

**ARCHIVE**

This information was updated on January 7, 2015. 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 January 7, 2015, please refer to the Shimano Business Customer Web Site or directly contact the sales person of our company.

# SHIMANO

**2014-2015**

**Products compatibility information**

# Word definitions

<b>Line D</b>	Line D goes thru bottom bracket center and freehub center. In case of rear suspension type, line D should be determined by riding height such as 1G sag.
<b>BB</b>	Bottom bracket
<b>BC</b>	Brake cable
<b>BL</b>	Brake lever
<b>BR</b>	Brake caliper
<b>BT</b>	Battery
<b>CB</b>	Coaster brake
<b>CG</b>	Chain guard
<b>CJ</b>	Cassette joint
<b>CN</b>	Chain
<b>CP</b>	Spoke protector
<b>CS</b>	Cassette sprocket
<b>CT</b>	Chain tensioner
<b>DH</b>	Hub dynamo
<b>DU</b>	Drive unit
<b>EW</b>	Electric wire
<b>FC</b>	Crankset
<b>FD</b>	Front derailleur
<b>FH</b>	Freehub
<b>HB</b>	Front hub
<b>HP</b>	Head parts
<b>HRB</b>	Hub roller brake
<b>ID</b>	CI-DECK
<b>I-spec</b>	Integration mounting system of brake and shift lever
<b>LP</b>	Light
<b>MF</b>	Multiple freewheel
<b>MU</b>	Motor unit
<b>O.L.D.</b>	Over locknut dimension
<b>P.C.D.</b>	Pitch circle diameter
<b>PD</b>	Pedal
<b>PM</b>	Power modulator
<b>QR</b>	Quick release
<b>RD</b>	Rear derailleur
<b>SB</b>	Revo shifter integrated with brake lever
<b>SC</b>	Cycle computer
<b>SF</b>	Single free
<b>SG</b>	Internal geared hub
<b>SL</b>	Shift lever
<b>SPD</b>	Shimano pedaling dynamics
<b>SPD-SL</b>	Shimano pedaling dynamics-SL
<b>ST</b>	Dual control lever / Shift lever integrated with brake lever
<b>SW</b>	Switch
<b>WH</b>	Wheel

# CONTENTS

## Compatibility

### MTB and ROAD components

#### Drivetrain for MTB components

1. Rear drivetrain compatibility .....	1
2. Front drivetrain compatibility .....	5
3. Front derailleur and crankset.....	10
4. Front derailleur and chain line (Tourney) .....	10
5. Crankset, bottom bracket and chain line.....	10
6. Chain, chainring and cassette sprocket.....	12

#### Drivetrain for road bike components

1. Rear drivetrain compatibility .....	13
2. Front drivetrain compatibility .....	15
3. Brake systems compatibility .....	16
4. Compatibility for flat handlebar.....	17

#### Disc brake

1. Disc brake caliper and Rotor compatibility .....	19
2. Combination chart (Mechanical Disc).....	20

#### V-BRAKE and Hub roller brake

1. Compatibility between brake systems.....	21
2. Brake lever with switch compatibility .....	22

### Comfort components

#### Compatibility for comfort bike components

1. Combinations of the rear gear, cassette sprocket, and crankset for designing the frame .....	23
---	----

### Electronic Product Information

1. E-tube compatibility chart.....	24
------------------------------------	----

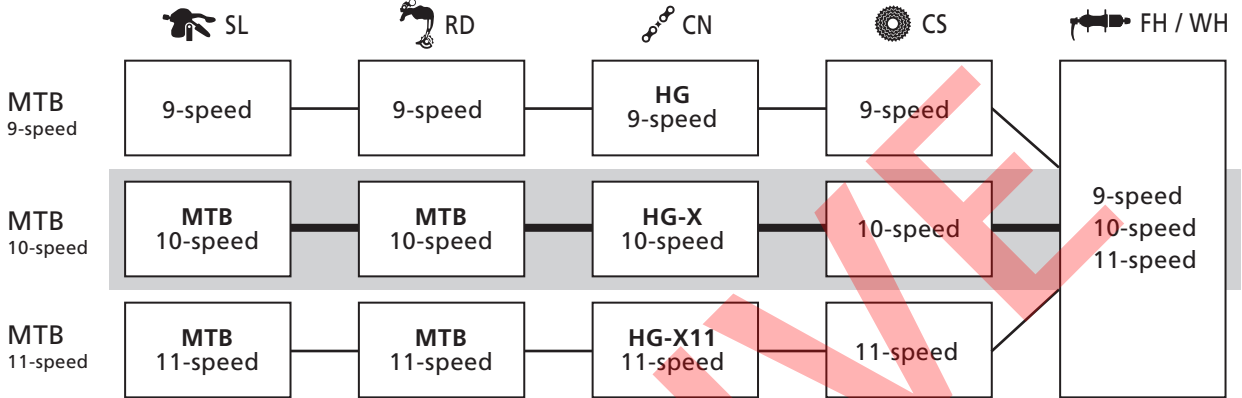
# MTB and ROAD components

## Drivetrain for MTB components

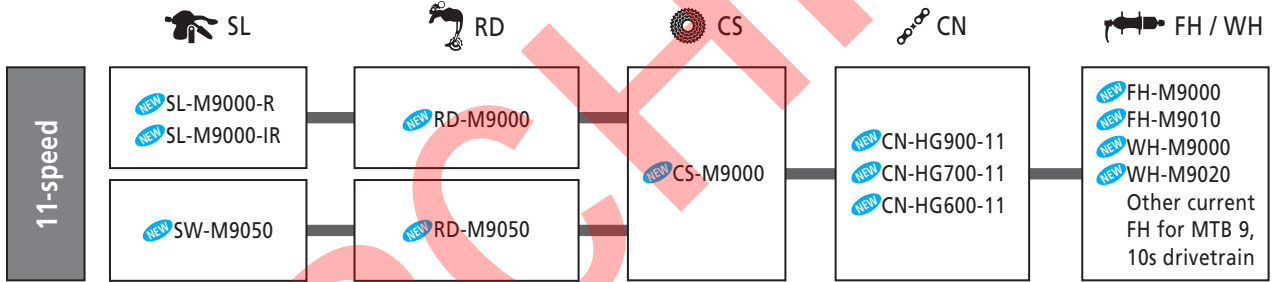
When using components of different series together, be aware of the points given below.

### 1. Rear drivetrain compatibility

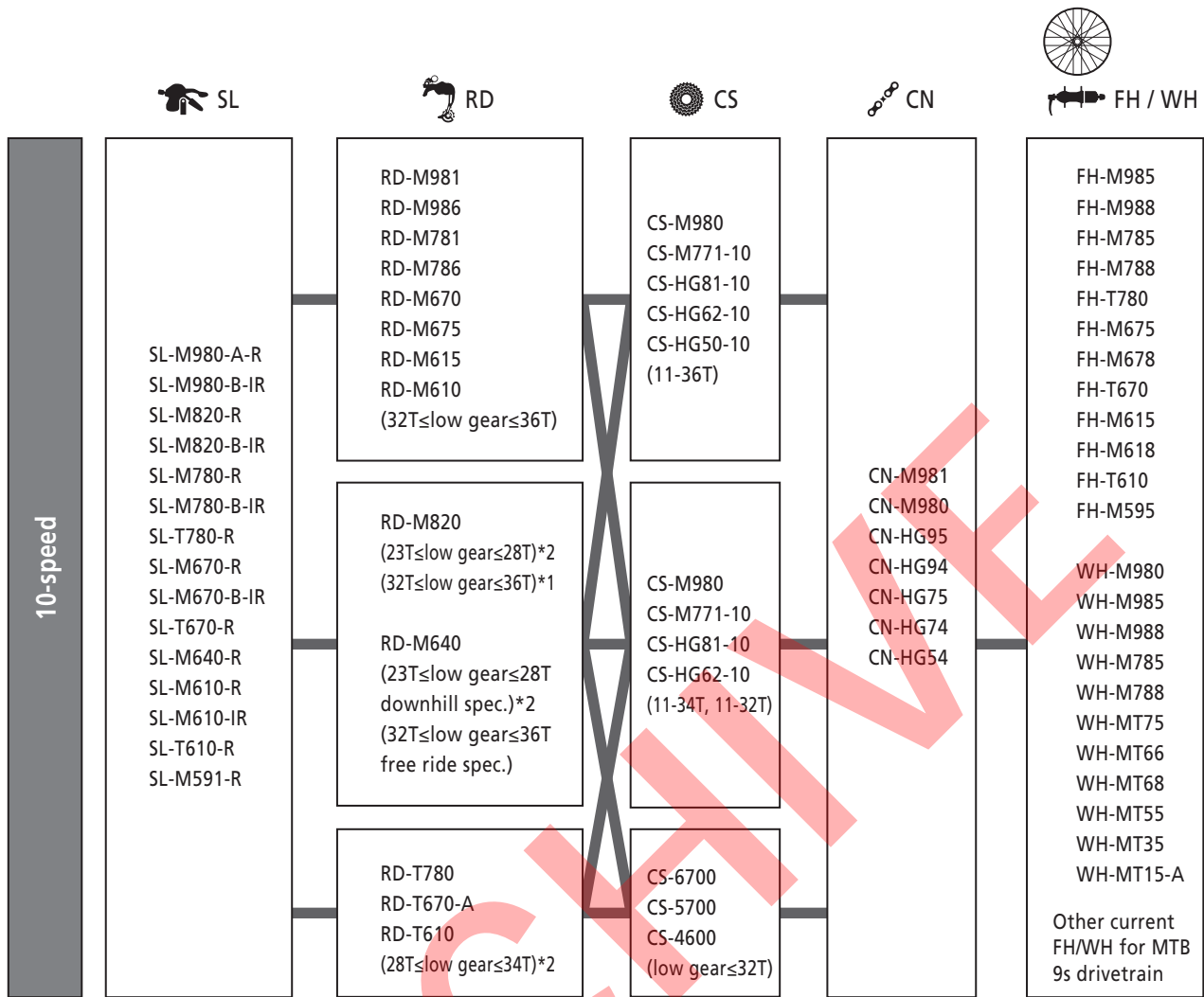
#### 1-1. 9,10,11-speed rear drivetrain Compatibility



#### 1-2. 11-speed rear drivetrain



### 1-3. 10-speed rear drivetrain



\*1: Mode converter

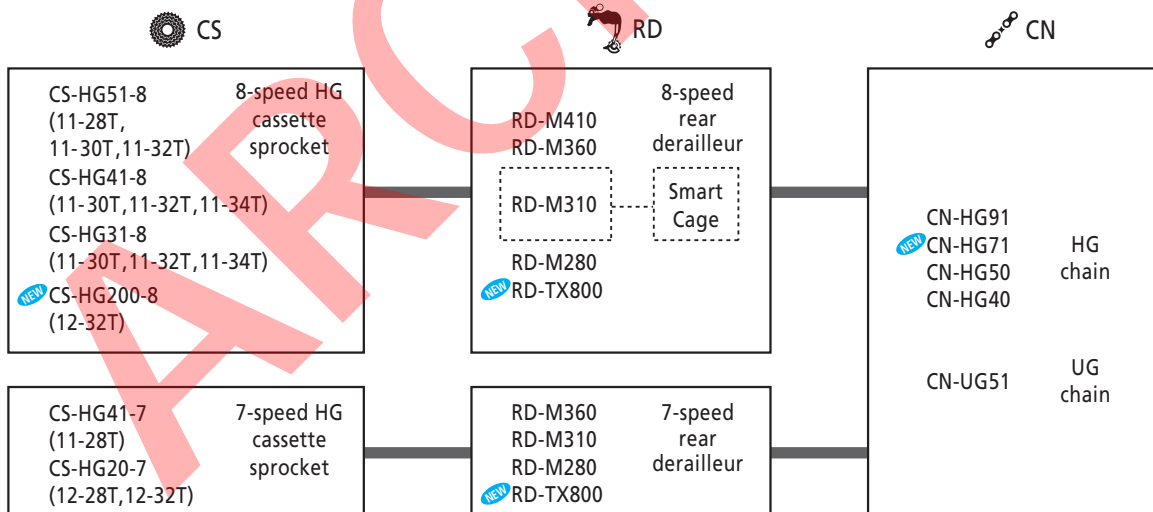
\*2: Compatible with road Cassette sprocket

## 1-4. 9-speed rear drivetrain

CS		Shadow RD	W-servo RD	CN
		RD-M772 RD-M662 RD-M592 <b>NEW</b> RD-M4000	<b>NEW</b> RD-T4000 RD-M430 RD-M390 RD-M370	CN-7701 CN-HG93 CN-HG73 CN-HG53
<b>NEW</b> CS-HG61-9 bh <b>NEW</b> CS-HG400-9 bh <b>NEW</b> CS-HG300-9 bh	12 – 36T	X	–	X
<b>NEW</b> CS-HG80-9 au <b>NEW</b> CS-HG61-9 au <b>NEW</b> CS-HG400-9 au <b>NEW</b> CS-HG300-9 au <b>NEW</b> CS-HG200-9 bn CS-HG50-9 au CS-HG30-9 au CS-HG20-9 bn	11 – 34T	X	X	X
<b>NEW</b> CS-HG80-9 ar <b>NEW</b> CS-HG61-9 ar <b>NEW</b> CS-HG400-9 ar <b>NEW</b> CS-HG300-9 ar <b>NEW</b> CS-HG200-9 bo CS-HG50-9 ar CS-HG30-9 ar CS-HG20-9 bo	11 – 32T	X	X	X
<b>NEW</b> CS-HG80-9 bg <b>NEW</b> CS-HG61-9 bg <b>NEW</b> CS-HG400-9 bg <b>NEW</b> CS-HG300-9 bg	11 – 28T	–	X	X

X: Yes

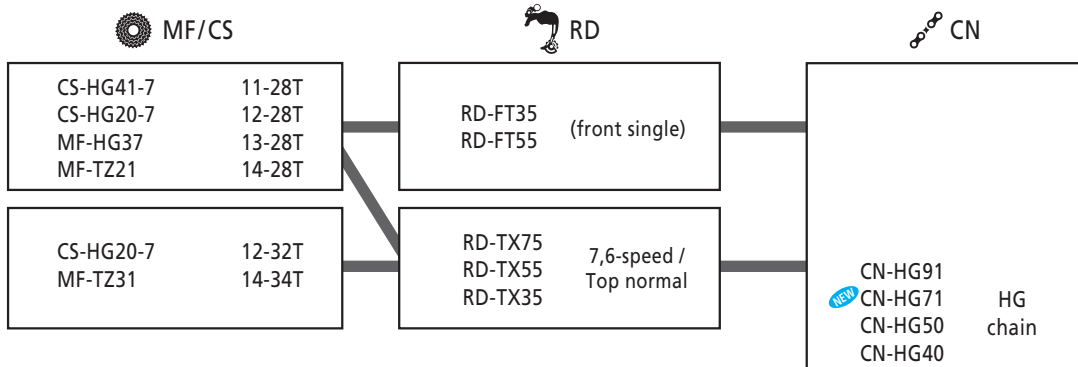
## 1-5. 8,7-speed HG



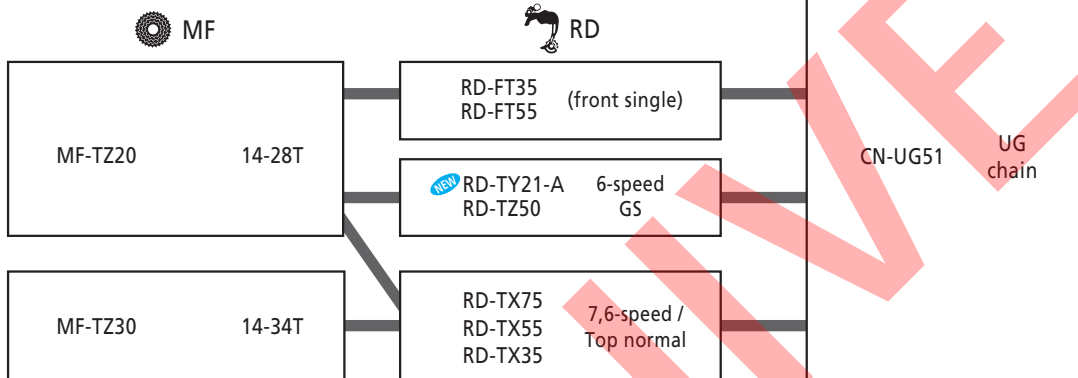
\* The rear derailleur for 8-speed can also be used for 7-speed drivetrain.

## 1-6. 7-speed HG and 6-speed

### 7-speed



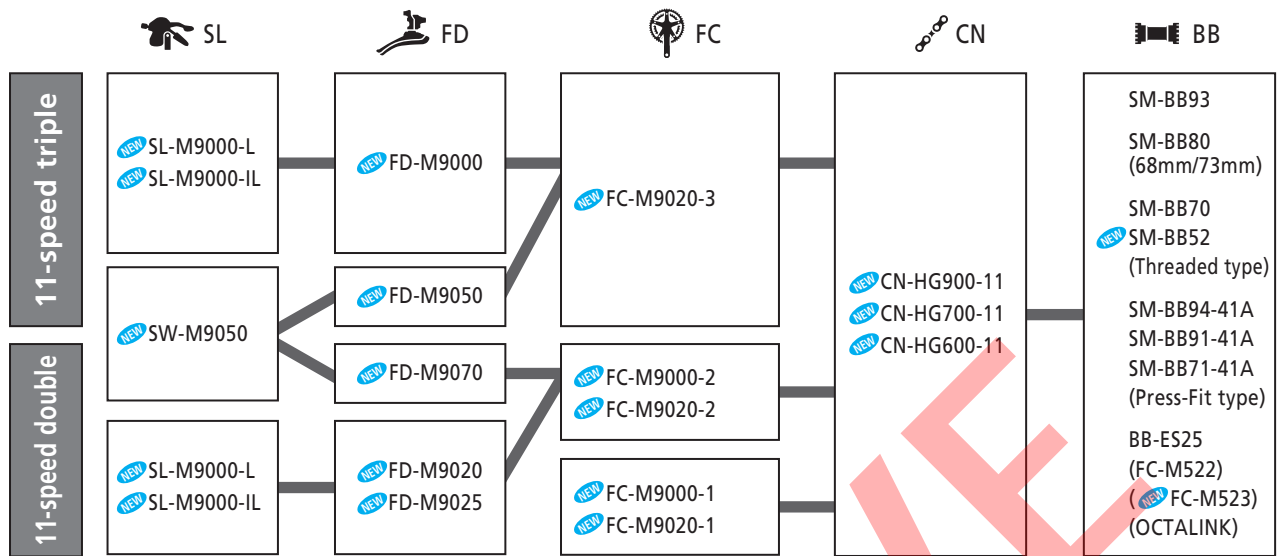
### 6-speed



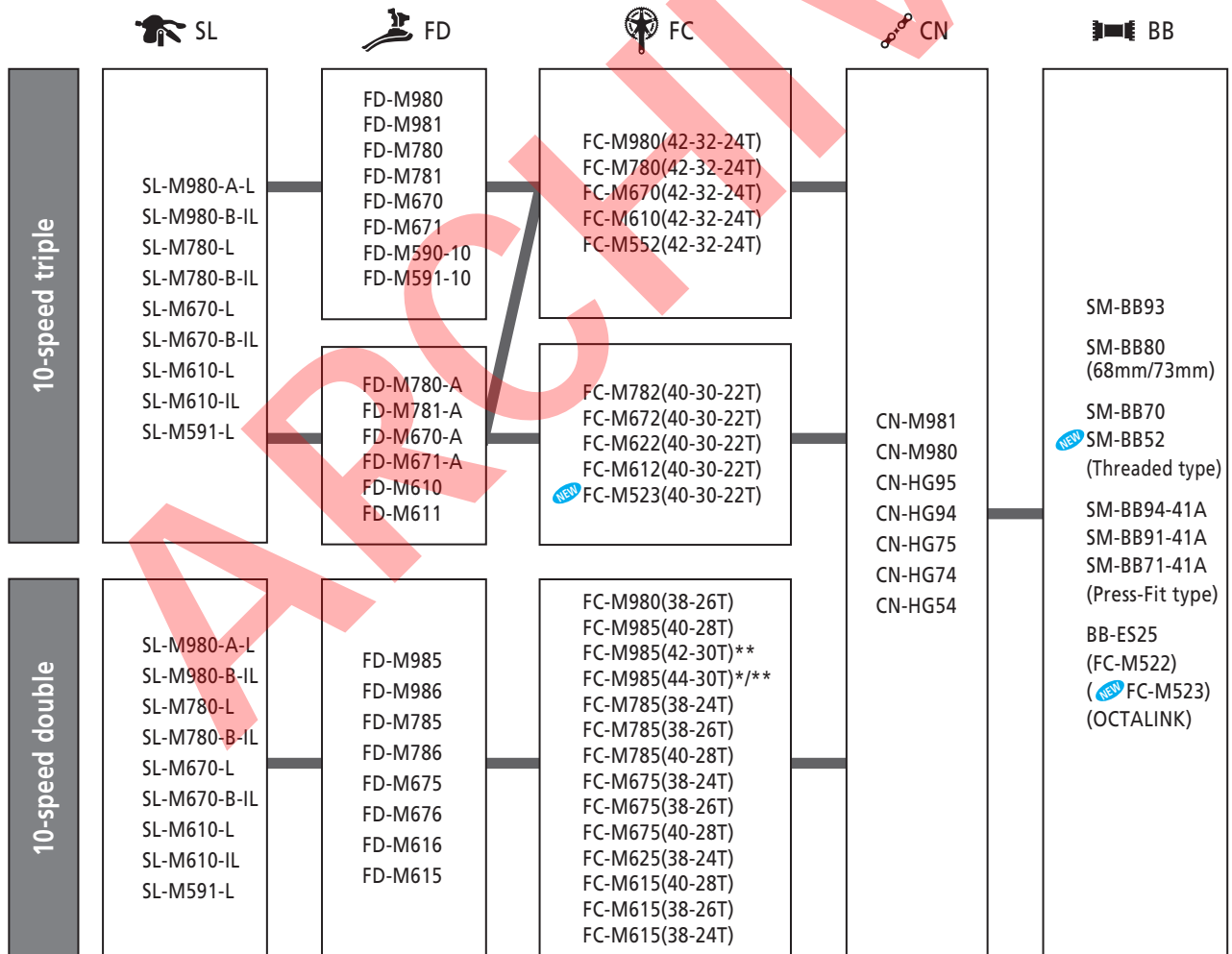
ARCHIVE

## 2. Front drivetrain compatibility

### 2-1. 11-speed front drivetrain



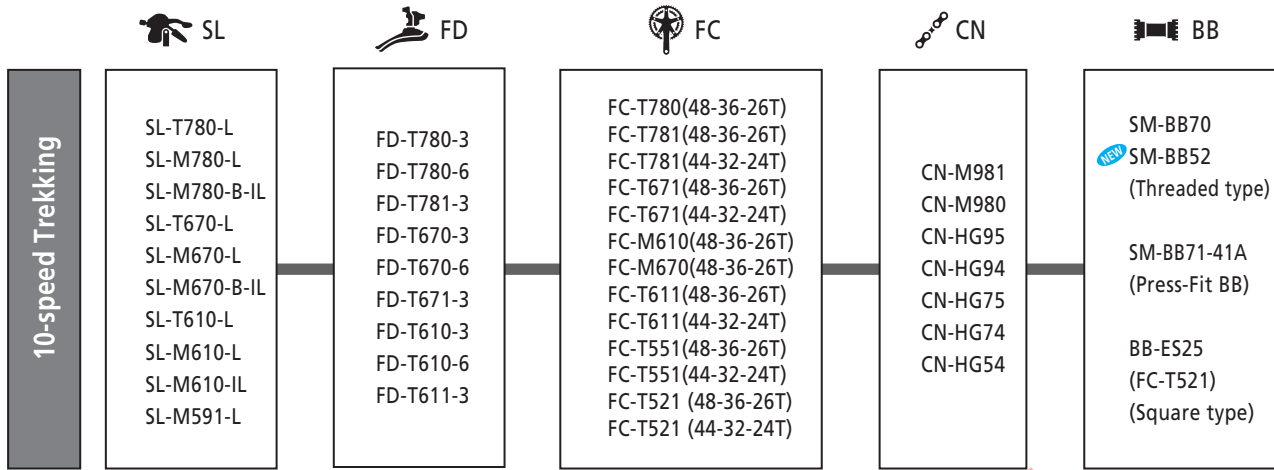
### 2-2. 10-speed front drivetrain



\*: Mount position is required for FD-M986-D used with double crankset 44T.

\*\* : Not compatible with E2 type front derailleur.





### 2-3. 11-speed FC-FD compatibility

FC		FD	Speed	11-speed		11-speed	
			Chain line	50	48.8	50	48.8
			Chain stay angle	66-69°	66-69°	66-69°	66-69°
Chain line (mm)	FC Model No.	Gear combination	11-speed		11-speed		
			For triple	For double	For triple	For double	
			<b>NEW</b> FD-M9000	<b>NEW</b> FD-M9020 <b>NEW</b> FD-M9025	<b>NEW</b> FD-M9050	<b>NEW</b> FD-M9070	
48.8	<b>NEW</b> FC-M9000-2 <b>NEW</b> FC-M9020-2	38-28T	-	X	-	X	
		36-26T	-	X	-	X	
		34-24T	-	X	-	X	
50.0	<b>NEW</b> FC-M9020-3	40-30-22T	X	-	X	-	

## 2-4. 10-speed FC-FD compatibility














FC Model No.	Chain stay angle	Top swing								
		For triple						For double		
		66°- 69°	66°- 69°	66°- 69°	66°- 69°	63°- 66°	66°- 69°	66°- 69°	66°- 69°	66°- 69°
Gear combination	FD-M980	FD-M780-A FD-M670-A FD-M610	FD-M980-E	FD-M780-A-E FD-M670-A-E FD-M610-E	FD-T780-3 FD-T670-3 FD-T610-3	FD-T780-6 FD-T670-6 FD-T610-6	FD-M985 FD-M785 FD-M675 FD-M615	FD-M985-E	FD-M985-E2 FD-M785-E2 FD-M675-E2 FD-M615-E2 (w / o BB plate only)	
FC-M980 FC-M780 FC-M670 FC-M610 FC-M552 FC-M522 (BB-ES25 113 mm)	42-32-24T	X	X	X	X	-	-	-	-	
FC-M782 FC-M672 FC-M622 FC-M612	40-30-22T	-	X	-	X	-	-	-	-	
<b>NEW</b> FC-M523	40-30-22T	-	X	-	X	-	-	-	-	
FC-M610	48-36-26T	-	-	-	-	X	-	-	-	
FC-T780 FC-M670	48-36-26T	-	-	-	-	X	-	-	-	
FC-T781 FC-T671 FC-T611 FC-T551 FC-T521	48-36-26T	-	-	-	-	X	-	-	-	
	44-32-24T	-	-	-	-	X	-	-	-	
FC-M985	44-30T	-	-	-	-	-	X	X	-	
	42-30T	-	-	-	-	-	X	X	-	
	40-28T	-	-	-	-	-	X	X	X	
FC-M980	38-26T	-	-	-	-	-	X	-	X	
FC-M785 FC-M675 FC-M625 FC-M615	40-28T	-	-	-	-	-	X	X	X	
	38-26T	-	-	-	-	-	X	-	X	
	38-24T	-	-	-	-	-	X	-	X	

FC Model No.	Chain stay angle	Down swing						
		For triple					For double	
		66°- 69°	66°- 69°	66°- 69°	66°- 69°	63°- 66°	66°- 69°	66°- 69°
Gear combination	FD-M981	FD-M781-A FD-M671-A FD-M611	FD-M981-D	FD-M781-A-D FD-M671-A-D FD-M611-D	FD-T781-3 FD-T671-3 FD-T611-3	FD-M986 FD-M786 FD-M676 FD-M616	FD-M986-D FD-M786-D FD-M676-D FD-M616-D	
FC-M980 FC-M780 FC-M670 FC-M610 FC-M552 FC-M522 (BB-ES25 113 mm)	42-32-24T	X	X	X	X	-	-	-
FC-M782 FC-M672 FC-M622 FC-M612	40-30-22T	-	X	-	X	-	-	-
<b>NEW</b> FC-M523	40-30-22T	-	X	-	X	-	-	-
FC-M610	48-36-26T	-	-	-	-	X	-	-
FC-T780 FC-M670	48-36-26T	-	-	-	-	X	-	-
FC-T781 FC-T671 FC-T611 FC-T551 FC-T521	48-36-26T	-	-	-	-	X	-	-
	44-32-24T	-	-	-	-	X	-	-
FC-M985	44-30T	-	-	-	-	-	X	X*
	42-30T	-	-	-	-	-	X	X
	40-28T	-	-	-	-	-	X	X
FC-M980	38-26T	-	-	-	-	-	X	X
FC-M785 FC-M675 FC-M625 FC-M615	40-28T	-	-	-	-	-	X	X
	38-26T	-	-	-	-	-	X	X
	38-24T	-	-	-	-	-	X	X

\*: Mount position is required for FD-M986-D used with double crankset 44T.

X: Yes

## 2-5. 9-speed triple FC-FD compatibility

FD		Speed	9-speed						
		Chain line	50 mm						
		Chainstay angle	66° - 69°			63° - 66°			
		Top swing FD	-	FD-M770-E	 FD-M4000-TS6	 FD-M770 FD-M590-6 FD-T4000-TS6 FD-M390-6 FD-M370-6	 FD-M4000-TS3	 FD-M772A FD-T660A-3 FD-M590-3 FD-T4000-TS3 FD-M390-3 FD-M370-3	
Chain line	BB Model No. / Structure	Down swing FD	FD-M771 FD-M771D FD-M661D	-	 FD-M4000-DS6	FD-M591-6 FD-M371-6	 FD-M4000-DS3	FD-M773 FD-T661-3 FD-M591-3 FD-T4000-DS3 FD-M371-3	
		FC model No.							
50 mm	2pc type FC	 FC-M4050	40-30-22T	-	-	X	-	X	-
		FC-M770	44-32-22T	X	X	-	X	-	X
		FC-M542							
		FC-M543K							
		FC-M590							
		FC-M591							
		 FC-T4060	48-36-26T	-	-	-	X	-	X
		FC-M543K							
		FC-M590							
		FC-M591							
	 FC-M4060								
	 FC-T4060								
	BB-ES25 (please refer chart as below for detailed combination)	FC-M521	44-32-22T	X	-	-	X	-	X
	BB-ES25 126 (-K)	 FC-T4010							
		FC-M391-8							
	BB-UN26 LL123 (-K)	FC-M391							
		FC-M371							
	BB-ES25 118 (-E)	 FC-M4000	40-30-22T	-	-	X	-	X	-
	BB-ES25 118 (-E)	FC-M430-8	44-32-22T	X	X	-	X	-	X
	BB-UN26 LL113 (-E)	FC-M430							
BB-ES25 (please refer chart as below for detailed combination)	FC-M521	48-36-26T	-	-	-	X	-	X	
BB-ES25 126 (-K)	 FC-T4010								
	FC-M391-8								
BB-UN26 LL123 (-K)	FC-M391								
	FC-M371								

X: Yes

### FC-M521 / BB-ES25 combination

		MTB (without chain case)	Trekking (with chain case)	E-type
BB shell width	68 mm	ABBES25AKB21W (use with 1.8 mm spacer) / ABBES25B21	ABBES25AKB21W (use without 1.8 mm spacer) / ABBES25AKB21	ABBES25EB21
	73 mm	ABBES25C21	-	ABBES25EC21

## 2-6. 8,7,6-speed triple FC-FD compatibility

Chain line		Speed		8,7-speed								
				Chain line		50.0 mm		47.5 / 50.0 mm		47.5 / 50.0 mm		
				Chainstay angle		66° - 69°	63° - 66°	66° - 69°		63° - 66°	66° - 69°	63° - 66°
				Top swing FD		FD-M410-E	FD-M410-E	FD-M360-6 FD-M310-6 FD-TX800-TS6	FD-M360-3 FD-M310-3 FD-TX800-TS3	FD-M190A-6	FD-M190-3	
Chain line	BB Model No. / Structure	Down swing FD				NEW FD-M313-6	NEW FD-M313-3					
		FC Model No.										
50 mm	BB-ES25 (-K) 126 (K)	FC-M361-8 FC-M311-8	42-32-22T	-	-	X	X	-	-			
	BB-UN26 (-K) LL123 (-K)	FC-M361 FC-M311	42-32-22T	-	-	X	X	-	-			
		NEW FC-TX801	48-38-28T	-	-	X	X	-	-			
	BB-UN26 (-E) LL123 (-E)	FC-M361 FC-M311	42-32-22T	X	X	-	-	-	-			
47.5 + t mm	BB-UN26-K D-NL K	FC-M171-A FC-M171	42-34-24T	-	-	-	-	X	X			
		FC-M131	48-38-28T	-	-	X	X	-	-			

Chain line		Speed		8,7-speed		7,6-speed		7,6-speed				
				Chain line		47.5 / 50.0 mm		47.5 / 50.0 mm		47.5 mm		
				Chainstay angle		66° - 69°	63° - 66°	66° - 69°	63° - 66°	66° - 69°	63° - 66°	66° - 69°
				Top swing FD		FD-M191-6	FD-M191-3	FD-TX50-6 FD-TY10*	FD-TX50-3	FD-TX51-6	FD-TX51-3	FD-TZ30
Chain line	BB Model No. / Structure	Down swing FD										
		FC Model No.										
50 mm	BB-ES25 (-K) 126 (K)	FC-M361-8 FC-M311-8	42-32-22T	-	-	-	-	-	-			
	BB-UN26 (-K) LL123 (-K)	FC-M361 FC-M311	42-32-22T	-	-	-	-	-	-			
		NEW FC-TX801	48-38-28T	X	X	-	-	X	X	-		
47.5 + t mm	BB-UN26-K D-NL K	FC-M171-A FC-M171	42-34-24T	-	-	X	X	-	-			
		FC-M131	48-38-28T	X	X	-	-	X	X			

\* FD-TY10 L size is designed for 50 mm chain line.

X: Yes

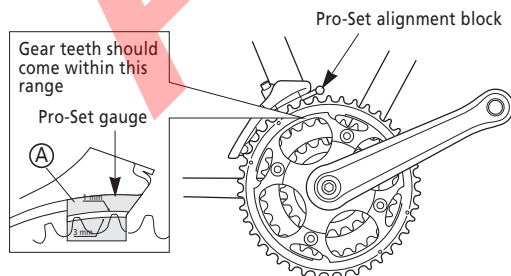
### Note:

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

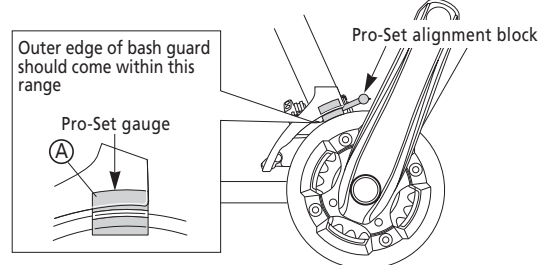
How to set position for crankset with bigger top gear chain ring or bash guard in the same series.

1. Set A
2. Check if outer plate and bigger chainring have clearance
3. Reposition height of front derailleurs in case problem at process (2)

#### Without bash guard



#### With bash guard



### 3. Front derailleur and crankset

The allowable combinations of front 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) ≤ FD (top and low capacity)  
 FC (top gear) - (middle gear) ≤ FD (allowance of difference in teeth number between top and middle)

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

### 4. Front derailleur and chain line (Tourney)

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

		28.6 mm (S)	31.8 mm (M)	34.9 mm (L)
Chain line (mm)	FD-TY10	ø47.5		ø50.0
	FD-TZ31 FD-TZ30	ø47.5		-

### 5. 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.

#### 5-1. MTB components (separate type FC / BB)

Speed	Series	Crankset				Bottom bracket	Chain line and axle mark			
		Model No.	Type of crank				Model No.	47.5 mm	50.0 mm	52.5 mm
			OCTALINK	Square	Chaincase					
10	SHIMANO	FC-M523	X	-	-	BB-ES25	-	118	-	-
		FC-M522	X	-	-	BB-ES25	-	113	-	-
		FC-M521	X	-	X*	BB-ES25-AK	-	**	-	-
9	ALIVIO	FC-M4000	X	-	-	BB-ES25(-E)	-	118(-E)	-	-
		FC-T4010	X	-	X*	BB-ES25(-K)	-	126(-K)	-	-
		FC-M430-8	X	-	-	BB-ES25(-E)	-	118(-E)	-	-
		FC-M430	-	X	-	BB-UN26(-E)	-	LL113(-E)	-	-
	Acera	FC-M391-8	X	-	X*	BB-ES25(-K)	-	126(-K)	-	-
		FC-M391	-	X	X*	BB-UN26(-K)	-	LL123(-K)	-	-
	SHIMANO	FC-M371	-	X	X*	BB-UN26(-K)	-	LL123(-K)	-	-
8, 7	Acera ALTUS	FC-M361	-	X	X*	BB-UN26(-K)	-	LL123(-K)	-	-
		FC-M311	-	X	X*	BB-UN26(-K)	-	LL123(-K)	-	-
	Tourney	FC-M311-8	X	-	X*	BB-ES25(-K)	-	126(-K)	-	-
8, 7, 6	SHIMANO	FC-TX801	-	X	X*	BB-UN26(-K)	-	LL123(-K)	-	-
		FC-M131	-	X	X	BB-UN26(-K)	D-NL(122.5)	-	-	D-NL(122.5)
		FC-M171 FC-M171-A	-	X	X	BB-UN26(-K)	D-NL(122.5)	-	-	D-NL(122.5)

X: Yes

**Note:**

If using a chain case, select a BB- ○○○○ (-K) / -K bottom bracket.

If using an E-type front derailleur, select a BB- ○○○○ (-E) bottom bracket.

\*:Chain case stay thickness should be 1.5 mm to 2.1 mm.

\*\* :Please refer to page 8 for detailed combination.

**Note:**

FC-M521: Use 121AK with 1.8 mm spacer if no chain case used.

## 5-2. Capreo series components

The combinations of the crankset 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	Crankset			Bottom bracket	Chain line and axle mark				
	Model No.	Type of crank			Model No.	47.5 mm	50.0 mm	52.5 mm	47.5+t mm
OCTALINK		Square	Chaincase						
Capreo	FC-F800	-	X	X	BB-UN26	MM110	LL113	YL117	-
					BB-UN26-K	-	-	-	*117.5

X: Yes

**Note:**

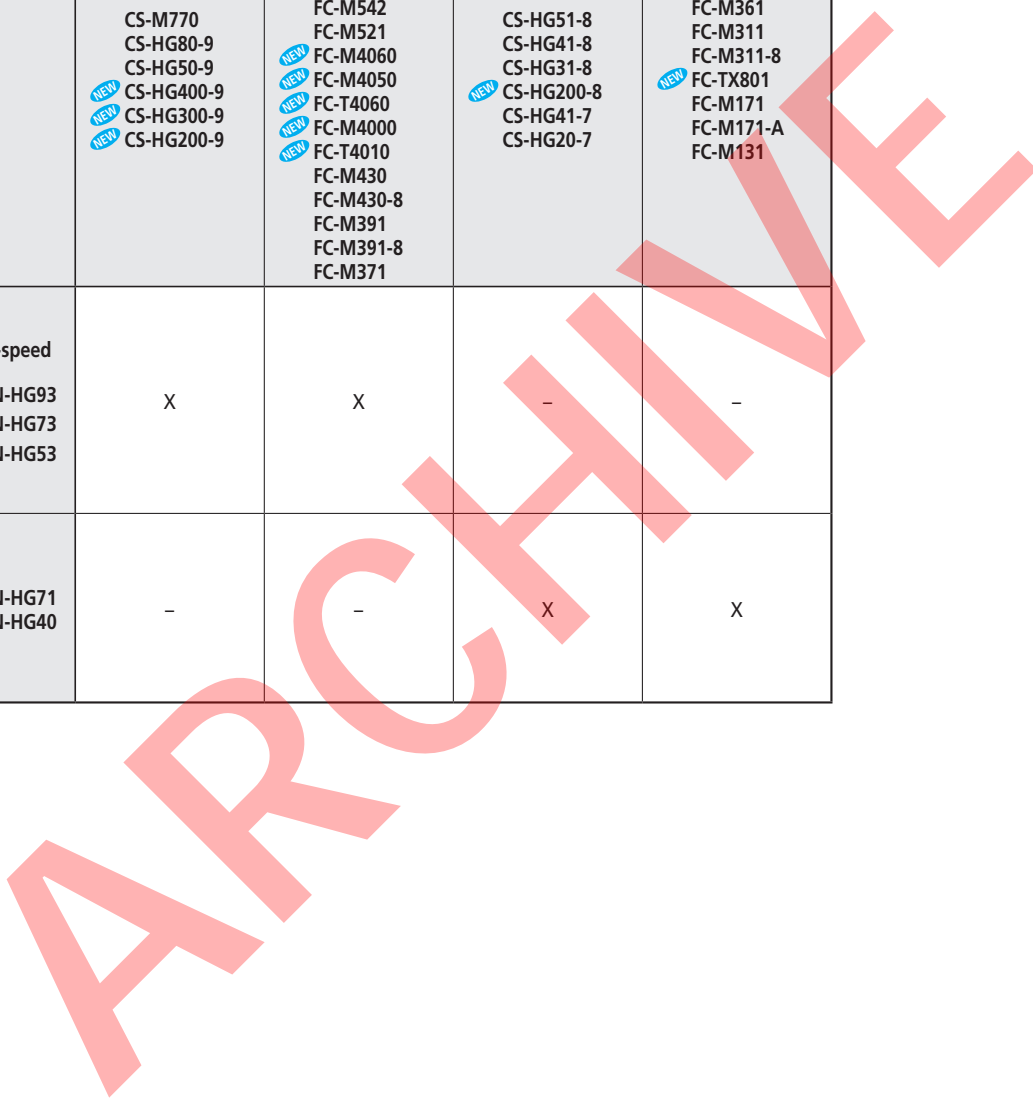
This specification can be used without the chain case as 52.5 mm chain line. In that case, a space is to be left between the shell and the adapter on the left side of the BB, but there is no problem in actual use.

ARCHIVE

## 6. Chain, chainring and cassette sprocket

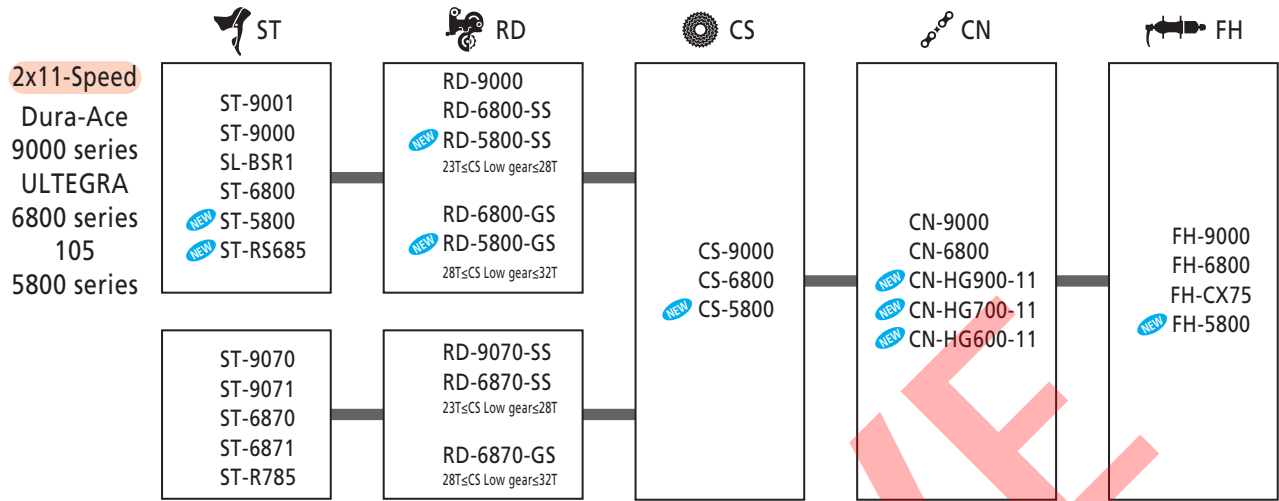
The allowable combinations for the Shimano chain (CN), chainrings (FC), and cassette sprockets (CS) are given in the chart below. These chains are available in order to match the type of drivetrain. Select the combination you desire after checking the chart below.

		9-speed		7, 8-speed	
		CS	FC	CS	FC
FC / CS		CS-M770 CS-HG80-9 CS-HG50-9 NEW CS-HG400-9 NEW CS-HG300-9 NEW CS-HG200-9	FC-M770 FC-M665 FC-M591 FC-M590 FC-M543-K FC-M542 FC-M521 NEW FC-M4060 NEW FC-M4050 NEW FC-T4060 NEW FC-M4000 FC-T4010 FC-M430 FC-M430-8 FC-M391 FC-M391-8 FC-M371	CS-HG51-8 CS-HG41-8 CS-HG31-8 NEW CS-HG200-8 CS-HG41-7 CS-HG20-7	FC-M361 FC-M311 FC-M311-8 NEW FC-TX801 FC-M171 FC-M171-A FC-M131
CN	9-speed CN-HG93 CN-HG73 CN-HG53	X	X	-	-
	NEW CN-HG71 CN-HG40	-	-	X	X



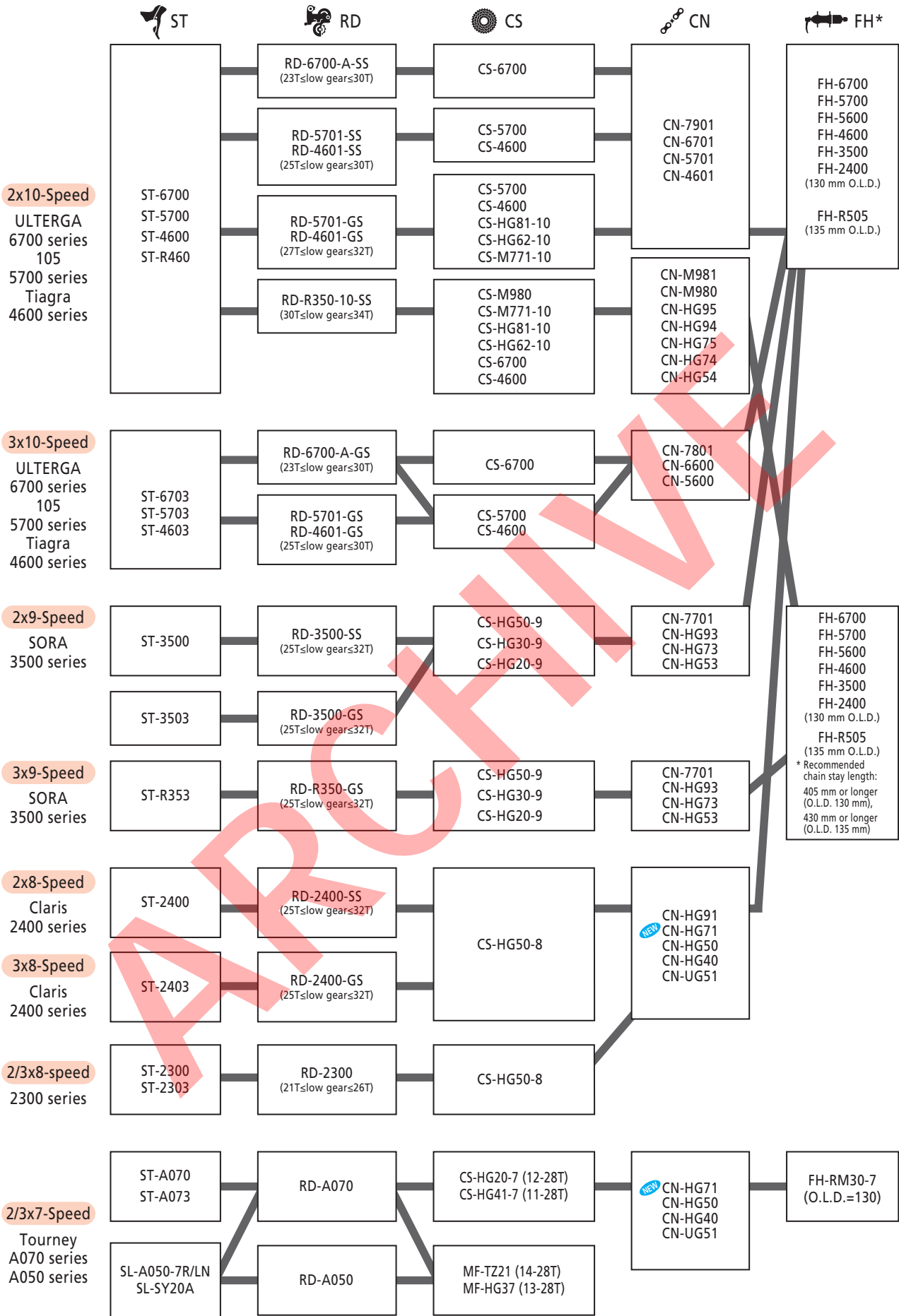
# Drivetrain for road bike components

## 1. Rear drivetrain compatibility



ARCHIVE



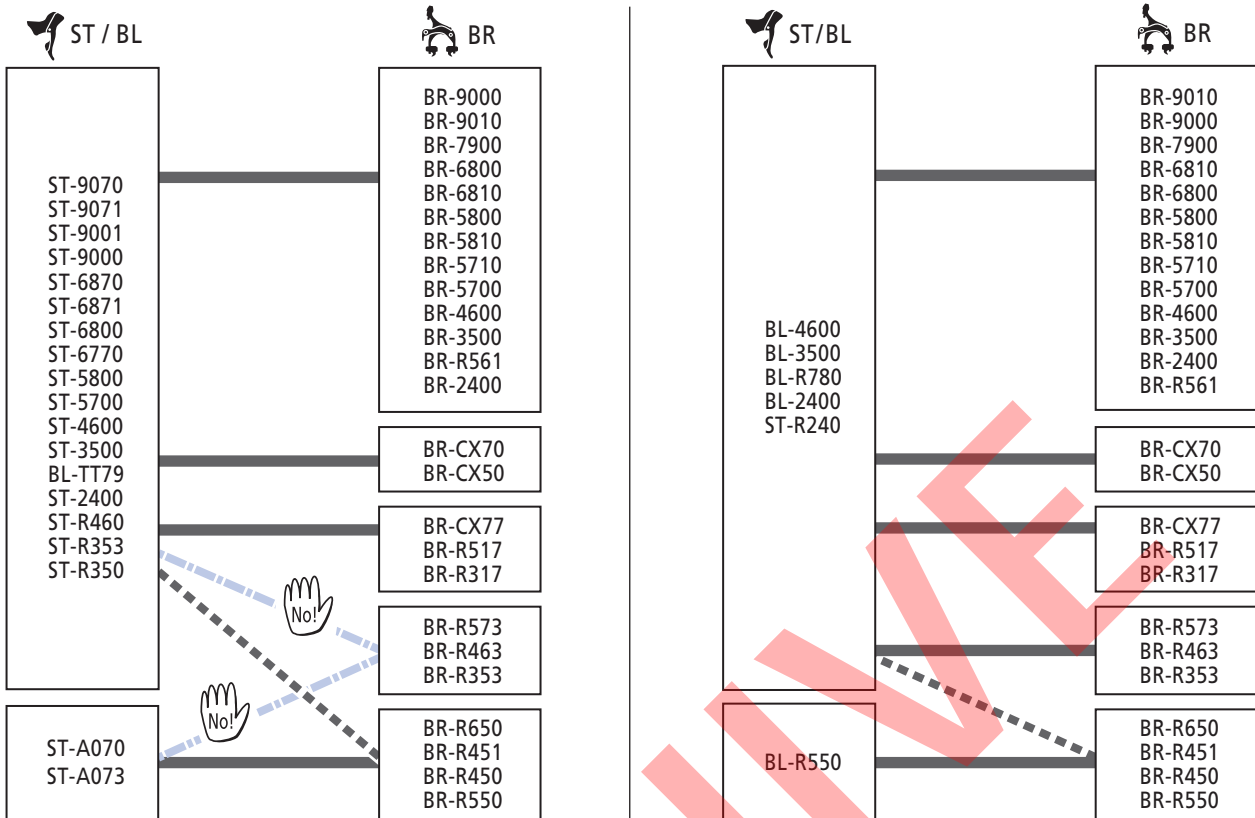


\* Recommended chain stay length:  
405 mm or longer (O.L.D. 130 mm),  
430 mm or longer (O.L.D. 135 mm)

## 2. Front drivetrain compatibility

	ST	FD	FC	CN	BB	
11-Speed	2x11-Speed Dura-Ace 9000 series ULTEGRA 6800 series 105 5800 series	ST-9001 SL-BSR1 ST-6800 ST-5800 ST-RS685  ST-9070 SL-9071 ST-6870 ST-6871 ST-R785	FD-9000 (not compatible with 46T) FD-6800 FD-5800  FD-9070 FD-6870	FC-9000 FC-6800 FC-5800 FC-R5500	CN-9000 CN-6800 CN-HG900-11 CN-HG700-11 CN-HG600-11	
	10-Speed	Double ULTEGRA 6700 series 105 5700 series Tiagra 4600 series	ST-6700 ST-5700 ST-4600 ST-R460	FD-6700 FD-5700  FD-4600 (50T≤top gear≤56T) FD-CX70  FD-4600 FD-R460  <small>Note: Recommended chain stay length: 405 mm or longer (O.L.D. 130 mm), 430 mm or longer (O.L.D. 135 mm) CS angle 63 - 66</small>	FC-6700 FC-6700G FC-6750 FC-6750G FC-5700 FC-5750 FC-4600 FC-4650 FC-R565  FC-CX70 FC-CX50  FC-R460 (46-34T) FC-R460 (48-34T)	CN-7901 CN-6701 CN-5701 CN-4601  CN-M981 CN-M980 CN-HG95 CN-HG94 CN-HG75 CN-HG74 CN-HG54
Triple ULTEGRA 6703 series 105 5703 series Tiagra 4600 series		ST-6703 ST-5703 ST-4603	FD-6703  FD-5703 FD-4603	FC-6703 FC-6703G  FC-5703 FC-4603 FC-R563	CN-7801 CN-6600 CN-5600	
9-Speed		Double SORA 3500 series	ST-3500	FD-3500	FC-3550 FC-R345 FC-R350	CN-7701 CN-HG93 CN-HG73 CN-HG53
	Triple SORA 3500 series	ST-3503 ST-R353	FD-3503 FD-R353	FC-3503 FC-R453		BB-ES25 (OCTALINK)
8-Speed	Double Claris 2400series 2300 series	ST-2400 ST-2300 ST-R240	FD-2400 FD-2300	FC-2450 (OCTALINK) FC-2300 FC-2350 (Square type)	CN-HG91 CN-HG71 CN-HG50 CN-HG40 CN-UG51	BB-ES25 (OCTALINK)  BB-UN26 (Square type)
	Triple Claris 2400 series 2300 series	ST-2403 ST-2303 ST-R243	FD-2403 FD-2303	FC-2403 (OCTALINK) FC-2303 (Square type)		
7-Speed	Double Tourney A070 series A050 series	ST-A070  SL-A050-LN SL-SY20A	FD-A070A  FD-A050	FC-A070 (50-34T) (Square type)	CN-HG91 CN-HG71 CN-HG50 CN-HG40 CN-UG51	BB-UN26 (Square type)
	Triple Tourney A070 series	ST-A073	FD-A073	FC-A073 (Square type)		

### 3. Brake systems compatibility



----- : Braking power is slightly less than standard combination.

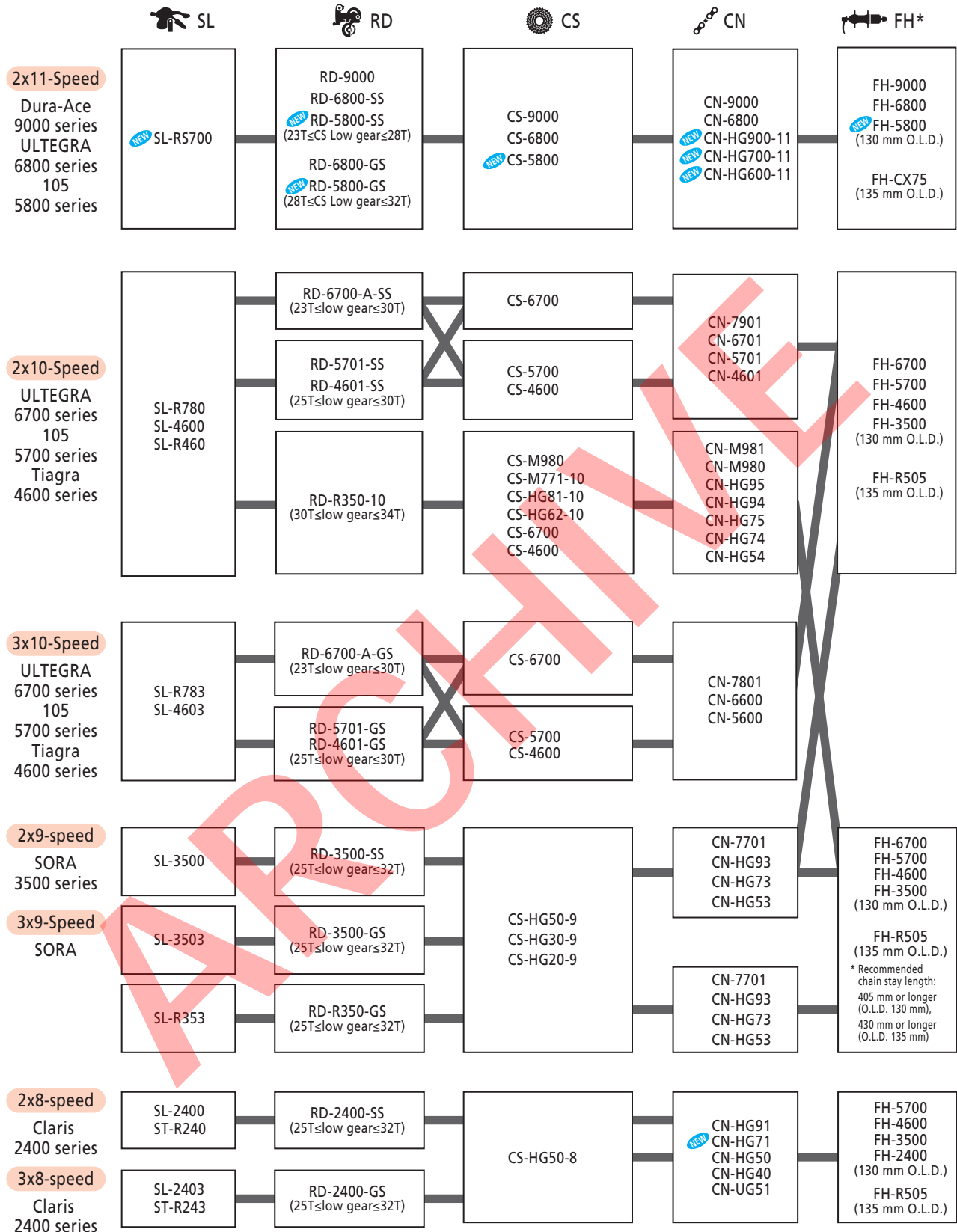


: The "NO!" symbols indicate combinations that should not be used under any circumstances.

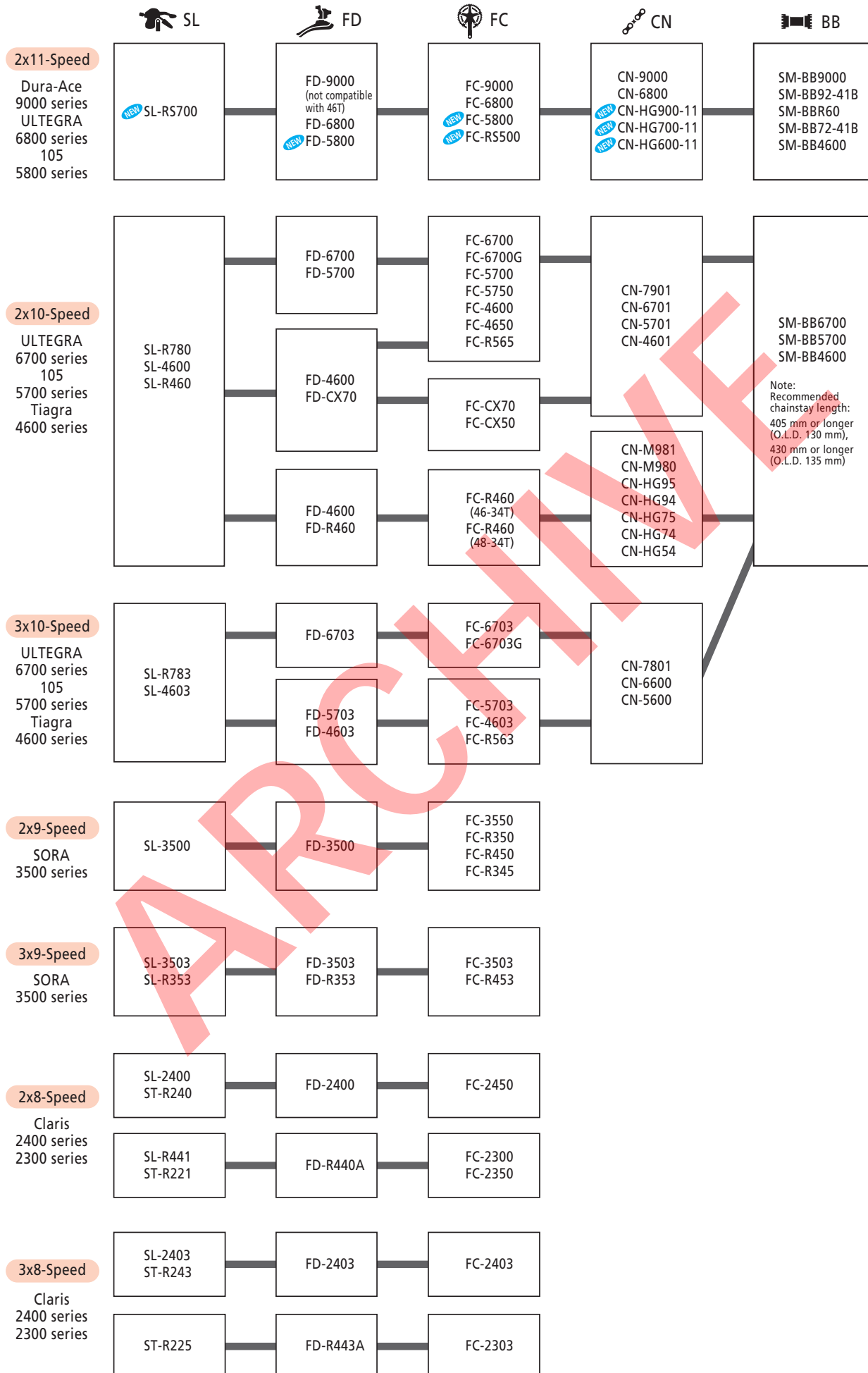
ARCHIVE

# 4. Compatibility for flat handlebar

## 4-1. Rear system



## 4-2. Front system



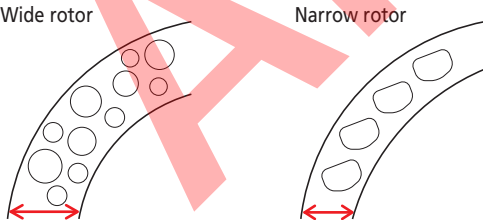
# Disc brake

## 1. Disc brake caliper and Rotor compatibility

Caliper	Pad material	Rotor size						
		140 mm (SS)	160 mm (S)	180 mm (M)	203 mm (L)			
NEW BR-M9000 NEW BR-M9020 BR-M785 BR-M675 BR-M615	Metal / Resin	SM-RT99-SS Narrow Type	SM-RT99-S SM-RT86-S SM-RT81-S SM-RT68-S SM-RT76-S SM-RT64-S SM-RT66-S	Narrow Type	SM-RT99-M SM-RT86-M SM-RT81-M SM-RT68-M SM-RT76-M SM-RT64-M SM-RT66-M	Narrow Type	SM-RT99-L SM-RT86-L SM-RT81-L SM-RT68-L SM-RT76-L SM-RT64-L SM-RT66-L	Narrow Type
BR-M820 BR-M640	Metal / Resin							
BR-S700	Resin							
BR-T675 BR-T615 NEW BR-M4050 BR-M447 BR-M446 BR-M416-A BR-M395 BR-M375 NEW BR-M355 NEW BR-TX805 BR-R317	Resin	-	NEW SM-RT20-S SM-RT30-S SM-RT54-S SM-RT56-S	Wide Type	NEW SM-RT20-M SM-RT30-M SM-RT54-M SM-RT56-M	Wide Type	-	
NEW BR-R785 NEW BR-R5785	Metal / Resin	SM-RT99-SS Narrow Type	SM-RT99-S SM-RT86-S SM-RT81-S SM-RT68-S	Narrow Type	-		-	
BR-CX77 BR-R517	Metal / Resin	-	SM-RT98-S SM-RT86-S SM-RT81-S SM-RT76-S SM-RT75-S SM-RT64-S SM-RT66-S	Narrow Type	-		-	

**Note:**

- Suitable mount adapter is necessary according to your frame mount style.
- SM-RT56 / SM-RT54 / SM-RT30 / SM-RT20 are compatible with Resin pad caliper specification only. If use with metal pads, rotor will be easily damaged.
- When using 140mm rotor, braking power is less than 160 mm, please confirm the power is enough for your purpose. 140 mm rotor is recommended for rear use only.
- Durability of B / E-type pad become shorter when the pad is used with narrow type rotor.
- Narrow type 2piece rotor are not compatible to caliper for Wide type rotor because of interference.
- Wide rotor



**Interference between brake caliper and adapter of rotor**

Do not use these combinations for a reason of interference between brake caliper and adapter of rotor.

Caliper	Rotor			
	140 mm (SS)	160 mm (S)	180 mm (M)	203 mm (L)
BR-T675 BR-T615 NEW BR-M4050 BR-M447 BR-M446 BR-M395 NEW BR-M355	SM-RT99	SM-RT99 SM-RT86 SM-RT81 SM-RT76	SM-RT99	SM-RT99 SM-RT86 SM-RT81 SM-RT76

## 2. Combination chart (Mechanical Disc)

### 2-1. 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
SHIMANO	BR-M416-A BR-M375 NEW BR-TX805	*	V-BRAKE BL (2 finger)	SM-RT54 SM-RT56 SM-RT30 NEW SM-RT20 for resin pad only	B01S Resin
	BR-R517	*	Road lever**	SM-RT64 / 66	G01S Resin
	BR-R317	*	Road lever**	SM-RT54 / 56	G01S Resin
	BR-CX77	*	Road lever**	SM-RT81 / 86	G01A Resin / G03Ti Metal

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

\*\* For BL-R780 / 4600 / 5700 / 4600

### 2-2. Mechanical Disc brake and Brake lever compatibility

Model No.	Brake lever type		
	2 finger	3,4 finger	3,4 finger w / modulator w / SM-PM50
BR-M416-A	X	-	X
BR-M375	X	-	X
NEW BR-TX805	X	-	X

# V-BRAKE and Hub roller brake


## 1. Compatibility 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.

Brakes	V-BRAKE		Roller Brake
	BR-T780 BR-MX70 BR-R353  BR-R463 BR-R573 BR-T670 BR-T610 BR-T4010 BR-T4000	With power modulator model BR-T780 with SM-PM70 BR-T670 with SM-PM70 BR-T610 with SM-PM70 BR-T4010 with SM-PM40 BR-T4000 with SM-PM40 BR-R353 with SM-PM40 BR-R463 with SM-PM40 BR-R573 with SM-PM70	
<b>Brake levers</b>			
<b>V-BRAKE Levers (2-finger)</b> ST-M4000 BL-T610 ST-M370 ST-M310 ST-EF65 ST-EF51 ST-EF51-A  ST-TX800 BL-M571 BL-T4000 BL-MX70	X	X	Note
<b>V-BRAKE Levers (3-finger)</b> ST-T4000 BL-T611 BL-T780-B BL-T670-B  BL-T780 BL-T670 BL-T4010	No!	X	No!
<b>V-BRAKE Levers with switch</b> BL-4600 BL-R780 BL-3500 BL-2400  ST-R240	X	X	No!
<b>Brake lever with switch</b> ST-M310 (4-finger) ST-EF65 (4-finger) ST-EF51 (4-finger) ST-EF51-A (4-finger) SB-8520 ST-8520  SB-7S45 BL-IM45 BL-IM65 BL-IM60 BL-C6000	No!	X	X
<b>Levers for Roller Brake</b>	No!	No!	X

X: Yes

 The "NO!" symbols indicate combinations that should not be used under any circumstances.

**Note:**

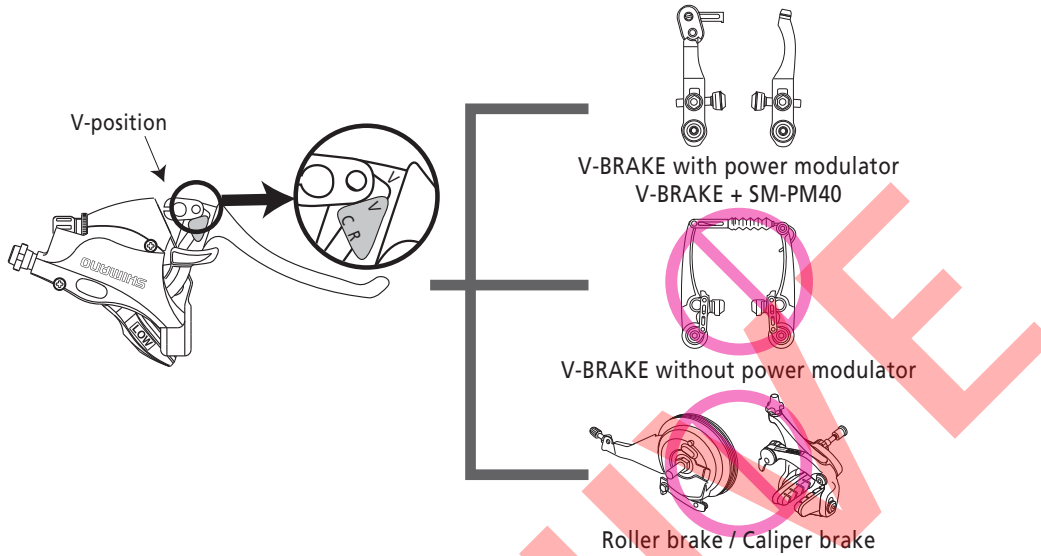
This combination will not provide the sufficient amount of braking force.



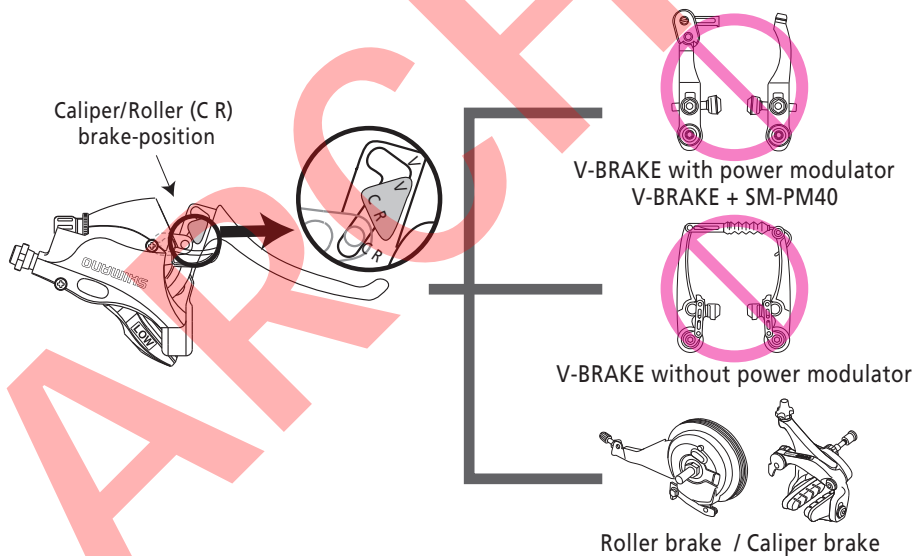
## 2. Brake lever with switch compatibility

Four finger brake levers such as brake levers are equipped with a switch to change between the V-BRAKE with modulator mode (for example with SM-PM40) and the caliper brake or roller brake mode.

### 2-1. For V-BRAKE (with power modulator) mode



### 2-2. For Caliper brake / Roller brake



Some models can't be used with roller brake, please refer to page 21 for more information.

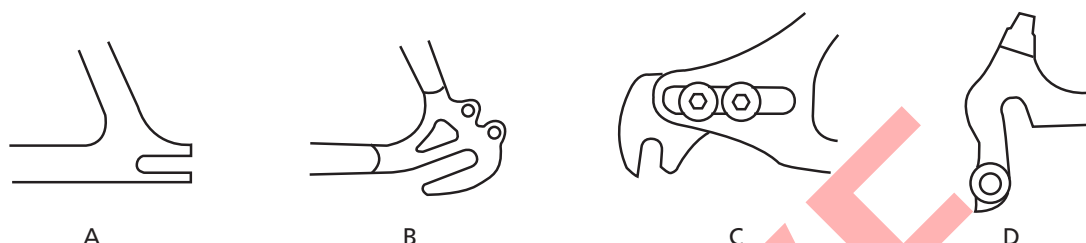
#### ⚠ Warning:

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.

# Comfort components

## Compatibility for comfort bike components

### 1. Combinations of the rear gear, cassette sprocket, and crankset for designing the frame



Dropout design	Compatibility	FC	CN
A: Reversed (Track end, w / o RD mount) B: Standard ( w / o RD mount ) C: Adjustable Disc brake mount / Eccentric BB D: Vertical dropout ( Road bike type, w / RD mount )	NR: Not recommend	E: FC-NX75 F: FC-S501 / S400 : Double guard spec G: FC-S501 / S400 : Single guard spec	H: CN-NX10(1 / 2"x1 / 8") or HG 85(1 / 2"x3 / 32") I: Super Narrow HG 95 J: HG 85(1 / 2"x3 / 32")

Series	Speed	Brake type	Dropout design	Compatibility	CT use	CS / SM -GEAR	FC	CN	additional condition
ALFINE	115 / 85	Disc use	A	NR	-	-	-	-	*1
			B	NR	-	-	-	-	
			C	OK	-	SM-GEAR	G	J	
			D	OK	CT-S500	CS-S500	F	I	
		V-BR use	A	OK	-	SM-GEAR	G	J	
			B	OK	-	SM-GEAR	G	J	
			C	OK	-	SM-GEAR	G	J	
			D	OK	CT-S500	CS-S500	F	I	
Nexus	85 / 75 / 35 (except 3D)	HRB / V-BR	A	OK	-	SM-GEAR	E	H	
			B	OK	-	SM-GEAR	E	H	
			C	OK	-	SM-GEAR	E	H	
			D	NR	CT-S500	CS-S500	F	I	*2
		D	OK	CT-S510	SM-GEAR	G	J		
		Coaster	A	OK	-	SM-GEAR	E	H	
			B	OK	-	SM-GEAR	E	H	
			C	OK	-	SM-GEAR	E	H	
	D		NR	CT-S500	-	-	-	*3	
	3D	Disc use	A	NR	-	-	-	-	*1
			B	NR	-	-	-	-	
			C	OK	-	SM-GEAR	G	J	
			D	OK	CT-S500	CS-S500	F	I	
		V-BR use	A	OK	-	SM-GEAR	G	J	
			B	OK	-	SM-GEAR	G	J	
			C	OK	-	SM-GEAR	G	J	
D			OK	CT-S500	CS-S500	F	I		
			D	OK	CT-S510	SM-GEAR	G	J	

\*1: Special disc brake mount design is needed.  
 \*2: without chain guard for hub gear side.  
 \*3: Structure of CT-S500 can't transfer chain tension by back pedalling.  
 \*4: Not enough force of fixation against back pedalling power.

# Electronic Product Information

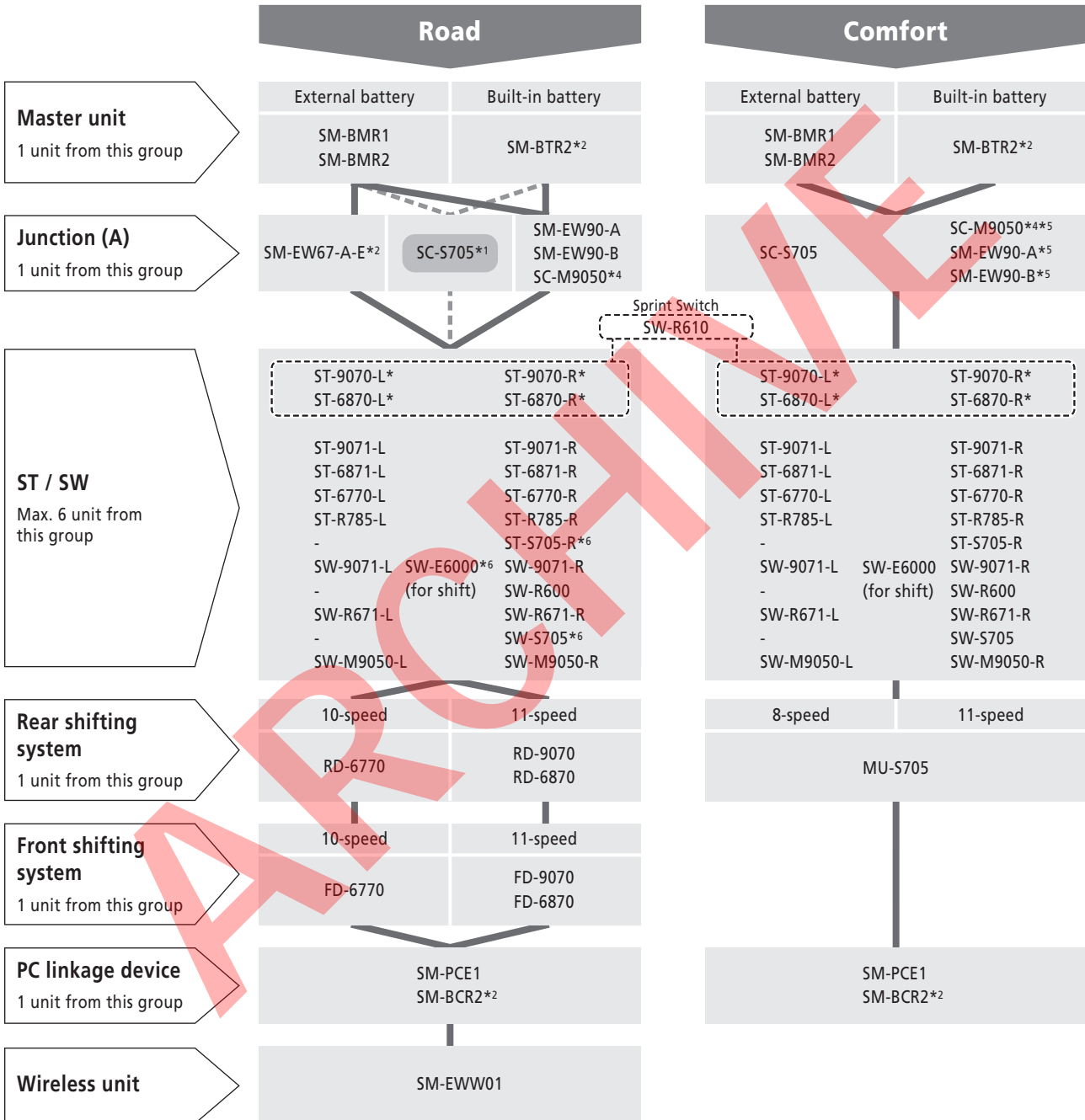
## 1. E-tube compatibility chart

### E-tube compatibility chart

This chart shows E-tube device compatibility based on latest version firmware as of Nov. 1st, 2014. Please see the following site for more E-tube information. <http://e-tubeproject.shimano.com/>

Master unit firmware for Road/ Comfort/ MTB category is ver. 3.0

When any device which is not shown in this compatibility chart is connected, all components don't work.



#### Limitation of function -----

\*1 SC-S705

- Front derailleur position will not appear on display
- Recovery from Rear derailleur protection function is not available
- Front / Rear derailleur adjustment mode is not available. Use E-tube project software

\*2 SM-BCR2 requires any device which has charging connector.

SM-EW67-A-E (Junction (A)) is not compatible with SM-BCR2 and SM-BTR2.

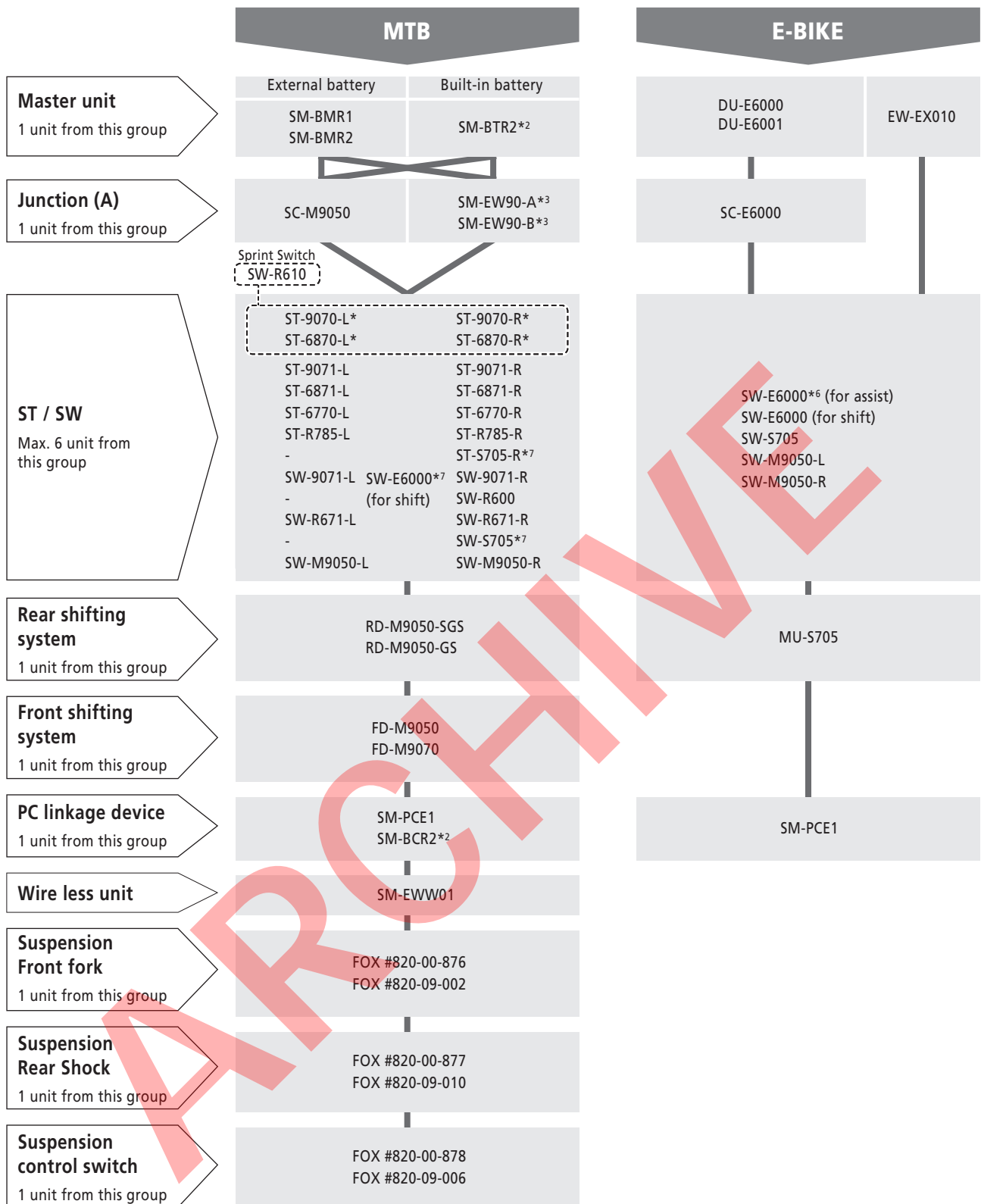
\*3 SC-M9050 is required for synchronized shift

\*4 Synchronized shift is available only in MTB category

\*5 Front / Rear derailleur adjustment mode is not available in "Comfort" category

\*6 Only for rear shifting

- SC-S705 has only 1 E-tube port for ST / SW
- SC-S705 may not turn on the display by front shifting switch



**Limitation of function -----**

- \*1 SC-S705
  - Front derailleur position will not appear on display
  - Recovery from Rear derailleur protection function is not available
  - Front / Rear derailleur adjustment mode is not available. Use E-tube project software
  - SC-S705 has only 1 E-tube port for ST / SW
  - SC-S705 may not turn on the display by front shifting switch
- \*2 SM-BCR2 requires any device which has charging connector.  
SM-EW67-A-E (Junction (A)) is not compatible with SM-BCR2 and SM-BTR2.
- \*3 SC-M9050 is required for synchronized shift
- \*4 Synchronized shift is available only in MTB category
- \*5 Front / Rear derailleur adjustment mode is not available for MU-S705
- \*6 Available switch for SHIMANO STEPS assist control is SW-E6000 (for assist mode).  
It doesn't work as assist control switch for other E-BIKE system via EW-EX010
- \*7 Only for rear shifting (RD & IHG)