3300 RD-2200	CS-HG50-8	CN-HG50 CN-HG40	

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

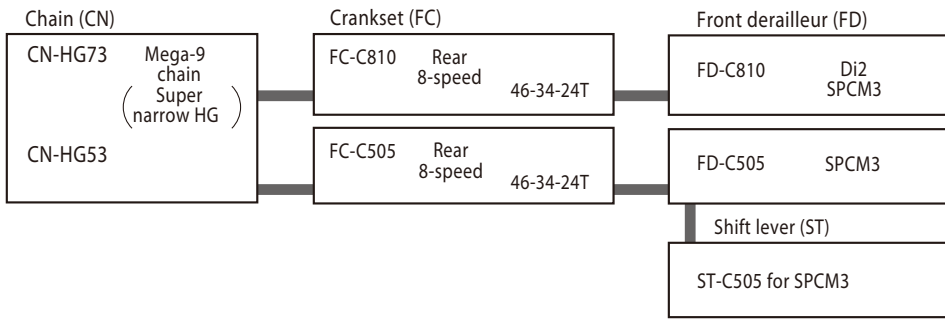
Note: FH-R505 O.L.D. 135 mm for disc brake frame.

### Front system

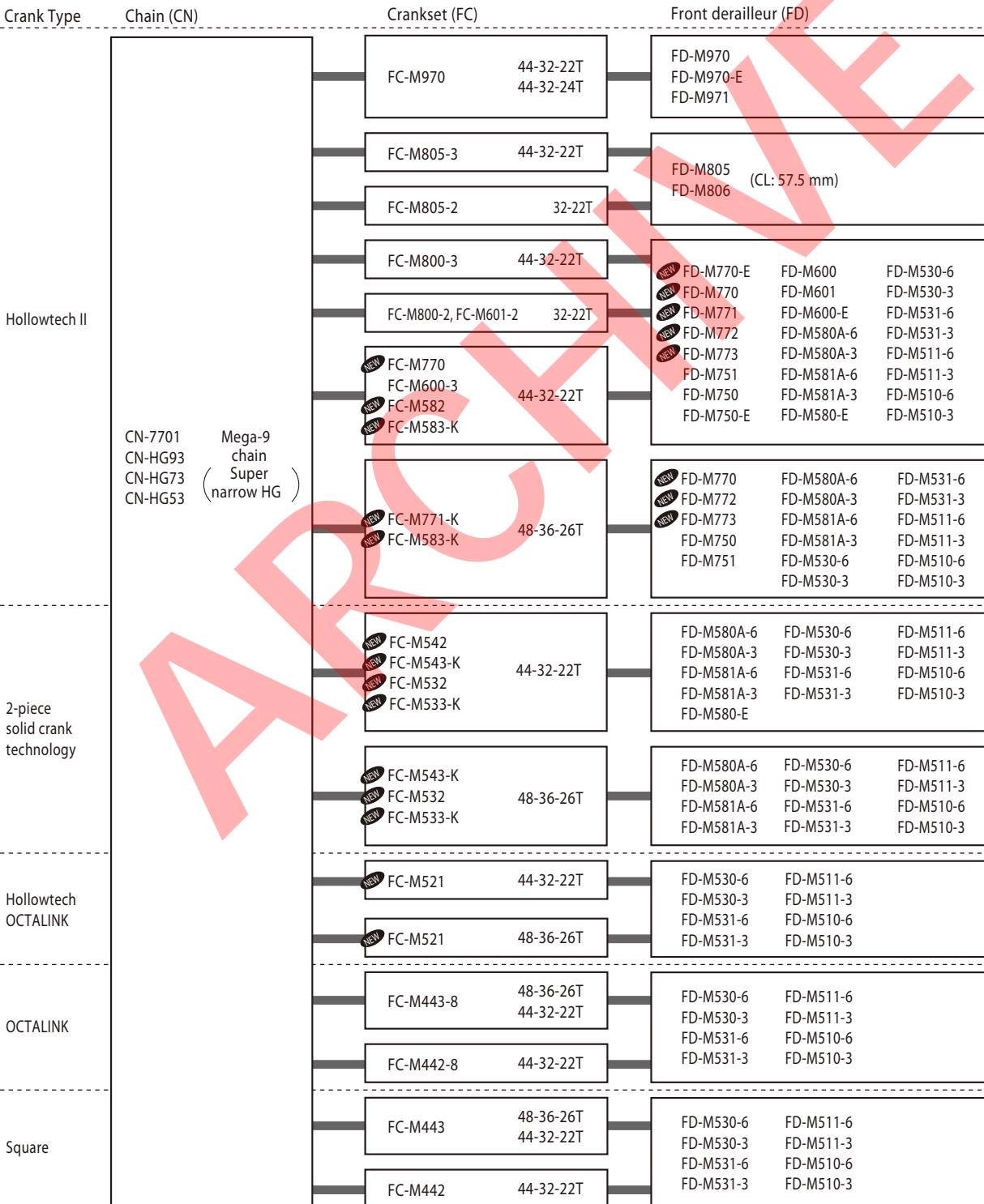
	ST	FD	FC	BB	CN	
DURA-ACE ULTEGRA 105 10-Speed	SL-R770	FD-R770	FC-7800 FC-6601G FC-6650 FC-6650G FC-6600	FC-5650 FC-5600 FC-R700 FC-R600 FC-R550	SM-FC7800 SM-FC6601 SM-FC6600 SM-FC5600 SM-FC4500	CN-7801 CN-6600 CN-5600
DURA-ACE ULTEGRA 105 TIAGRA SORA 9-Speed	SL-R660 SL-R441	FD-R773-2	FC-7803 FC-6604G FC-6603	FC-5603	SM-FC7800 SM-FC6601 SM-FC6600	CN-HG93 CN-HG73 CN-HG53
		FD-R773-0	FC-5603	FC-R553	SM-FC5600 SM-FC4500	
		FD-R440	FC-R450 FC-4500 FC-4550 FC-3450	BB-ES25	SM-FC4500	
SORA 2200 8-Speed	SL-R660 SL-R441	FD-R453	FC-R453	BB-ES25	CN-HG50	
		FD-R453	FC-4503 FC-3403	SM-FC4500		
		SL-R660 SL-R441	FD-R443 for 52-42-30T	FCW (52-42-30T)		
SORA 2200 8-Speed	SL-R441 ST-R221 ST-R225	FD-R440A	FC-3301/3301-A	BB-ES25	CN-HG50	
		FD-R443A	FC-2200	BB-UN26		
		FD-R443A	FC-3304-A	BB-ES25		
SORA 2200 8-Speed	SL-R441 ST-R221 ST-R225	FD-R443A	FC-2203	BB-UN26		

# Front drivetrain interchangeability (MTB front SIS)

## SPCM (TRIPLE)



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




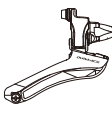







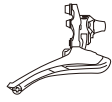



HG triple (8/7/6-speed)

Crank Type	Chain (CN)	Crankset (FC)	Front derailleur (FD)	
Square	CN-HG50 CN-HG40 HG chain	FC-T300-S Rear 8/7-speed 42-34-24T	FD-T300	
		FC-T303 Rear 8/7-speed 48-38-28T	FD-T301	
OCTALINK		FC-M410-8 Rear 8/7-speed 42-32-22T FC-M341-8 FC-M311-8	FD-M413-6 FD-M413-3 FD-M412-6 FD-M412-3 FD-M410-E FD-M311-6 FD-M311-3 FD-M310-6 FD-M310-3	
		Square	FC-M411 Rear 8/7-speed 48-38-28T FC-M341 FC-M311	FD-M413-6 FD-M413-3 FD-M412-6 FD-M412-3 FD-M311-6 FD-M311-3 FD-M310-6 FD-M310-3
FC-M191 Rear 8/7-speed 48-36-28T FC-M151			FD-M311-6 FD-M311-3 FD-M310-6 FD-M310-3 FD-T301	
FC-M191 Rear 8/7-speed 42-34-24T FC-M151			FD-M311-6 FD-M311-3 FD-M310-6 FD-M310-3 FD-T300	
FC-TX71 Rear 8/7-speed 48-38-28T			FD-C102	
CN-UG51 UG chain			FC-M191 Rear 7/6-speed 48-36-28T FC-M151	FD-C051 FD-TY10 FD-TZ31
			FC-M191 Rear 7/6-speed 42-34-24T FC-M151	FD-C050 FD-TY10 FD-TZ30
		FC-TX71 Rear 7/6-speed 48-38-28T	FD-C051	
	FC-TX70 Rear 7/6-speed 42-34-24T	FD-C050 FD-TY10 FD-TZ30		

\* 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)

	ST	FD	FC	BB	CN
DURA-ACE 7800 series ULTEGRA 6600 series Double 10-Speed	 ST-7801 ST-6600 NEW ST-6600G	 FD-7800 FD-6600	 FC-7800 FC-6600 NEW FC-6601G NEW FC-6650 NEW FC-6650G FC-5600 FC-R700 FC-R600	 *2 SM-FC7800 SM-FC6600 NEW SM-FC6601 SM-FC5600 SM-FC4500	 CN-7801 CN-6600 CN-5600
105 5600 series	ST-5600 ST-R700	FD-5600	FC-R550	SM-FC4500 *2	
DURA-ACE 7803 series ULTEGRA 6603 series 105 5600 series Triple 10-Speed	 ST-7803 ST-6603 NEW ST-6603G ST-5600 ST-R700	FD-7803 FD-6603 FD-5603	FC-7803 FC-6603 NEW FC-6604G FC-5603 50-39-30T FC-R553 50-39-30T	 *2 SM-FC7800 SM-FC6600 NEW SM-FC6601 SM-FC5600 SM-FC4500 *2	
TIAGRA SORA Double 9-Speed	ST-4500 ST-R600 NEW ST-3400	FD-4500 NEW FD-3400	FC-4500 FC-4550 FC-4550-S NEW FC-3450 NEW FC-R450	SM-FC4500 *2 BB-ES25	
TIAGRA SORA Triple 9-Speed	ST-4500 ST-R600 NEW ST-3400 NEW ST-3400	FD-4505 NEW FD-3403 FD-4403 for 52-42-30T	FC-4503 FC-3403 50-39-30T NEW FC-R453 50-39-30T FCW (52-39-30T)	SM-FC4500 *2 BB-ES25	CN-7701 CN-HG93 CN-HG73 CN-HG53
2200 SORA Double 8-Speed	 ST-R500 ST-3300-A ST-2200	 FD-3300 FD-2200	 FC-3301 FC-3300 FC-2200	 BB-ES25 *1 BB-UN26	
2200 SORA Triple 8-Speed	ST-3304-A ST-2203	FD-3304 FD-2203	FC-3304 FC-3303 FC-2203	BB-ES25 *1 BB-UN26	CN-7401 CN-HG90 CN-HG91 CN-HG70 CN-HG50

\*Note 1: Axle length is different  
 \*Note 2: Adapters are shipped with FC. Refer spec. handbook. Dura-Ace FC/BB: ships in separate carton.

## 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.

$$FC \text{ (top gear) - (low gear)} = < FD \text{ (top and low capacity)}$$

$$FC \text{ (top gear) - (middle gear)} \geq FD \text{ (minimum difference in teeth number between top and middle)}$$

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)		NEW FD-M412-6 NEW FD-M412-3 NEW FD-M413-6 NEW FD-M413-3	NEW FD-M310-6 NEW FD-M310-3 NEW FD-M311-6 NEW FD-M311-3	FD-T301 FD-C102 8/7S	FD-T300 FD-T300-E FD-C101-E 8/7S
	FD-M970 FD-M970-E FD-M971 FD-M771 NEW FD-M770-E FD-M600 FD-M601 FD-M600-E FD-M580-E	FD-M805 FD-M806	NEW FD-M770 NEW FD-M772 NEW FD-M773 FD-M580A-6 FD-M580A-3 FD-M581A-6 FD-M581A-3	FD-M530-3 FD-M530-6 FD-M531-3 FD-M531-6	FD-M750-E FD-M570-E	FD-M750 FD-M751 FD-M510-3 FD-M510-6 FD-M511-3 FD-M511-6	FD-C810 FD-C505	NEW FD-M410-E FD-MC21 for top gear 42T	NEW FD-M330 FD-M330-E for top gear 42T	FD-TZ31 FD-C051 7/6S	FD-C050 FD-TY10 FD-TZ30 FD-TY10 7/6S	
Top gear teeth number	44T	44-32-22	44/48T	44/46T	44/48T	SPCM (46/34/24T)	42/48T	42/48T	48T	42T		
Top-Middle min. teeth difference	12T	32-22T	12T	12T	12T	10T	10T	10T	10T	8T		
Capacity	22T	22T	22T	22T	22T	20T	20T	20T	20T	18T		

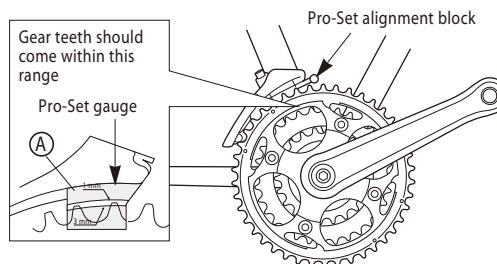
### Crankset specifications

	For Super Narrow chain						For HG Chain			
	FC-M970 (44-32-24) *option FC-M805-3 NEW FC-M770 FC-M600-3 NEW FC-M582 NEW FC-M583-K NEW FC-M543-K NEW FC-M542 NEW FC-M533-K NEW FC-M532 NEW FC-M521 FC-M443 FC-M443-8 FC-M442 FC-M442-8	NEW FC-M771-K NEW FC-M583-K NEW FC-M543-K NEW FC-M533-K NEW FC-M532 NEW FC-M521 FC-M443 FC-M443-8	FC-C810 FC-C505	FC-C600	FC-M805-2 FC-M800-2 FC-M601-2	FC-M805-1 FC-M800-1	FC-C530	FC-M411 FC-M410 FC-M410-8 FC-M341-8 FC-M341 NEW FC-M311 NEW FC-M311-8	NEW FC-M191 NEW FC-M151 FC-T300-S FC-TX70 NEW FC-M191 NEW FC-M151	FC-M411 FC-M341 FC-M311 FC-M151 FC-T303 FC-TX71
Top gear	44T	48T	SPCM	SPCM	Bash Guard	34/38/42/46	38/33T	42T	42T	48T
Middle gear	32T	36T	SPCM	46/34T	32T	(-)	—	32T	34T	38T
Low gear	22T	26T	46/34/24T	(-)	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-M970 FD-M971	50 mm		
	FD-M970-E	50 mm		
SAINT	FD-M805, FD-M806	57.5 mm (shell width of 83 mm)		
DEORE XT	FD-M750/M751 FD-M750-E	47.5/50 mm		
	FD-M770/ FD-M771 FD-M772/ FD-M773 FD-M770-E	50 mm		
DEORE LX	FD-M580A-6/M580A-3 FD-M581A-6/M581A-3 FD-M580-E	50 mm		
HONE	FD-M600, FD-M600-E FD-M601	50 mm		
DEORE	FD-M530-6/M530-3 FD-M531-6/M531-3	50 mm		
ALIVIO	FD-M411-6/M411-3 FD-M410-6/M410-3/M410-E	50 mm		
DEORE	FD-M511/M510	50 mm		
ALIVIO	FD-M413-6/ FD-M413-3 FD-M412-6/ FD-M412-3	47.5/50 mm		
	FD-M311-6/ FD-M311-3 FD-M310-6/ FD-M310-3	For the E-type (BB mounting front derailleur): 47.5 mm (shell width of 68 mm) 50 mm (shell width of 73 mm)		
Non-Series	FD-MC21	50 mm		
ACERA	FD-M330	47.5/50 mm		the chainstay angle should be between 66 and 69
	FD-M330-E	For the E-type (BB mounting front derailleur): 47.5 mm (shell width of 68 mm) 50 mm (shell width of 73 mm)		
NEXAVE	FD-C600	52.5 mm (shell width of 68 mm)		
	FD-C810, FD-C505	50 mm (shell width of 68 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)
FD-TY22GS	47.5/50 mm			—————
FD-TY22SS	43.5/45 mm (down pull only)	—————		
FD-TY15GS	47.5/50 mm (down pull only)			
FD-TY15SS	43.5/45 mm (down pull only)			
FD-TY10	47.5/50 mm			
FD-TZ30	47.5/50 mm			
FD-TZ31	47.5/50 mm			

## 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

Speed	Series	Crankset				Bottom Bracket	Chainline & Axle mark							
		Model NO.	Type of Crank				Model NO.	47.5mm	50.0mm	52.5mm	47.5+tmm			
			Spline	Square	Chaincase									
9	XTR	FC-M970	X			include	Chainline: 50 mm							
	SAINT	FC-M805-1 FC-M805-2 FC-M805-3	X			include	Chainline: 57.5 mm FC-M805-1 65 mm/57.5 mm *1							
		FC-M800-1 FC-M800-2 FC-M800-3	X			include	Chainline: 50 mm FC-M800-1 57.5 mm/50 mm *1							
	Deore XT	FC-M770	X			include	Chainline: 50 mm							
		FC-M771-K	X		X**									
	Deore LX	FC-M582	X			include								
		FC-M583	X		X**									
	HONE	FC-M601-2 FC-M600	X			include								
	Deore	FC-M532	X			include								
		FC-M533-K	X		X**									
	Non-Series	FC-M542	X			include								
		FC-M543-K	X		X									
		FC-M521	X		X**									
		FC-M443-8	X		X									
		FC-M443		X	X									
		FC-M442-8	X											
		FC-M442		X										
	8	NEXAVE	FC-C600		X	X					BB-UN26-K	-	-	117.5
FC-C810				X	X**	BB-UN26					-	130	-	-
FC-C505				X	X**						-	130	-	-
FC-C530				X	X	BB-UN26-K					***	***	***	***
FC-T300-S FC-T303				X	X	BB-UN26(-E)	YL117	ZL122	-	-				
FC-M411 (48T)		X	X**	-	LL123(-K)		-	-						
8/7	Alivio	FC-M410-8	X			BB-ES25(-E)	-	118(-E)	-	-				
		FC-M411		X	X**	BB-UN26(-K)	-	LL123(-K)	-	-				
		FC-M410		X		BB-UN26(-E)	-	LL113(-E)	-	-				
		FC-M341 (48T) FC-M341-8 (42T)		X	X**	BB-UN26(-K)	-	LL123(-K)	-	-				
8/7/6	Non-Series	FC-M341 (42T)		X	X**	BB-UN26(-K)	-	LL123(-K)	-	-				
		FC-M311-42T		X	X**	BB-UN26(-K)	-	LL123(-K)	-	-				
		FC-M311-48T		X	X**	BB-UN26(-K)	-	LL123(-K)	-	-				
		FC-M311-8	X		X**	BB-ES25	-	126	-	-				
		FC-M191		X	X	BB-UN26(-K)	D-NL(122.5)	-	-	D-NL(122.5)				
		FC-M151		X	X	BB-UN26(-K)	D-NL(122.5)	-	-	D-NL(122.5)				
		Tourney	FC-TX70/TX71		X	X	BB-UN26(-K)	D-NL(122.5)	-	-	D-NL(122.5)			

Note: If using a chain case, select a BB- bottom bracket.  
If using an E-type front derailleurs, select a BB- bottom bracket.

X: Yes

- \* without chaincase stay
- \*\* Chain case stay thickness should be 1.5 mm to 2.1 mm.
- \*\*\* YL117: Chainline 44+t D-NL: Chainline 47+t  
117.5: Chainline 46+t D-EL: Chainline 49.5+t

\*1: Refer frame requirement session of ATB crankset dimension X.

Note: FC-C810/C505/C530: Use super narrow HG 9-speed chain.  
FC-M521: Use 121AK with 1.8 mm spacer if no chain case used.

## ■ 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-UN26	MM110	LL113	YL117	-
					BB-UN26-K	-	-	-	*117.5

X: Yes

\* 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.

ARCHIVE

## Chain, Chainring 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		HG	
		Cassette sprocket	Crankset	Cassette sprocket	Crankset	Cassette sprocket	Crankset
FC/CS		CS-M970 NEW CS-M770 CS-M580 CS-HG70-9 CS-HG50-9	FC-M970 FC-M805 FC-M800 NEW FC-M770 NEW FC-M771-K FC-M600 FC-M601 NEW FC-M582 NEW FC-M583-K NEW FC-M543-K NEW FC-M542 NEW FC-M533-K NEW FC-M532 NEW FC-M521 FC-M443 FC-M442 FC-C600	CS-LG50	FC-C810 FC-C505 FC-C530	CS-HG40-8I CS-HG60-I CS-HG50-8I CS-HG50-I CS-HG30-I CS-HG30-8I	FC-M410 FC-M411 FC-M341 NEW FC-M311 FC-T300-S FC-T303 FC-TX70 FC-TX71 NEW FC-M191 NEW FC-M151
Chain	Mega-9 Super Narrow chain CN-7701 CN-HG93 CN-HG73 CN-HG53	Good	Good	Good	Good	Not good	Not good
	HG Chain CN-HG50 CN-HG40	Not good	Not good	Not good	Not good	Good	Good

## Recommendation of the Rim Tape Sizes for Shimano Wheels

Rim Sizes	Applicable Wheel Models	Recommended Rim Tape
622 X 15C	WH- NEW 850-C-CL / NEW 00-G/6600/5600/R580/R500/3N71-Road	18-622
571 X 15C	WH-R550-650C	18-571
622 X 19C	WH-S500 / NEW 500-V/8R25/T565/T560/3N71-NX/3N71-T	20-622
559 X 19C	WH-M565/M505	20-559
Road Tubeless	WH- NEW 850-SL	Never use rim tapes
MTB UST	WH-M975/M970 / NEW 776 / NEW 75 / NEW 0	Never use rim tapes

## 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-WH10/11	*** for WH-M565/M540/T565/T560						
	CP-WH12/13	*** for WH-M505						
	CP-WH14/15	*** for WH-M975/M970/ <sup>NEW</sup> 76/ <sup>NEW</sup> 5/ <sup>NEW</sup> M						
	CP-WH23	for WH- <sup>NEW</sup> 850-C50/ <sup>NEW</sup> 30-C-TU/ <sup>NEW</sup> 7 <sup>NEW</sup> C-CL/ <sup>NEW</sup> 850-SL/ <sup>NEW</sup> 520/ <sup>NEW</sup> 10/all models to use CP-WH20-A						
	CP-WH20-A	for WH- <sup>NEW</sup> 500-G/6600/5600/R601/R600/R580						
	CP-FH02/35	for WH-R500-A/R500						
for Center Lock Shimano Disc Brake Hub	CP-FH75*	for FH-M975/M801/M806						
	CP-FH76**	for FH-M801/M806						
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/WH13/WH15: for CS- <sup>NEW</sup>90 (11-32T/11-34T)  
 CP-WH10/WH12/WH14: for CS-M970 (11-32T/11-34T/12-34T)  
 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

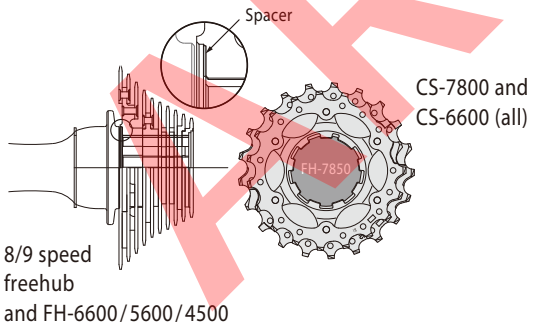
Cassette sprocket compatibility will differ depending on the freehub (FH) and wheel (WH) used.

Type	Model No.	Tooth	<small>NEW</small> WH-7850-C50 <small>NEW</small> WH-7850-C-TU <small>NEW</small> WH-7850-C-CL <small>NEW</small> WH-7850-SL <small>NEW</small> FH-7850	<small>NEW</small> WH-6600-G WH-6600 WH-R601	FH-6600 8/9-speed freehub	<small>NEW</small> WH-RS20 <small>NEW</small> WH-RS10	WH-5600	WH-R500
10-speed standard	CS-7800	11 - 21	X	X	X	X	X	X
		12 - 21	X	X	X	X	X	X
	CS-7800 CS-6600	11 - 23	X	X	X	X	X	X
		12 - 23	X	X	X	X	X	X
		12 - 25	X	X	X	X	X	X
	CS-5600	12 - 27	X	X	X	X	X	X
		11 - 23	X	X	X	X	X	X
		11 - 25	X	X	X	X	X	X
		12 - 25	X	X	X	X	X	X
12 - 27		X	X	X	X	X	X	
13 - 25		X	—	X	X	X	X	
10-speed JUNIOR	CS-6600	14 - 25	X	—	X	X	X	X
		15 - 25	X	—	X	X	X	X
		16 - 27	X	—	X	X	X	X
		11 - 25	X	—	X	X	X	X
9-speed	CS-HG50-9	12 - 23	X	—	X	X	X	X
		12 - 25	X	—	X	X	X	X
		13 - 25	X	—	X	X	X	X
		14 - 25	X	—	X	X	X	X
		11 - 25	X	—	X	X	X	X

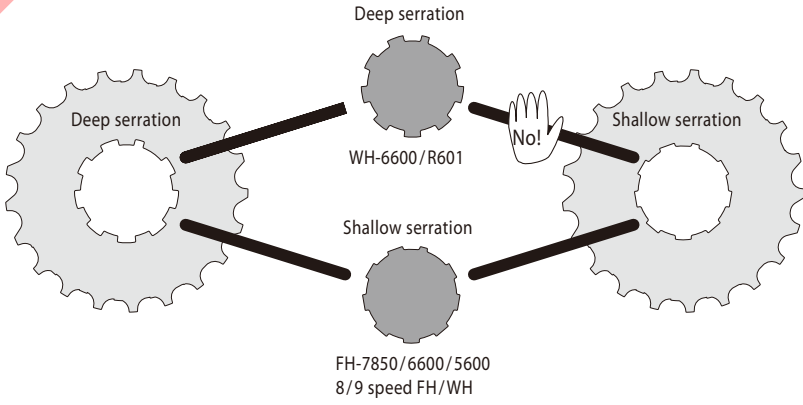
X = Yes    — = No

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

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-7850/6600.



CS-7800 (all)  
CS-6600 (Standard 11T and 12T top gear combinations)  
CS-5600 (all)



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	Rotor	PAD (option)	Hose	Remarks
XTR	BR-M975	International standard	ST-M975 BL-M975	SM-RT97L SM-RT97M SM-RT97 SM-RT97SS *3	M07Ti Resin (M06Ti Metal)	SM-BH59	—
	BR-M975P	Post mount					—
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-M775	*2	 ST-M775  BL-M775	 SM-RT78  SM-RT78M  SM-RT78L	A01S Resin	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
Deore LX	BR-M585	*2	ST-M585 BL-M585	SM-RT62 SM-RT62M SM-RT62L	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		M06 Metal (M07-S resin)		
Deore	BR-M535	*2	ST-M535 BL-M535	SM-RT62 SM-RT62M SM-RT62L	M07-S Resin (M06 Metal)	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
NEXAVE	BR-C901	International standard	BL-C901	SM-RT61	C01 Metal	SM-BH60 / 61	—
ALFINE	BR-S500	*2	BL-S500	SM-RT62	M07-S Resin	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
Non-series	 BR-M485	*2	 BL-M485	 SM-RT53  SM-RT53M  SM-RT53L  SM-RT51  SM-RT51M	B01S Resin	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard

### Rotor Specification

Series	Model No.	Outside Diameter	CENTERLOCK System	Oversized CENTERLOCK System	PCD 44 mm
XTR	SM-RT97L	203 mm	X	—	—
	SM-RT97M	180 mm	X	—	—
	SM-RT97	160 mm	X	—	—
	SM-RT97SS *3	140 mm	X	—	—
	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-  T78L/RT77L	203 mm	X	—	—
	SM-  T78M	180 mm	X	—	—
	SM-  T78/RT77	160 mm	X	—	—
	SM-RT75S	160 mm	—	—	X
	SM-RT75MA	180 mm	—	—	X
Deore LX HONE Deore	SM-RT62	160 mm	X	—	—
	SM-RT62M	180 mm	X	—	—
	SM-RT62L	203 mm	X	—	—
Deore/NEXAVE	SM-RT61	160 mm	—	—	X
ALIVIO	SM-RT53	160 mm	X	—	—
	 SM-RT53M	180 mm	X	—	—
	 SM-RT53L	203 mm	X	—	—
Non-series	 SM-RT51	160 mm	—	—	X
	 SM-RT51M	180 mm	—	—	X

\*3: Rear only

X: Yes

## Hose material & length

Series	Model No.	Compatible brake lever & caliper	Material	Hose length (mm)		
				for Front	for Rear	
SAINT	SM-BH63	BL-M800 BR-M800	Resin	900, 1300, 1700 mm		Cutable
XTR Deore LX HONE	SM-BH59	ST-M975/BR-M975 BL-M975 <b>NEW</b> ST-M775/BL-M775 <b>NEW</b> BR-M775 ST-M585/BR-M585 BL-M585 BR-M601 BL-M525 <b>NEW</b> BL-M485/BR-M485 BL-S500/BR-S500		1000, 1400, 1800 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	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-RT53 <b>NEW</b> SM-RT53M/RT53L <b>NEW</b> SM-RT51/RT51M For resin pad only	M08 Resin
	BR-M465	*			
	BR-M415	*			
	BR-M545	*			SM-RT62/RT62M/RT62L
	BR-R505	**	Road lever	SM-RT62	

\* Front mount: International standard/Post mount Rear mount: International standard

\*\* Front & 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
BR-M545	Good	Not good	Not good	Good
BR-M415	Good	Not good	Not good	Good

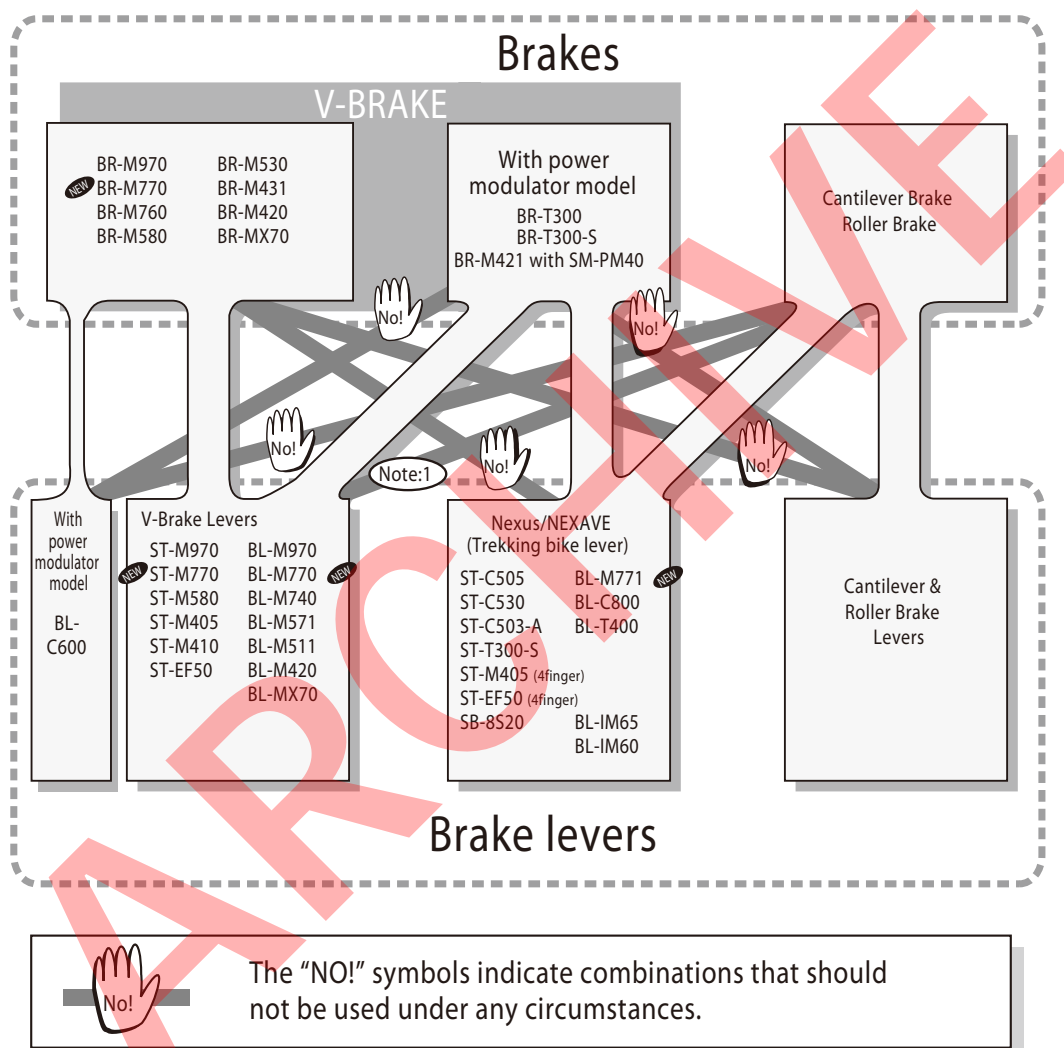
Model NO.	BL type
BR-R505	Road ST/BL-R770/BL-R550/ST-R221/ST-R225

# 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.



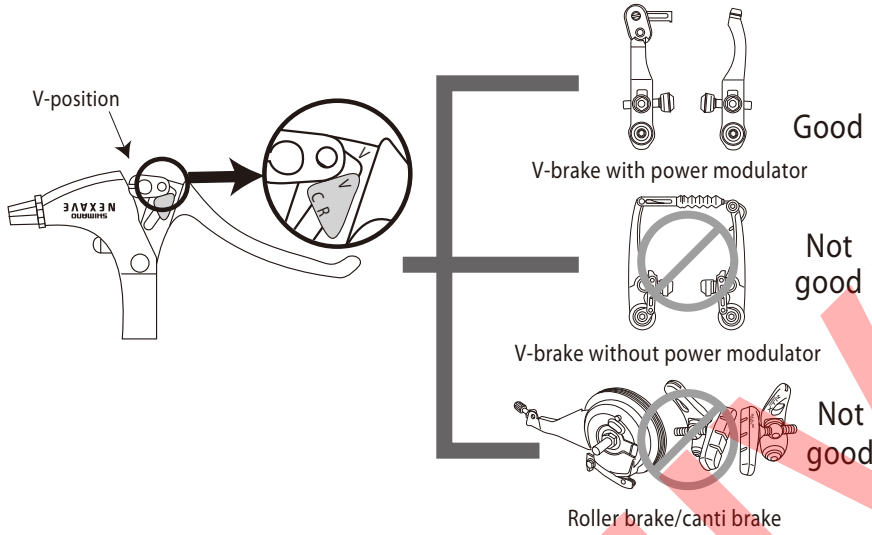
Note 1: This combination will not provide the sufficient amount of braking force.

**NEW** BL-M771 (3 finger) for V-Brake: Use with Power Modulator.

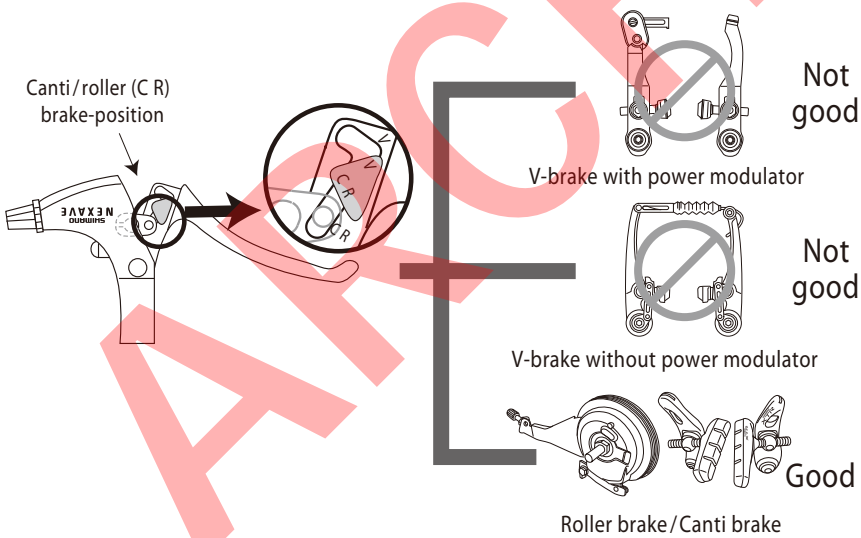
## Brake component interchangeability

Four finger brake levers such as 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.

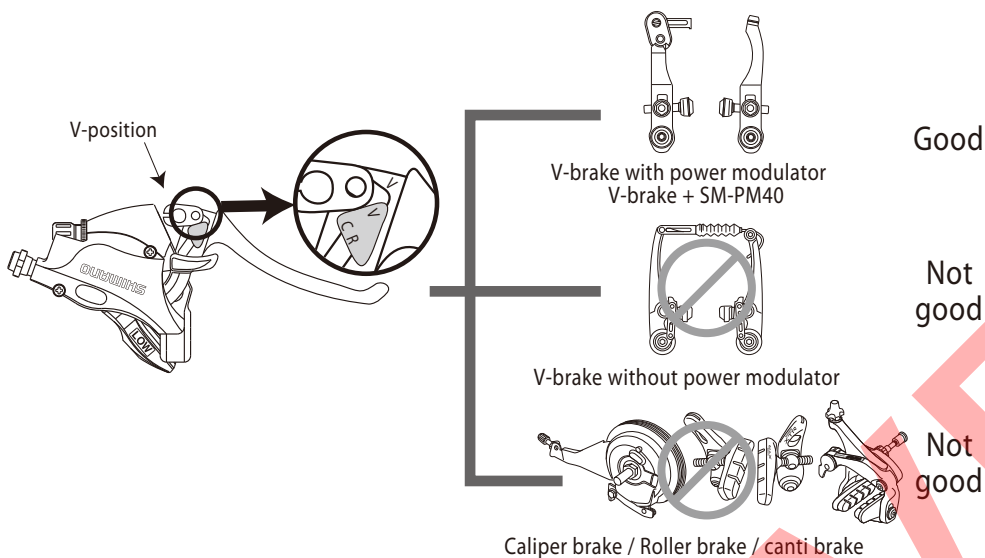


#### WARNING:

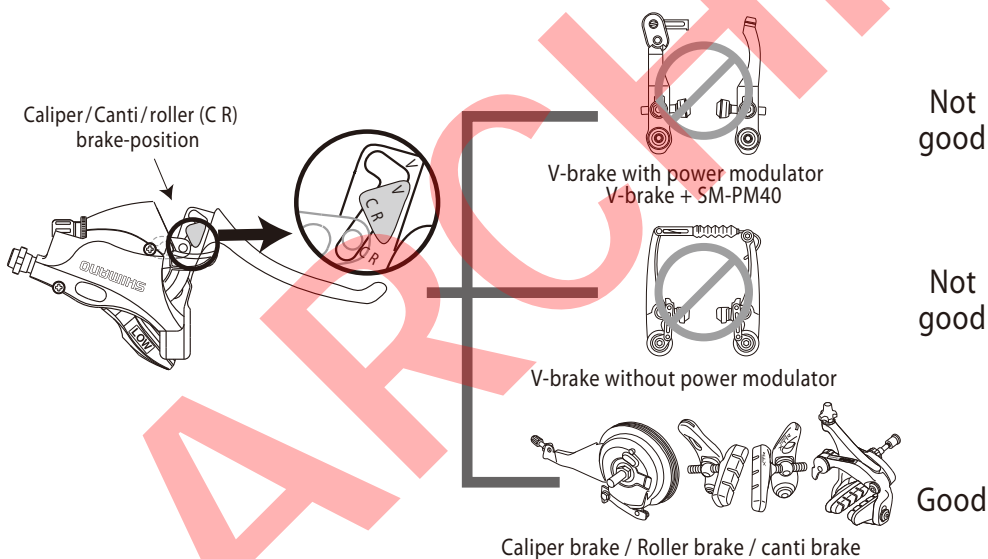
If the mode is not matched to the type of brake being used, this could result in inadequate or excessive braking power. Please proceed with caution when selecting the correct mode for the corresponding brake.

Four finger brake levers such as ST-R221/R225/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
HB-IM70	Hyper	QR	⊙	⊙	not good	not good
HB-IM40	Normal	NUT	○	○	⊙	⊙
HB-IM20-E	Normal	NUT	○	○	⊙	⊙

⊙: 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
HB-IM20-EC	20-24 inches	NUT	good			

### ■ 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
DH-3R30	Hyper	QR	⊙	⊙	not good	not good
		NUT	⊙	⊙	not good	not good
	Normal	QR	○	○	⊙	⊙
		NUT	○	○	⊙	⊙
DH-2R30-E	Hyper	NUT	⊙	⊙	not good	not good
	Normal	NUT	○	○	⊙	⊙

⊙: Recommended combination  
○: Usable

# 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)	M65T3	M65T4	S70C	S70C (Severe Condition shoe)	S70T	S65T
BR-M970	Standard	—	Option	—	—	—	—	—	—	—	—	—
BR-M960	Standard	—	Option	—	—	—	—	—	—	—	—	—
BR-M770	Standard	—	Option	Low noise	Option	—	—	—	Standard	—	—	—
BR-M580	—	—	—	Option	Option	—	—	—	Standard	—	—	—
BR-M530	—	—	—	Option	Option	—	—	—	—	—	Standard	—
BR-M431	Option	—	—	—	—	—	—	—	Standard	—	—	—
BR-M421	—	—	—	—	—	—	Option	Option	—	—	—	Standard
BR-MX70	—	—	—	Option	Option	—	—	—	—	Standard	—	—
BR-T300	—	—	—	Option	Option	—	—	—	—	—	Standard	—
BR-R550	—	Option	—	—	—	Option	—	—	—	Standard	—	—

BR-M431/M421: Neutral silver color option added.

### 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	Only for side wall machined rims. Performs especially well in wet conditions and may pass DIN standard. Tend to be low noise, low rim wear and fade.
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 (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 shoe (for road bikes)

### < Brake/Shoe line-up >

		R55C2	R55C for Carbon rim	R55C for Ceramic rim	M50T	R50T	R50T2
DURA-ACE	BR-7800	Standard	Option	Option	—	—	—
ULTEGRA	BR-6600 /  600G	Standard	Option	Option	—	—	—
105	BR-5600	Standard	Option	Option	—	—	—
TIAGRA	BR-4500	—	—	—	—	—	Standard
SORA	 BR-3400	—	—	—	—	—	Standard
	BR-3300/3300-A	—	—	—	Option	Standard	—
Non-series	 BR-R650	Standard	Option	Option	—	—	—
	BR-R560	Standard	—	—	—	—	—
	 BR-R450	—	—	—	—	—	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 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.
R50T2	—	—	50 mm	Performs well in dry conditions and tends to be low noise. Wears in rainy conditions. Toe-in adjust design.

X: Yes



# Brake pad

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

		A01S	B01S	M06Ti	M06	M07Ti	M07-S	M08	C01
Model NO.	type	Resin	Resin	Sintered Metal	Sintered Metal	Resin	Resin	Resin	Sintered Metal
BR-M975 BR-M975P	Hydraulic			option		Standard			
BR-M800	Hydraulic				Standard		option		
BR-M775	Hydraulic	Standard			option				
BR-M601	Hydraulic				Standard		option		
BR-M585	Hydraulic				option		Standard		
BR-M535	Hydraulic				option		Standard		
BR-S500	Hydraulic						Standard		
BR-M485	Hydraulic		Standard						
BR-M545	Mechanical				Standard				
BR-M415	Mechanical							Standard	
BR-M495	Mechanical							Standard	
BR-M465	Mechanical							Standard	
BR-C901	Hydraulic								Standard
BR-R505	Mechanical				Standard				

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

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

M06Ti: Longer pad-life, good for anti-fade, good constancy either dry/wet. May cause noise while braking titanium plate, light weight.

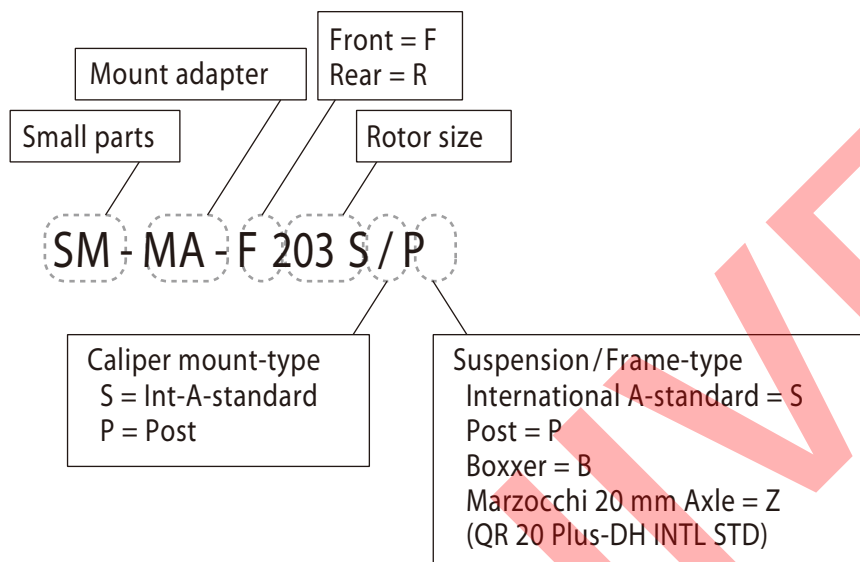
M07Ti: Longer pad-life on long descend titanium plate, light weight.

A01S/B01S: Same performance of metal pad. Longer pad-life on long descends.

# 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

## ■ BR-M975/M975P Disc brake mount adapter application table

Please note we have 3 kinds of Calipers and refer following chart for adapter combination.

	Mount type	Original specification without mount adapter
Caliper A	A-Standard	For Front 160 mm and for rear 140 mm Rotor use
Caliper B	A-Standard	For Rear 160 mm Rotor use

BR-M975P for Post mount use, We have only one kind.

< For front >

	Mount type	Model	Mount way	ROTOR		
				SM-RT97 ∅160 mm	SM-RT97M ∅180 mm	SM-RT97M ∅203 mm
CALIPER	A-Standard	BR-M975 Caliper A	for A-standara mount	Direct attachment	SM-MA-F180S/S	SM-MA-F203S/S
			for POST mount	————	SM-MA-F180S/P	SM-MA-F203S/P
	Post-Mount	BR-M975P	for A-standara mount	————	SM-MA-F180P/S	SM-MA-F203P/S
			for POST mount	Direct attachment	SM-MA-F180P/P	SM-MA-F203P/P

	Mount type	Caliper Model	Fork model	ROTOR		
				SM-RT97 ∅160 mm	SM-RT97M ∅180 mm	SM-RT97M ∅203 mm
CALIPER	A-Standard	BR-M975 Caliper A	Marzocchi 20 mm axle	————	————	SM-MA-F203S/Z
			Boxxer-type	————	————	SM-MA-F203S/B
	Post-Mount	BR-M975P	Marzocchi 20 mm axle	SM-MA-F160P/Z	————	SM-MA-F203P/Z
			Boxxer-type	————	————	SM-MA-F203P/B

< For rear >

	Mount type	Model	ROTOR			
			SM-RT97 ∅140 mm	SM-RT97 ∅160 mm	SM-RT97M ∅180 mm	SM-RT97M ∅203 mm
CALIPER	A-Standard	BR-M975 Caliper B	————	Direct attachment	SM-MA-R180S/S	SM-MA-R203S/S
	A-Standard	BR-M975 Caliper A	Direct attachment	————	————	————
	Post-Mount	BR-M975P	SM-MA-F160P/S	SM-MA-R160P/S	SM-MA-R180P/S	SM-MA-R203P/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-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-M775 BR-M601 BR-M585 BR-M535	∅ 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-M485	∅ 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

&lt; For rear &gt;

Model	Rotor diameter	A-standard
BR-M800	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S
NEW BR-M775 BR-M601 BR-M585 BR-M535	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S
	∅ 203	SM-MA-R203P/S
NEW BR-M485	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S
	∅ 203	SM-MA-R203P/S

## ■ Shimano mechanical disc brake mount adapter application table

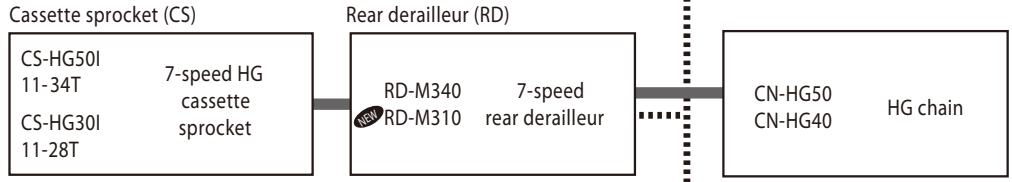
&lt; For front &gt;

Model	Rotor diameter	Mount-type			
		A-standard	MARZOCCHI 20mm Axle (QR 20 Plus-DH INTL STD)	BOXXER-type	POST-type
BR-M545	∅ 203	SM-MA-F203P/S	SM-MA-F203P/Z	SM-MA-F203P/B	SM-MA-F203P/P
BR-M465	∅ 180	SM-MA-F180P/S	—	—	SM-MA-F180P/P
BR-M415	∅ 160	SM-MA-F160P/S	SM-MA-F160P/Z	—	Direct attach
BR-R505	∅ 160	SM-MA-F160P/S	—	—	—

&lt; For rear &gt;

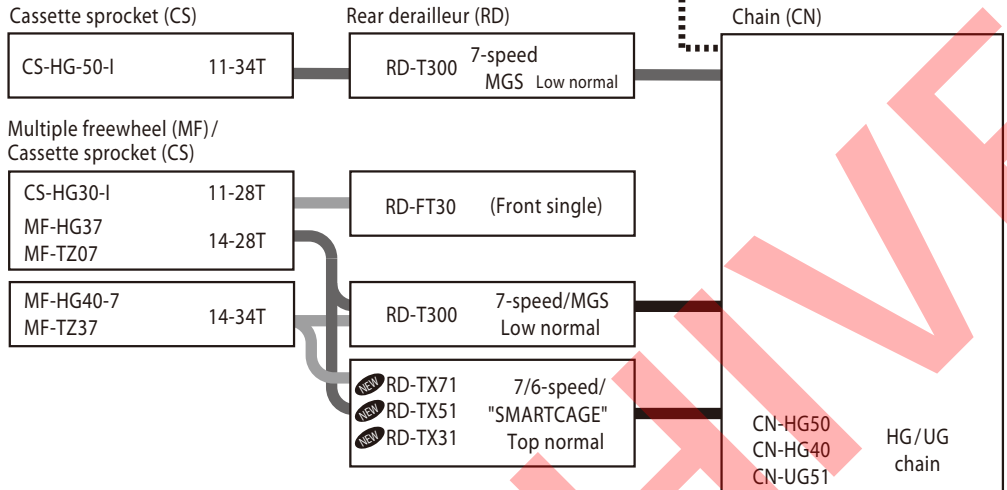
Model	Rotor diameter	A-standard
BR-M545	∅ 203	SM-MA-R203P/S
BR-M465	∅ 180	SM-MA-R180P/S
BR-M415	∅ 160	M475 Adapter ( R )
BR-R505	∅ 160	M475 Adapter ( R )

**7-speed HG**

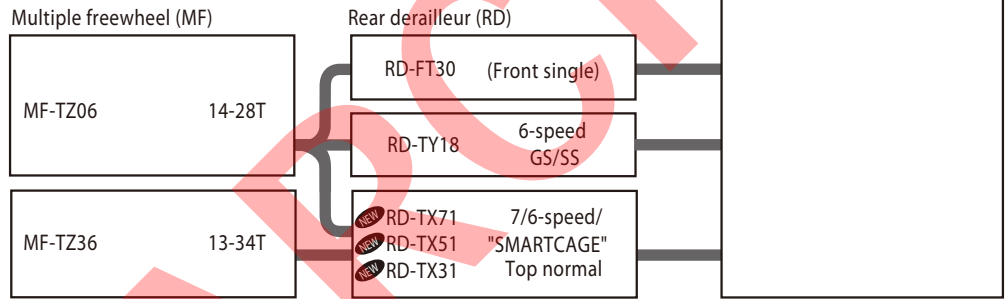


\* .....HG chain can only be used when using an HG compatible crankset

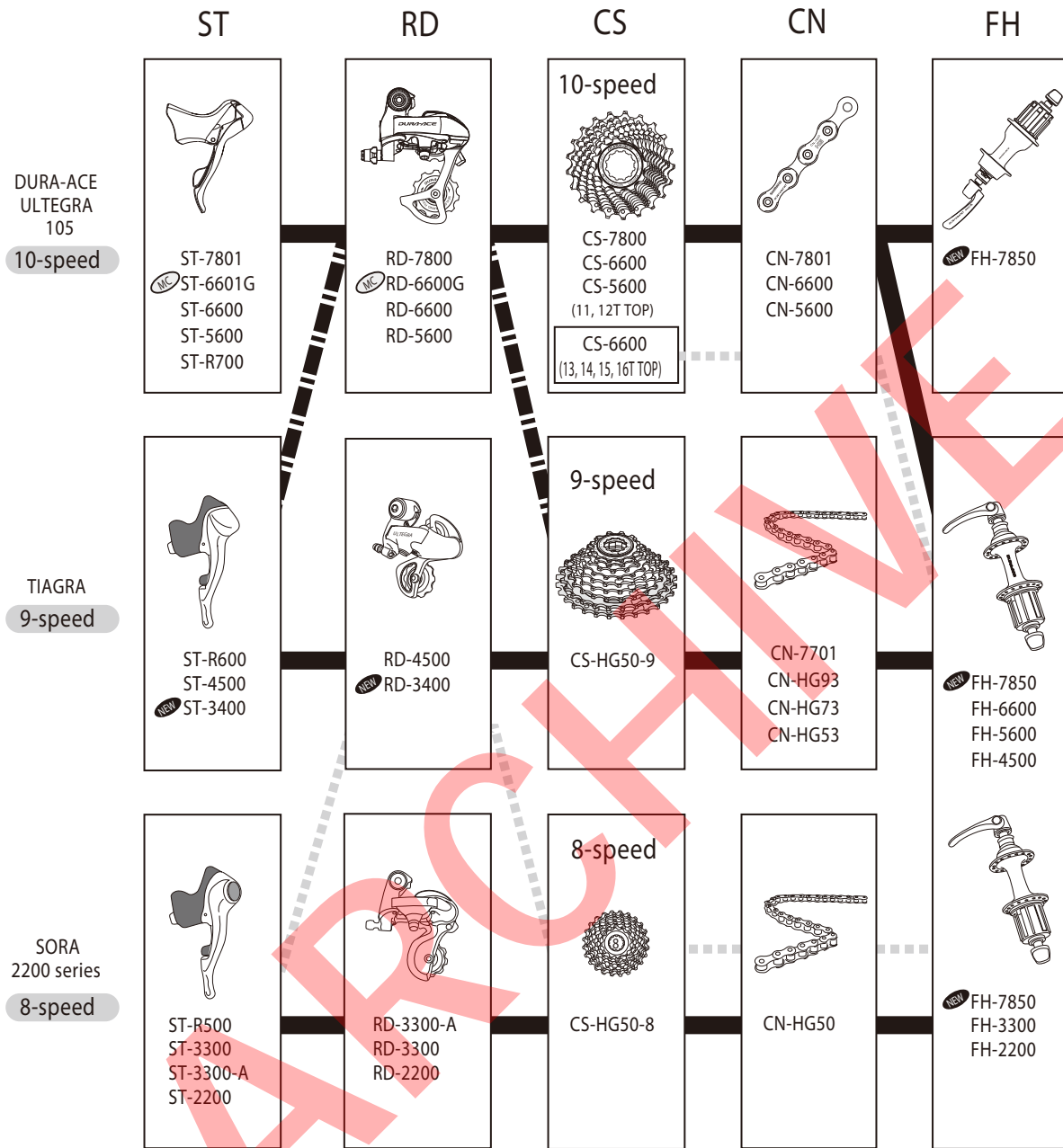
**7-speed HG/ZH**



**6-speed HG/ZH**



# Rear drivetrain for Road bike components



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

## Interchangeability for flat handlebar

### Rear system

	ST	RD	CS	CN	FH
DURA-ACE ULTEGRA 105 10-Speed	SL-R770	RD-7800 RD-6600G RD-6600 RD-5600	CS-7800 CS-6600 CS-5600	CN-7801 CN-6600 CN-5600	FH-7850
DURA-ACE ULTEGRA 105 TIAGRA 9-Speed	SL-R660 SL-R440	RD-7800 RD-6600G RD-6600 RD-5600 RD-4500 RD-3400	CS-7700 CS-6500 CS-HG70-9 CS-HG50-9	CN-HG93 CN-HG73 CN-HG53	FH-7850 FH-6600 FH-5600 FH-4500 FH-3300 FH-2200 FH-R505
SORA 2200 8-Speed	SL-R440-8 ST-R221	RD-3300-A RD-3300 RD-2200	CS-HG50-8	CN-HG50 CN-HG40	

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

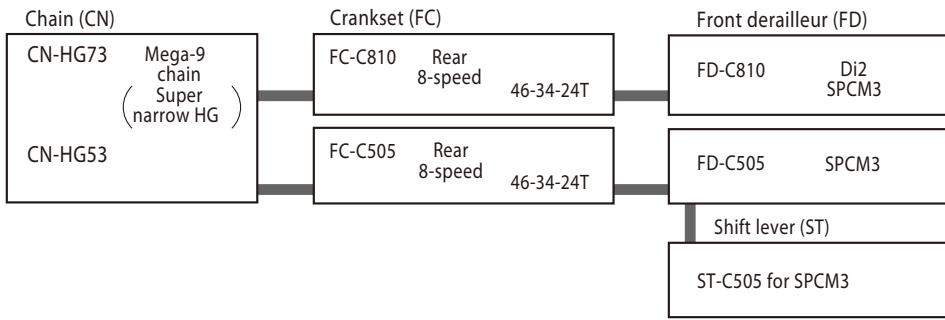
Note: FH-R505 O.L.D. 135 mm for disc brake frame.

### Front system

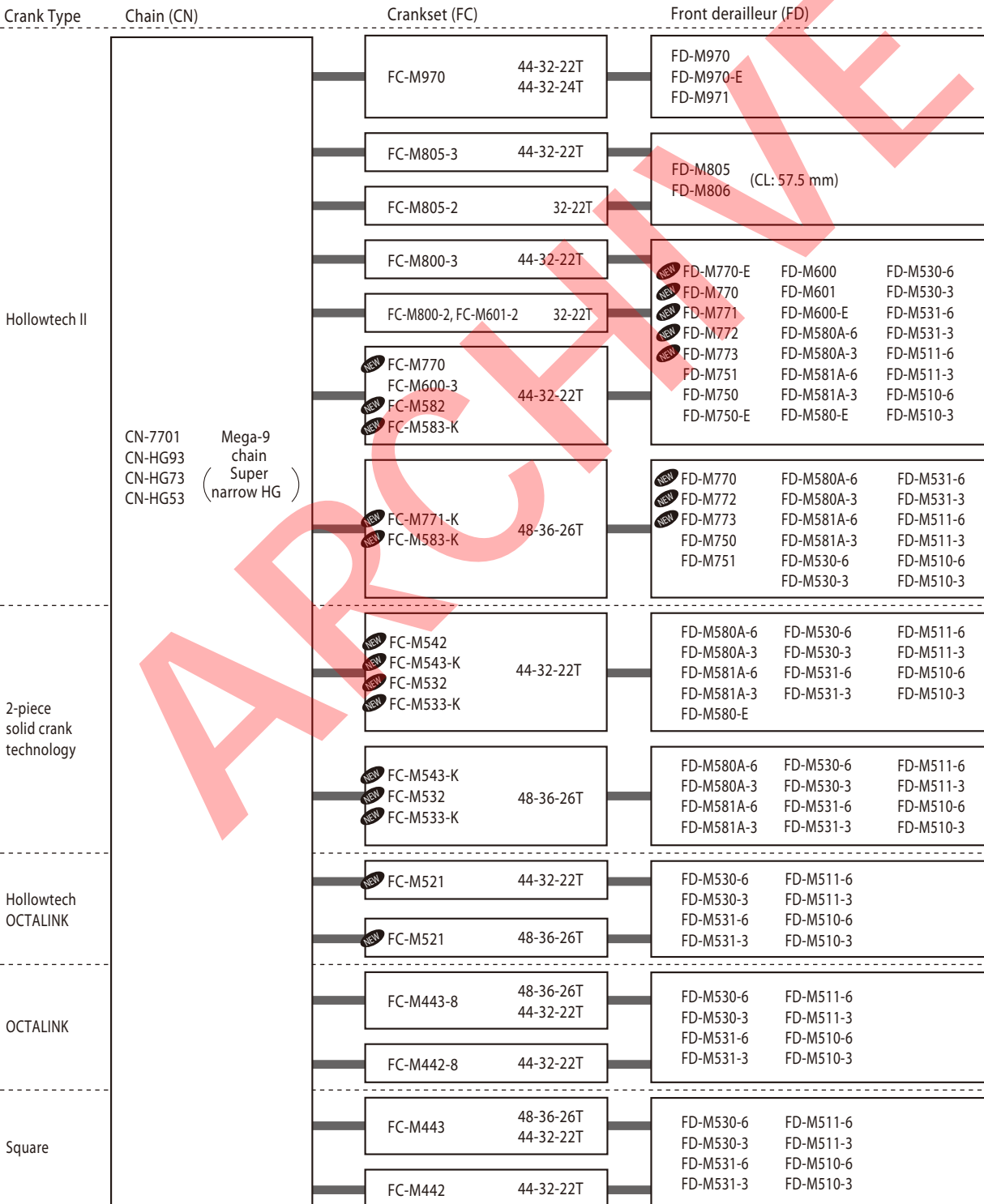
	ST	FD	FC	BB	CN	
DURA-ACE ULTEGRA 105 10-Speed	SL-R770	FD-R770	FC-7800 FC-6601G FC-6650 FC-6650G FC-6600	FC-5650 FC-5600 FC-R700 FC-R600 FC-R550	SM-FC7800 SM-FC6601 SM-FC6600 SM-FC5600 SM-FC4500	CN-7801 CN-6600 CN-5600
DURA-ACE ULTEGRA 105 TIAGRA SORA 9-Speed	SL-R660 SL-R441	FD-R773-2	FC-7803 FC-6604G FC-6603		SM-FC7800 SM-FC6601 SM-FC6600	CN-HG93 CN-HG73 CN-HG53
		FD-R773-0	FC-5603		SM-FC5600	
		FD-R440	FC-R450 FC-4500 FC-4550 FC-3450	BB-ES25	SM-FC4500	
SORA 2200 8-Speed	SL-R660 SL-R441	FD-R453	FC-R453		BB-ES25	CN-HG50
		FD-R453	FC-4503 FC-3403		SM-FC4500	
		FD-R443 for 52-42-30T	FCW (52-42-30T)			
SORA 2200 8-Speed	SL-R441 ST-R221 ST-R225	FD-R440A	FC-3301/3301-A		BB-ES25	CN-HG50
		FD-R443A	FC-2200		BB-UN26	
		FD-R443A	FC-3304-A		BB-ES25	
SORA 2200 8-Speed	SL-R441 ST-R221 ST-R225	FD-R443A	FC-2203		BB-UN26	CN-HG50
		FD-R443A				

# Front drivetrain interchangeability (MTB front SIS)

## SPCM (TRIPLE)



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



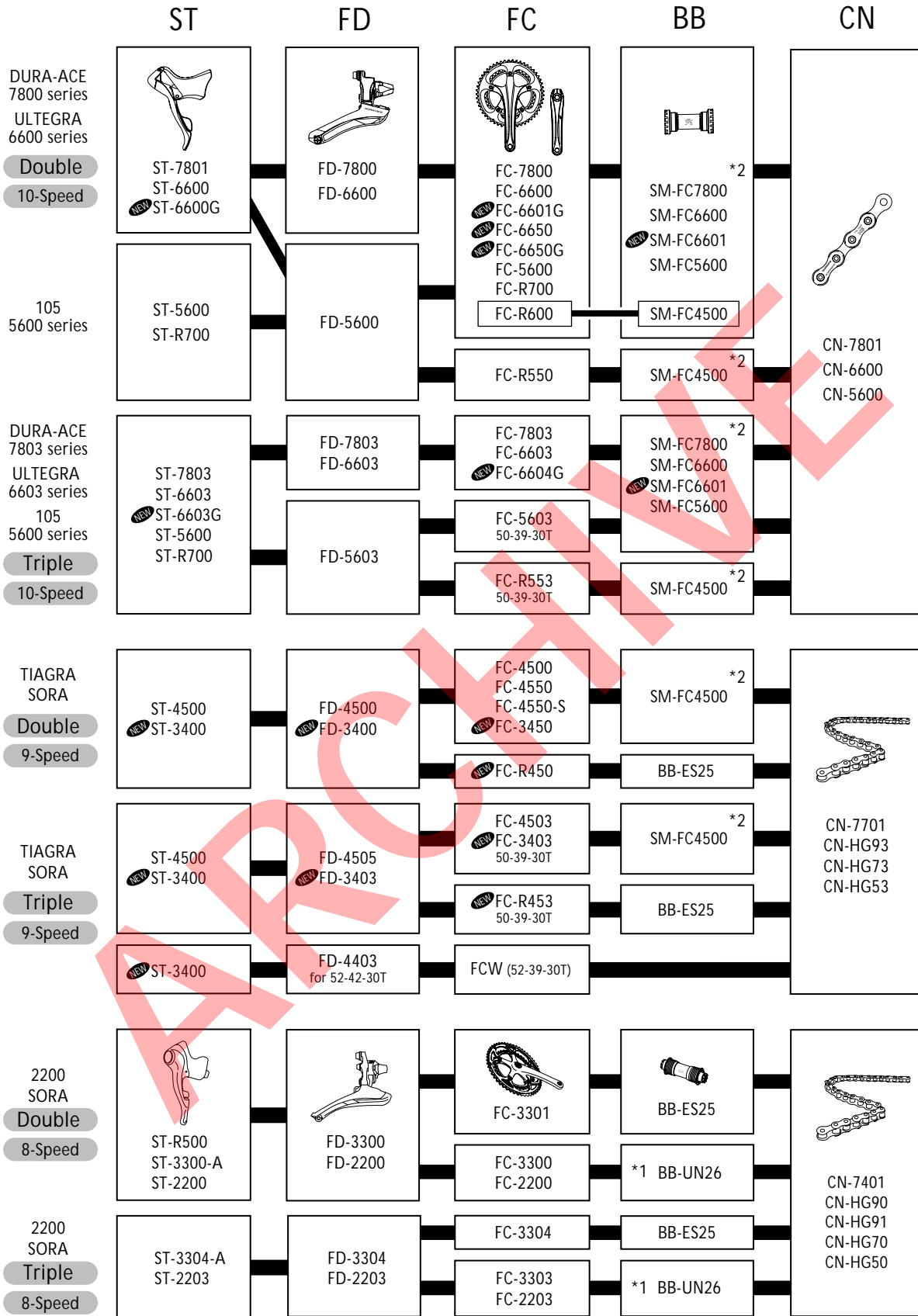


HG triple (8/7/6-speed)

Crank Type	Chain (CN)	Crankset (FC)	Front derailleur (FD)	
Square	CN-HG50 CN-HG40 HG chain	FC-T300-S Rear 8/7-speed 42-34-24T	FD-T300	
		FC-T303 Rear 8/7-speed 48-38-28T	FD-T301	
OCTALINK		FC-M410-8 Rear 8/7-speed 42-32-22T	NEW FD-M413-6 NEW FD-M311-6 NEW FD-M413-3 NEW FD-M311-3 NEW FD-M412-6 NEW FD-M310-6 NEW FD-M412-3 NEW FD-M310-3 FD-M410-E	
		Square	FC-M411 Rear 8/7-speed 48-38-28T	NEW FD-M413-6 NEW FD-M311-6 NEW FD-M413-3 NEW FD-M311-3 NEW FD-M412-6 NEW FD-M310-6 NEW FD-M412-3 NEW FD-M310-3
FC-M411 FC-M410 Rear 8/7-speed 42-32-22T			NEW FD-M311-6 FD-T301 NEW FD-M311-3 NEW FD-M310-6 NEW FD-M310-3	
FC-M191 Rear 8/7-speed 48-36-28T			NEW FD-M311-6 FD-T300 NEW FD-M311-3 NEW FD-M310-6 NEW FD-M310-3	
FC-M151 Rear 8/7-speed 42-34-24T			NEW FD-M311-6 FD-T301 NEW FD-M311-3 NEW FD-M310-6 NEW FD-M310-3	
Square		CN-UG51 UG chain	FC-TX71 Rear 8/7-speed 48-38-28T	FD-C102
			FC-M191 Rear 7/6-speed 48-36-28T	FD-C051 FD-TZ31 FD-TY10
			FC-M151 Rear 7/6-speed 42-34-24T	FD-C050 FD-TZ30 FD-TY10
	FC-TX71 Rear 7/6-speed 48-38-28T		FD-C051	
FC-TX70 Rear 7/6-speed 42-34-24T	FD-C050 FD-TZ30 FD-TY10			
FC-TX71 Rear 7/6-speed 48-38-28T	FD-C051			

\* 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)



\*Note 1: Axle length is different

\*Note 2: Adapters are shipped with FC. Refer spec. handbook. Dura-Ace FC/BB: ships in separate carton.

## 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.

$$FC \text{ (top gear)} - (\text{low gear}) = < FD \text{ (top and low capacity)}$$

$$FC \text{ (top gear)} - (\text{middle gear}) \geq FD \quad (\text{minimum difference in teeth number between top and middle})$$

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)		NEW FD-M412-6 NEW FD-M412-3 NEW FD-M413-6 NEW FD-M413-3	NEW FD-M310-6 NEW FD-M310-3 NEW FD-M311-6 NEW FD-M311-3	FD-T301 FD-C102 8/7S	FD-T300 FD-T300-E FD-C101-E 8/7S
		FD-M970 FD-M970-E FD-M971 FD-M771 NEW FD-M770-E FD-M600 FD-M601 FD-M600-E FD-M580-E	FD-M805 FD-M806	NEW FD-M770 NEW FD-M772 NEW FD-M773 FD-M580A-6 FD-M580A-3 FD-M581A-6 FD-M581A-3	FD-M530-3 FD-M530-6 FD-M531-3 FD-M531-6	FD-M750-E FD-M570-E	FD-M750 FD-M751 FD-M510-3 FD-M510-6 FD-M511-3 FD-M511-6	FD-C810 FD-C505	8/7S	8/7S	FD-TZ31 FD-C051 7/6S	FD-C050 FD-TY10 FD-TZ30 FD-TY10 7/6S
Top gear teeth number	44T	44-32-22 32-22T	44/48T	44/46T	44/48T	SPCM (46/34/24T)	42/48T	42/48T	48T	42T		
Top-Middle min. teeth difference	12T		12T	12T	12T		10T	10T	10T	8T		
Capacity	22T	22T	22T	22T	22T	20T	20T	20T	18T			

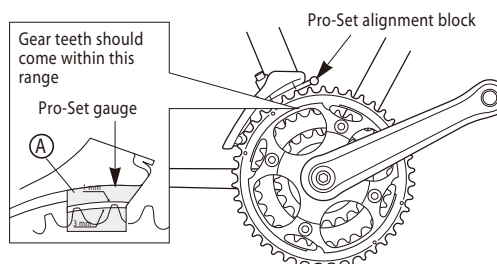
### Crankset specifications

	For Super Narrow chain						For HG Chain			
		FC-M970 (44-32-24) *option FC-M805-3 FC-M800-3 NEW FC-M770 FC-M600-3 NEW FC-M582 NEW FC-M583-K NEW FC-M543-K NEW FC-M542 NEW FC-M533-K NEW FC-M532 NEW FC-M521 FC-M443 FC-M443-8 FC-M442 FC-M442-8	NEW FC-M771-K NEW FC-M583-K NEW FC-M543-K NEW FC-M533-K NEW FC-M532 NEW FC-M521 FC-M443 FC-M443-8	FC-C810 FC-C505	FC-C600	FC-M805-2 FC-M800-2 FC-M601-2	FC-M805-1 FC-M800-1	FC-C530	FC-M411 FC-M410 FC-M410-8 FC-M341-8 FC-M341 NEW FC-M311 NEW FC-M311-8	NEW FC-M191 NEW FC-M151 FC-T300-S FC-TX70 NEW FC-M191 NEW FC-M151 FC-T303 FC-TX71
Top gear	44T	48T	SPCM 46/34/24T	SPCM 46/34T	Bash Guard	34/38/42/46	38/33T	42T	42T	48T
Middle gear	32T	36T		(-)	32T	(-)	(-)	32T	34T	38T
Low gear	22T	26T	(-)	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-M970 FD-M971	50 mm		
	FD-M970-E	50 mm		
SAINT	FD-M805, FD-M806	57.5 mm (shell width of 83 mm)		
DEORE XT	FD-M750/M751 FD-M750-E	47.5/50 mm		
	FD-M770/ FD-M771 FD-M772/ FD-M773 FD-M770-E	47.5/50 mm		
DEORE LX	FD-M580A-6/M580A-3 FD-M581A-6/M581A-3 FD-M580-E	50 mm		
HONE	FD-M600, FD-M600-E FD-M601	50 mm		
DEORE	FD-M530-6/M530-3 FD-M531-6/M531-3	50 mm		
ALIVIO	FD-M411-6/M411-3 FD-M410-6/M410-3/M410-E	50 mm		
DEORE	FD-M511/M510	50 mm		
ALIVIO	FD-M413-6/ FD-M413-3 FD-M412-6/ FD-M412-3	47.5/50 mm		
	FD-M311-6/ FD-M311-3 FD-M310-6/ FD-M310-3	For the E-type (BB mounting front derailleur): 47.5 mm (shell width of 68 mm) 50 mm (shell width of 73 mm)		
Non-Series	FD-MC21	50 mm		
ACERA	FD-M330	47.5/50 mm		the chainstay angle should be between 66 and 69
	FD-M330-E	For the E-type (BB mounting front derailleur): 47.5 mm (shell width of 68 mm) 50 mm (shell width of 73 mm)		
NEXAVE	FD-C600	52.5 mm (shell width of 68 mm)		
	FD-C810, FD-C505	50 mm (shell width of 68 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)
FD-TY22GS	47.5/50 mm			
FD-TY22SS	43.5/45 mm (down pull only)	_____		
FD-TY15GS	47.5/50 mm (down pull only)			
FD-TY15SS	43.5/45 mm (down pull only)			
FD-TY10	47.5/50 mm			
FD-TZ30 FD-TZ31	47.5/50 mm			

## 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

Speed	Series	Crankset				Bottom Bracket	Chainline & Axle mark								
		Model NO.	Type of Crank				Model NO.	47.5mm	50.0mm	52.5mm	47.5+tmm				
			Spline	Square	Chaincase										
9	XTR	FC-M970	X			include	Chainline: 50 mm								
	SAINT	FC-M805-1 FC-M805-2 FC-M805-3	X			include	Chainline: 57.5 mm FC-M805-1 65 mm/57.5 mm *1								
		FC-M800-1 FC-M800-2 FC-M800-3	X			include	Chainline: 50 mm FC-M800-1 57.5 mm/50 mm *1								
	Deore XT	FC-M770	X			include	Chainline: 50 mm								
		FC-M771-K	X		X**										
	Deore LX	FC-M582	X			include									
		FC-M583	X		X**	include									
	HONE	FC-M601-2 FC-M600	X			include									
	Deore	FC-M532	X			include									
		FC-M533-K	X		X**										
	Non-Series	FC-M542	X			include									
		FC-M543-K	X		X										
		FC-M521	X		X**						BB-ES25-AK	—	121AK	—	—
		FC-M443-8	X		X						BB-ES25(-K)	121	126	—	121K
		FC-M443		X	X						BB-UN26(-K)	117.5	LL123(-K)	—	117.5K
		FC-M442-8	X								BB-ES25(-E)	113	118(-E)	—	—
	8	NEXAVE	FC-C600		X	X					BB-UN26-K	—	—	117.5	—
			FC-C810		X	X**					BB-UN26	—	130	—	—
FC-C505				X	X**	—						130	—	—	
FC-C530				X	X	BB-UN26-K					***	***	***	***	
FC-T300-S				X	X	BB-UN26(-E)					YL117	ZL122	—	—	
FC-T303			X	X	—		—								
8/7		Alivio	FC-M411 (48T)		X	X**	BB-UN26(-K)	—	LL123(-K)	—	—				
			FC-M410-8	X			BB-ES25(-E)	—	118(-E)	—	—				
			FC-M411		X	X**	BB-UN26(-K)	—	LL123(-K)	—	—				
		FC-M410		X		BB-UN26(-E)	—	LL113(-E)	—	—					
	Non-Series	FC-M341 (48T)		X	X**	BB-UN26(-K)	—	LL123(-K)	—	—					
FC-M341-8 (42T)		X		X	BB-ES25(-E)	—	126	—	—						
8/7/6	Non-Series	FC-M341 (42T)		X	X**	BB-UN26(-K)	—	LL123(-K)	—	—					
		FC-M311-42T		X	X**	BB-UN26(-K)	—	LL123(-K)	—	—					
		FC-M311-48T		X	X**	BB-UN26(-K)	—	LL123(-K)	—	—					
	FC-M311-8	X		X**	BB-ES25	—	126	—	—						
	FC-M191		X	X	BB-UN26(-K)	D-NL(122.5)	—	—	D-NL(122.5)						
	FC-M151		X	X	BB-UN26(-K)	D-NL(122.5)	—	—	D-NL(122.5)						
Tourney	FC-TX70/TX71		X	X	BB-UN26(-K)	D-NL(122.5)	—	—	D-NL(122.5)						

Note: If using a chain case, select a BB- bottom bracket.  
If using an E-type front derailleurs, select a BB- bottom bracket.

X: Yes

- \* without chaincase stay
- \*\* Chain case stay thickness should be 1.5 mm to 2.1 mm.
- \*\*\* YL117: Chainline 44+t D-NL: Chainline 47+t  
117.5: Chainline 46+t D-EL: Chainline 49.5+t

\*1: Refer frame requirement session of ATB crankset dimension X.

Note: FC-C810/C505/C530: Use super narrow HG 9-speed chain.  
FC-M521: Use 121AK with 1.8 mm spacer if no chain case used.

## ■ 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-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

ARCHIVE

## 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		HG	
		Cassette sprocket	Crankset	Cassette sprocket	Crankset	Cassette sprocket	Crankset
FC/CS		CS-M970	FC-M970 FC-M805 FC-M800	CS-LG50	FC-C810 FC-C505 FC-C530	CS-HG40-8I	FC-M410
		<b>NEW</b> CS-M770	<b>NEW</b> FC-M770 <b>NEW</b> FC-M771-K			CS-HG60-I	FC-M411
		CS-M580	FC-M600 FC-M601			CS-HG50-8I	FC-M341
		CS-HG70-9	FC-M582			CS-HG50-I	<b>NEW</b> FC-M311
		CS-HG50-9	<b>NEW</b> FC-M583-K <b>NEW</b> FC-M543-K <b>NEW</b> FC-M542 <b>NEW</b> FC-M533-K <b>NEW</b> FC-M532 <b>NEW</b> FC-M521 FC-M443 FC-M442 FC-C600			CS-HG30-I	FC-T300-S FC-T303
						CS-HG30-8I	FC-TX70 FC-TX71 <b>NEW</b> FC-M191 <b>NEW</b> FC-M151
Chain	Mega-9 Super Narrow chain CN-7701 CN-HG93 CN-HG73 CN-HG53	Good	Good	Good	Good	Not good	Not good
	HG Chain CN-HG50 CN-HG40	Not good	Not good	Not good	Not good	Good	Good

## Recommendation of the Rim Tape Sizes for Shimano Wheels

Rim Sizes	Applicable Wheel Models	Recommended Rim Tape Size
622 X 13C	WH-7701/7700/6500/R540/R535	16-622
622 X 15C	WH- <b>NEW</b> 7850-C24-CL/7801/7800/ <b>NEW</b> 6600-G/6600/5600/R580 R561/R560/R550/R500/3N71-Road/ <b>NEW</b> RS20/ <b>NEW</b> RS10	18-622
571 X 15C	WH-R550-650C	18-571
622 X 19C	WH-S500/ <b>NEW</b> S500-V/8R25/T565/T560/3N71-NX/3N71-T	20-622
559 X 19C	WH-M565/M505	20-559
559 X 18C	WH-M959/M575/M540/M535	20-559
Road Tubeless	WH- <b>NEW</b> 7850-SL/7801-SL	Never use rim tapes
MTB UST	WH-M975/M970/M965/ <b>NEW</b> M776/ <b>NEW</b> M775/ <b>NEW</b> M770/M765	Never use rim tapes

# 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.

Speed	Model No.	Spider type		Low gear number											Righth hand flange (mm)	Spoke hole number				
		Standard or light alloy carrier	Light alloy carrier or long rivet pin rose out of low gear	21	23	24	25	26	27	28	30	32	34	24		28	32	36		
	Road gear	X															CP-FH06	CP-FH08	CP-FH05	CP-FH06
		X															CP-FH06	CP-FH08	CP-FH05	CP-FH06
		X															CP-FH31	CP-FH08	CP-FH35	CP-FH31
9	CS-M970 CS-M580 CS-HG50-9	X														-	CP-WH12	CP-FH56	CP-FH53	
	CS-M770		X													-	CP-WH13	CP-32H2	CP-36H2	
8	CS-HG60-8I	X														-	CP-WH12	CP-FH56	CP-FH53	
	CS-HG50-8I CS-HG30-8I	X														-	CP-FH40	CP-FH35	CP-FH31	
	CS-HG40-8I	X														-	CP-WH12	CP-FH56	CP-FH53	
		X														-	CP-FH40	CP-FH35	CP-FH31	
7	CS-HG50-I	X														-	CP-WH12	CP-FH56	CP-FH53	
	CS-HG30-I	X														-	CP-FH40	CP-FH35	CP-FH50	
	MF-HG40-7	X														-	CP-WH12	CP-FH56	CP-FH53	
	MF-HG37	X														-	-	-	CP-HG22	
	MF-TZ37	X														-	-	-	CP-R750	
	MF-TZ07	X														-	-	-	CP-HG22	
6	MF-ZH06	X														-	-	-	CP-R750	
	MF-TZ06	X														-	-	-	CP-HG22	
9	CS-M970 CS-M580 CS-HG50-9	X														CP-FH76	-	CP-FH76	CP-FH76	
	CS-M770		X													CP-FH75	-	CP-FH75	CP-FH75	
		CS-HG60-8I	X													CP-FH76	-	CP-FH76	CP-FH76	
8	CS-HG50-8I CS-HG30-8I	X													-	-	-	-		
		X													CP-FH76	-	CP-FH76	CP-FH76		
	CS-HG40-8I	X													-	-	-	-		
		X													CP-FH76	-	CP-FH76	CP-FH76		
7	CS-HG50-I	X													CP-FH76	-	CP-FH76	CP-FH76		
	CS-HG30-I	X													CP-FH76	-	CP-FH76	CP-FH76		

For Shimano Wheel	CP-WH71	for WH-7701-carbon/7701/R540
	CP-WH10/11	* for WH-M965/M765/M565/M540/T565/T560
	CP-WH12/13	* for WH-M505
	CP-WH14/15	* for WH-M975/M970/ <sup>NEW</sup> M776/ <sup>NEW</sup> M775/ <sup>NEW</sup> M770
	CP-WH23	for WH- <sup>NEW</sup> 7850-C50-TU/ <sup>NEW</sup> 7850-C24-TU/ <sup>NEW</sup> 7850-C24-CL/ <sup>NEW</sup> 7850-SL/ <sup>NEW</sup> RS20/ <sup>NEW</sup> RS10
	CP-WH20-A	for WH-7801-carbon50/7801-carbon/7801-SL/7801/7800/ <sup>NEW</sup> 6600-G/6600/5600/R601/R600/R580/R561/R560/R550
CP-FH02/35	for WH-R500-A/R500	

\* Compatible cassette sprocket  
 CP-WH11/WH13/WH15: for CS-M750/M760/M960 (11-32T)  
<sup>NEW</sup>CS-M770 (11-32T/11-34T)  
 CP-WH10/WH12/WH14: for CS-M970 (11-32T/11-34T/12-34T)  
 CS-M750/M760/M960 (12-34T/11-34T)  
 CS-M953 (12-34T)  
 CS-HG70-9 (11-32T/11-34T)  
 CS-HG50-9 (11-32T)

## 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

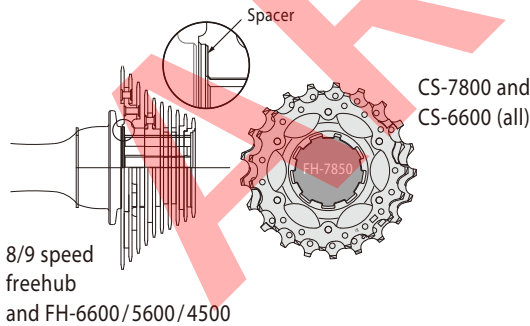
Cassette sprocket compatibility will differ depending on the freehub (FH) and wheel (WH) used.

Type	Model No.	Tooth	<small>NEW</small> WH-7850-C50 <small>NEW</small> WH-7850-C-TU <small>NEW</small> WH-7850-C-CL <small>NEW</small> WH-7850-SL <small>NEW</small> FH-7850	<small>NEW</small> WH-6600-G WH-6600 WH-R601	FH-6600 8/9-speed freehub	<small>NEW</small> WH-RS20 <small>NEW</small> WH-RS10	WH-5600	WH-R500
10-speed standard	CS-7800	11 - 21	X	X	X	X	X	X
		12 - 21	X	X	X	X	X	X
	CS-7800 CS-6600	11 - 23	X	X	X	X	X	X
		12 - 23	X	X	X	X	X	X
		12 - 25	X	X	X	X	X	X
	CS-5600	12 - 27	X	X	X	X	X	X
		11 - 23	X	X	X	X	X	X
		11 - 25	X	X	X	X	X	X
		12 - 25	X	X	X	X	X	X
12 - 27		X	X	X	X	X	X	
10-speed JUNIOR		CS-6600	13 - 25	X	—	X	X	X
14 - 25	X		—	X	X	X		
15 - 25	X		—	X	X	X		
16 - 27	X		—	X	X	X		
9-speed	CS-HG50-9	11 - 25	X	—	X	X	X	X
		12 - 23	X	—	X	X	X	X
		12 - 25	X	—	X	X	X	X
		13 - 25	X	—	X	X	X	X
		14 - 25	X	—	X	X	X	X

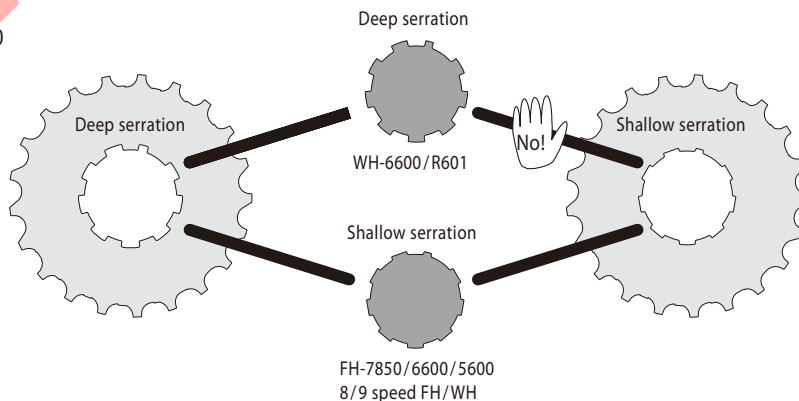
X = Yes    — = No

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

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-7850/6600.



CS-7800 (all)  
CS-6600 (Standard 11T and 12T top gear combinations)  
CS-5600 (all)



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	Rotor	PAD (option)	Hose	Remarks
XTR	BR-M975	International standard	ST-M975 BL-M975	SM-RT97L SM-RT97M SM-RT97 SM-RT97SS *3	M07Ti Resin (M06Ti Metal)	SM-BH59	—
	BR-M975P	Post mount					—
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-M775	*2	 ST-M775  BL-M775	 SM-RT78  SM-RT78M  SM-RT78L	A01S Resin	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
Deore LX	BR-M585	*2	ST-M585 BL-M585	SM-RT62 SM-RT62M SM-RT62L	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		M06 Metal (M07-S resin)		
Deore	BR-M535	*2	ST-M535 BL-M535	SM-RT62 SM-RT62M SM-RT62L	M07-S Resin (M06 Metal)	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
NEXAVE	BR-C901	International standard	BL-C901	SM-RT61	C01 Metal	SM-BH60 / 61	—
ALFINE	BR-S500	*2	BL-S500	SM-RT62	M07-S Resin	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard
Non-series	 BR-M485	*2	 BL-M485	 SM-RT53  SM-RT53M  SM-RT53L  SM-RT51  SM-RT51M	B01S Resin	SM-BH59	*2 Front mount: International standard / Post mount Rear mount: International standard

### Rotor Specification

Series	Model No.	Outside Diameter	CENTERLOCK System	Oversized CENTERLOCK System	PCD 44 mm
XTR	SM-RT97L	203 mm	X	—	—
	SM-RT97M	180 mm	X	—	—
	SM-RT97	160 mm	X	—	—
	SM-RT97SS *3	140 mm	X	—	—
	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-  T78L/RT77L	203 mm	X	—	—
	SM-  T78M	180 mm	X	—	—
	SM-  T78/RT77	160 mm	X	—	—
	SM-RT75S	160 mm	—	—	X
	SM-RT75MA	180 mm	—	—	X
Deore LX HONE Deore	SM-RT62	160 mm	X	—	—
	SM-RT62M	180 mm	X	—	—
	SM-RT62L	203 mm	X	—	—
Deore/NEXAVE	SM-RT61	160 mm	—	—	X
ALIVIO	SM-RT53	160 mm	X	—	—
	 SM-RT53M	180 mm	X	—	—
	 SM-RT53L	203 mm	X	—	—
Non-series	 SM-RT51	160 mm	—	—	X
	 SM-RT51M	180 mm	—	—	X

\*3: Rear only

X: Yes

## ■ Hose material & length

Series	Model No.	Compatible brake lever & caliper	Material	Hose length (mm)		
				for Front	for Rear	
SAINT	SM-BH63	BL-M800 BR-M800	Resin	900, 1300, 1700 mm		Cutable
XTR Deore LX HONE	SM-BH59	ST-M975/BR-M975 BL-M975 <b>NEW</b> ST-M775/BL-M775 <b>NEW</b> BR-M775 ST-M585/BR-M585 BL-M585 BR-M601 BL-M525 <b>NEW</b> BL-M485/BR-M485 BL-S500/BR-S500		1000, 1400, 1800 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	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-RT53 <b>NEW</b> SM-RT53M/RT53L <b>NEW</b> SM-RT51/RT51M For resin pad only	M08 Resin
	BR-M465	*			
	BR-M415	*			
	BR-M545	*			SM-RT62/RT62M/RT62L
	BR-R505	**	Road lever	SM-RT62	

\* Front mount: International standard/Post mount Rear mount: International standard

\*\* Front & 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
BR-M545	Good	Not good	Not good	Good
BR-M415	Good	Not good	Not good	Good

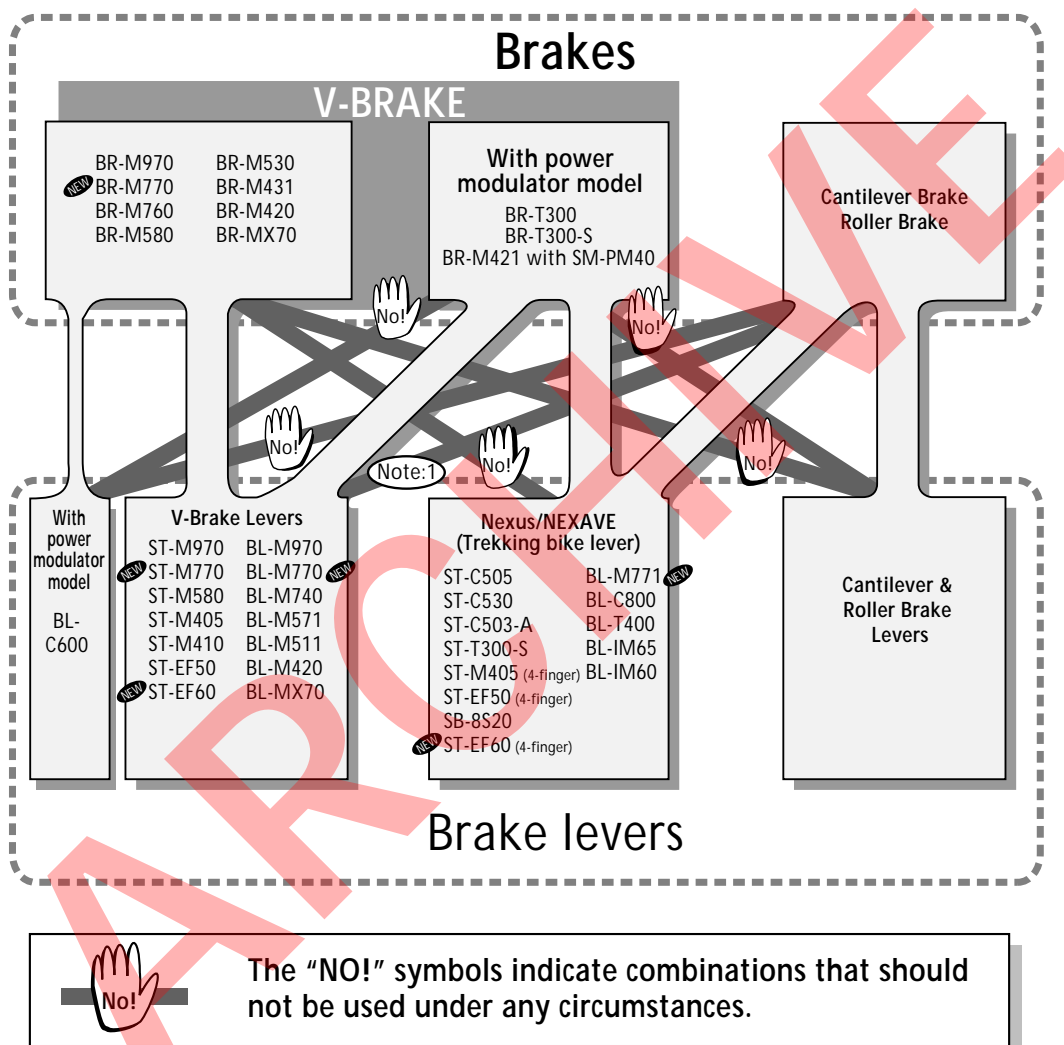
Model NO.	BL type
BR-R505	Road ST/BL-R770/BL-R550/ST-R221/ST-R225

# 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.



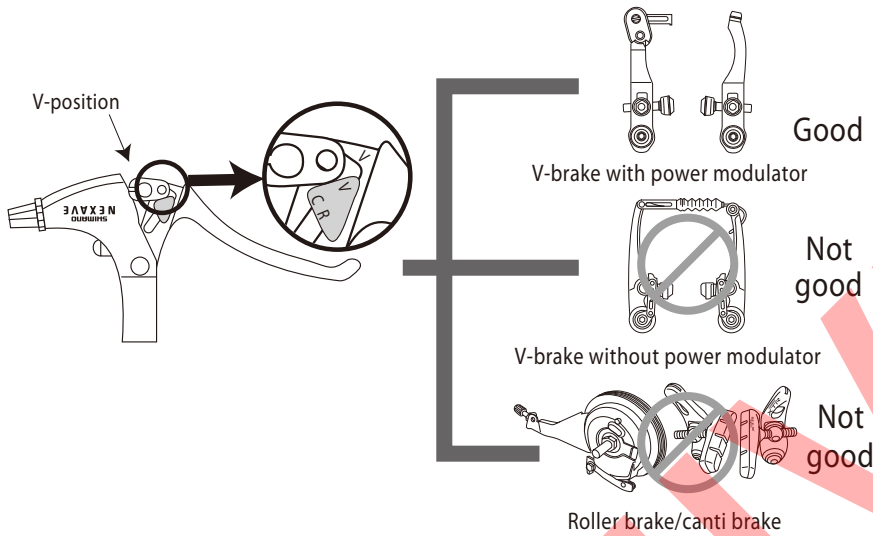
Note 1: This combination will not provide the sufficient amount of braking force.

NEW BL-M771 (3-finger) for V-Brake: Use with Power Modulator.

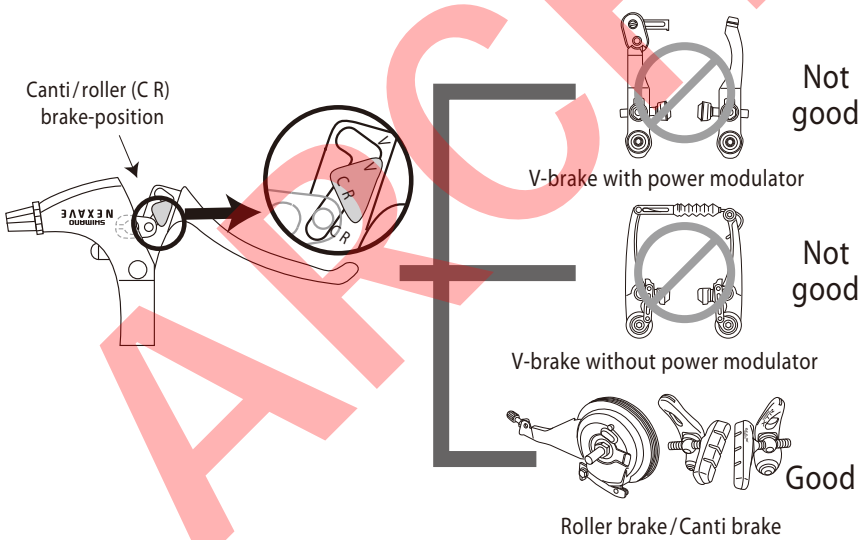
## Brake component interchangeability

Four finger brake levers such as 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.

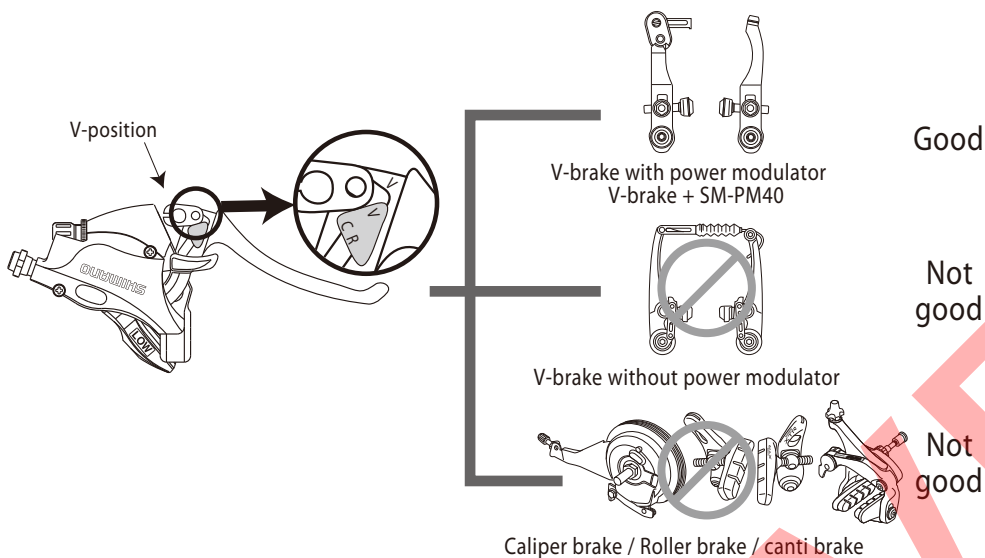


#### WARNING:

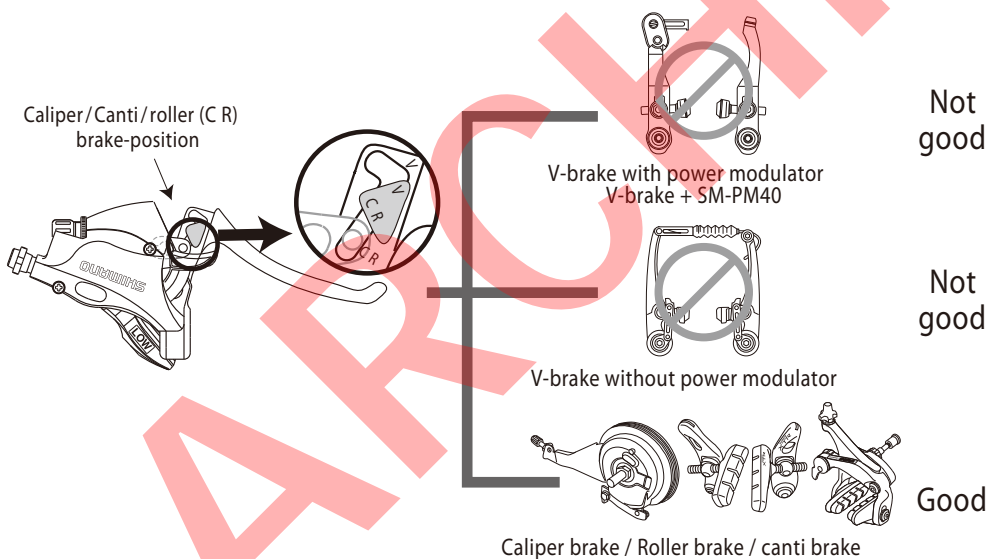
If the mode is not matched to the type of brake being used, this could result in inadequate or excessive braking power. Please proceed with caution when selecting the correct mode for the corresponding brake.

Four finger brake levers such as ST-R221/R225/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
HB-IM70	Hyper	QR	⊙	⊙	not good	not good
HB-IM40	Normal	NUT	○	○	⊙	⊙
HB-IM20-E	Normal	NUT	○	○	⊙	⊙

⊙: 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
HB-IM20-EC	20-24 inches	NUT	good			

### ■ 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
DH-3R30	Hyper	QR	⊙	⊙	not good	not good
		NUT	⊙	⊙	not good	not good
	Normal	QR	○	○	⊙	⊙
		NUT	○	○	⊙	⊙
DH-2R30-E	Hyper	NUT	⊙	⊙	not good	not good
	Normal	NUT	○	○	⊙	⊙

⊙: Recommended combination  
○: Usable

# 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)	M65T3	M65T4	S70C	S70C (Severe Condition shoe)	S70T	S65T
BR-M970	Standard	—	Option	—	—	—	—	—	—	—	—	—
BR-M960	Standard	—	Option	—	—	—	—	—	—	—	—	—
BR-M770	Standard	—	Option	Low noise	Option	—	—	—	Standard	—	—	—
BR-M580	—	—	—	Option	Option	—	—	—	Standard	—	—	—
BR-M530	—	—	—	Option	Option	—	—	—	—	—	Standard	—
BR-M431	Option	—	—	—	—	—	—	—	Standard	—	—	—
BR-M421	—	—	—	—	—	—	Option	Option	—	—	—	Standard
BR-MX70	—	—	—	Option	Option	—	—	—	—	Standard	—	—
BR-T300	—	—	—	Option	Option	—	—	—	—	—	Standard	—
BR-R550	—	Option	—	—	—	Option	—	—	—	Standard	—	—

BR-M431/M421: Neutral silver color option added.

### 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	Only for side wall machined rims. Performs especially well in wet conditions and may pass DIN standard. Tend to be low noise, low rim wear and fade.
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 (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 shoe (for road bikes)

### < Brake/Shoe line-up >

		R55C2	R55C for Carbon rim	R55C for Ceramic rim	M50T	R50T	R50T2
DURA-ACE	BR-7800	Standard	Option	Option	—	—	—
ULTEGRA	BR-6600 /  600G	Standard	Option	Option	—	—	—
105	BR-5600	Standard	Option	Option	—	—	—
TIAGRA	BR-4500	—	—	—	—	—	Standard
SORA	 BR-3400	—	—	—	—	—	Standard
	BR-3300/3300-A	—	—	—	Option	Standard	—
Non-series	 BR-R650	Standard	Option	Option	—	—	—
	BR-R560	Standard	—	—	—	—	—
	 BR-R450	—	—	—	—	—	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 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.
R50T2	—	—	50 mm	Performs well in dry conditions and tends to be low noise. Wears in rainy conditions. Toe-in adjust design.

X: Yes

# Brake pad

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

		A01S	B01S	M06Ti	M06	M07Ti	M07-S	M08	C01
Model NO.	type	Resin	Resin	Sintered Metal	Sintered Metal	Resin	Resin	Resin	Sintered Metal
BR-M975 BR-M975P	Hydraulic			option		Standard			
BR-M800	Hydraulic				Standard		option		
BR-M775	Hydraulic	Standard			option				
BR-M601	Hydraulic				Standard		option		
BR-M585	Hydraulic				option		Standard		
BR-M535	Hydraulic				option		Standard		
BR-S500	Hydraulic						Standard		
BR-M485	Hydraulic		Standard						
BR-M545	Mechanical				Standard				
BR-M415	Mechanical							Standard	
BR-M495	Mechanical							Standard	
BR-M465	Mechanical							Standard	
BR-C901	Hydraulic								Standard
BR-R505	Mechanical				Standard				

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

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

M06Ti: Longer pad-life, good for anti-fade, good constancy either dry/wet. May cause noise while braking titanium plate, light weight.

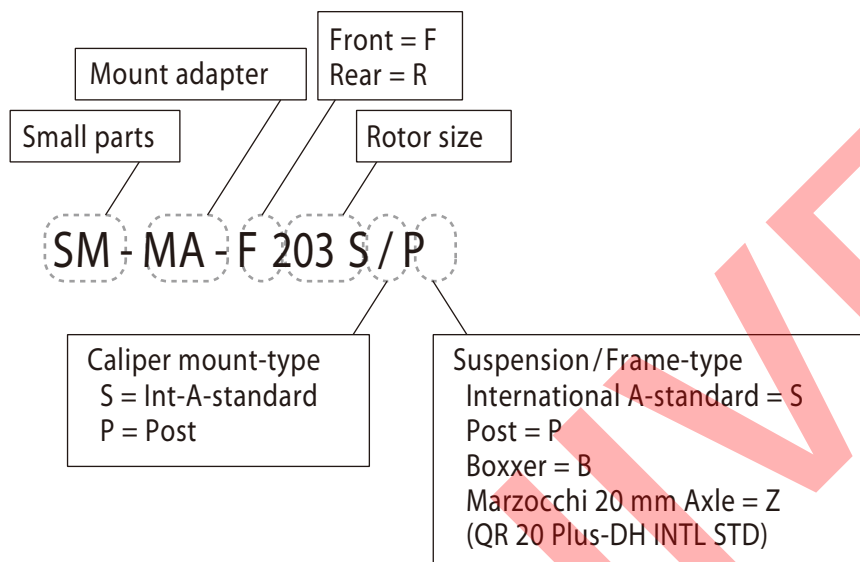
M07Ti: Longer pad-life on long descend titanium plate, light weight.

A01S/B01S: Same performance of metal pad. Longer pad-life on long descends.

# 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

## ■ BR-M975/M975P Disc brake mount adapter application table

Please note we have 3 kinds of Calipers and refer following chart for adapter combination.

	Mount type	Original specification without mount adapter
Caliper A	A-Standard	For Front 160 mm and for rear 140 mm Rotor use
Caliper B	A-Standard	For Rear 160 mm Rotor use
Caliper C	A-Standard	For Front 180 mm Rotor use

BR-M975P for Post mount use, We have only one kind.

< For front >

	Mount type	Model	Mount way	ROTOR		
				SM-RT97 ∅ 160 mm	SM-RT97M ∅ 180 mm	SM-RT97L ∅ 203 mm
CALIPER	A-Standard	BR-M975 Caliper A	for A-standard mount	Direct attachment	SM-MA-F180S/S	SM-MA-F203S/S
			for POST mount	————	SM-MA-F180S/P	SM-MA-F203S/P
	A-Standard	BR-M975 Caliper C	for A-standard mount	————	Direct attachment	————
	Post-Mount	BR-M975P	for A-standard mount	————	SM-MA-F180P/S	SM-MA-F203P/S
for POST mount			Direct attachment	SM-MA-F180P/P	SM-MA-F203P/P	

	Mount type	Caliper Model	Fork model	ROTOR		
				SM-RT97 ∅ 160 mm	SM-RT97M ∅ 180 mm	SM-RT97L ∅ 203 mm
CALIPER	A-Standard	BR-M975 Caliper A	Marzocchi 20 mm axle	————	————	SM-MA-F203S/Z
			Boxxer-type	————	————	SM-MA-F203S/B
	Post-Mount	BR-M975P	Marzocchi 20 mm axle	SM-MA-F160P/Z	————	SM-MA-F203P/Z
			Boxxer-type	————	————	SM-MA-F203P/B

< For rear >

	Mount type	Model	ROTOR			
			SM-RT97SS ∅ 140 mm	SM-RT97 ∅ 160 mm	SM-RT97M ∅ 180 mm	SM-RT97L ∅ 203 mm
CALIPER	A-Standard	BR-M975 Caliper B	————	Direct attachment	SM-MA-R180S/S	SM-MA-R203S/S
	A-Standard	BR-M975 Caliper A	Direct attachment	————	————	————
	Post-Mount	BR-M975P	SM-MA-F160P/S	SM-MA-R160P/S	SM-MA-R180P/S	SM-MA-R203P/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-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
NEW BR-M775 BR-M601 BR-M585 BR-M535	∅ 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
NEW BR-M485	∅ 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

&lt; For rear &gt;

Model	Rotor diameter	A-standard
BR-M800	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S
NEW BR-M775 BR-M601 BR-M585 BR-M535	∅ 203	SM-MA-R203P/S
	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S
	∅ 203	SM-MA-R203P/S
NEW BR-M485	∅ 180	SM-MA-R180P/S
	∅ 160	SM-MA-R160P/S

## ■ Shimano mechanical disc brake mount adapter application table

&lt; For front &gt;

Model	Rotor diameter	Mount-type			
		A-standard	MARZOCCHI 20mm Axle (QR 20 Plus-DH INTL STD)	BOXXER-type	POST-type
BR-M545	∅ 203	SM-MA-F203P/S	SM-MA-F203P/Z	SM-MA-F203P/B	SM-MA-F203P/P
BR-M465	∅ 180	SM-MA-F180P/S	—	—	SM-MA-F180P/P
BR-M415	∅ 160	SM-MA-F160P/S	SM-MA-F160P/Z	—	Direct attach
BR-R505	∅ 160	SM-MA-F160P/S	—	—	—

&lt; For rear &gt;

Model	Rotor diameter	A-standard
BR-M545	∅ 203	SM-MA-R203P/S
BR-M465	∅ 180	SM-MA-R180P/S
BR-M415	∅ 160	M475 Adapter ( R )
BR-R505	∅ 160	M475 Adapter ( R )