

**ARCHIVE**

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# SHIMANO

**2016-2017**

**Products compatibility information**

Compatibilities are subject to change without prior

# Word definitions

<b>BB</b>	Bottom bracket	<b>GM</b>	Grommet
<b>BC</b>	Brake cable	<b>HB</b>	Front hub
<b>BCC</b>	Battery cable	<b>HP</b>	Head parts
<b>BCR</b>	Battery charger	<b>HRB</b>	Hub roller brake
<b>BH</b>	Disc brake hose	<b>I-spec</b>	Integration mounting system of brake and shift lever
<b>BL</b>	Brake lever	<b>ID</b>	CI-DECK
<b>BM</b>	Battery mount	<b>JC</b>	Junction
<b>BR</b>	Brake caliper	<b>LP</b>	Light
<b>BTC</b>	Battery case	<b>MF</b>	Multiple freewheel
<b>BTH</b>	Battery holder	<b>MU</b>	Motor unit
<b>BTR</b>	Battery	<b>O.L.D.</b>	Over locknut dimension
<b>CB</b>	Coaster brake	<b>P.C.D.</b>	Pitch circle diameter
<b>CG</b>	Chain guard	<b>PD</b>	Pedal
<b>CJ</b>	Cassette joint	<b>PM</b>	Power modulator
<b>CN</b>	Chain	<b>QR</b>	Quick release
<b>CP</b>	Spoke protector	<b>RD</b>	Rear derailleur
<b>CR</b>	Chainring	<b>RT</b>	Disc brake rotor
<b>CS</b>	Cassette sprocket	<b>RTAD</b>	Disc brake rotor adapter
<b>CT</b>	Chain tensioner	<b>SB</b>	Revo shifter integrated with brake lever
<b>DH</b>	Hub dynamo	<b>SC</b>	Cycle computer
<b>DU</b>	Drive unit	<b>SF</b>	Single free
<b>EC</b>	Battery charger	<b>SG</b>	Internal geared hub
<b>EW</b>	Electric wire	<b>SL</b>	Shift lever
<b>EWC</b>	Cord cover	<b>SPD</b>	Shimano pedaling dynamics
<b>EWEX</b>	Di2 adapter	<b>SPD-SL</b>	Shimano pedaling dynamics-SL
<b>EWV</b>	Wireless unit	<b>ST</b>	Dual control lever / Shift lever integrated with brake lever
<b>FC</b>	Crankset	<b>SW</b>	Switch
<b>FD</b>	Front derailleur	<b>WH</b>	Wheel
<b>FH</b>	Freehub		

# Compatibility

## Drivetrain for MTB components C-432

Rear drivetrain compatibility [MTB] C-433 C-434 C-435 C-436 C-437 C-438 C-439

Front drivetrain compatibility [MTB] C-440 C-441 C-442 C-443 C-444 C-445 C-446

Front derailleur and crankset C-447

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Crankset, bottom bracket and chain line [MTB] C-449 C-450

Chain, chainring and cassette sprocket [MTB] C-452

## Drivetrain for road bike / URBAN SPORT components C-453

Rear drivetrain compatibility [ROAD, URBAN SPORT] C-454

Front drivetrain compatibility [ROAD, URBAN SPORT] C-455

Brake systems compatibility [ROAD] C-456

Hydraulic systems compatibility [ROAD] C-499

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## Disc brake C-460

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Compatibility between brake systems C-466

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## Comfort components C-470

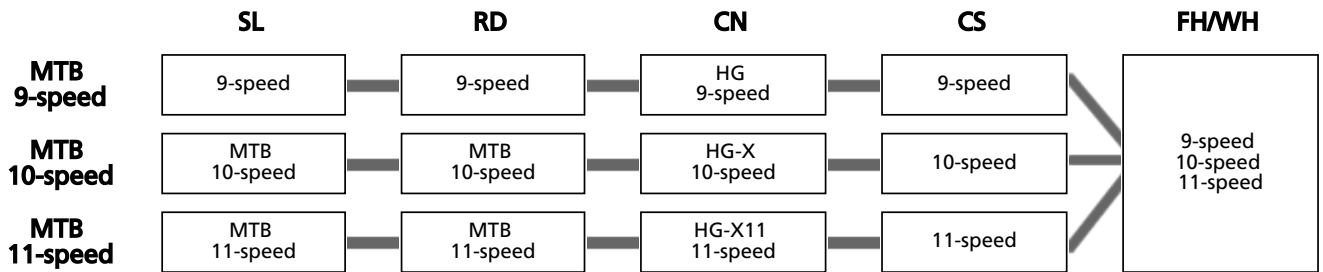
Combinations of the rear gear, cassette sprocket, and crankset for designing the frame C-471

## Electronic Product Information C-472

E-TUBE compatibility chart C-473

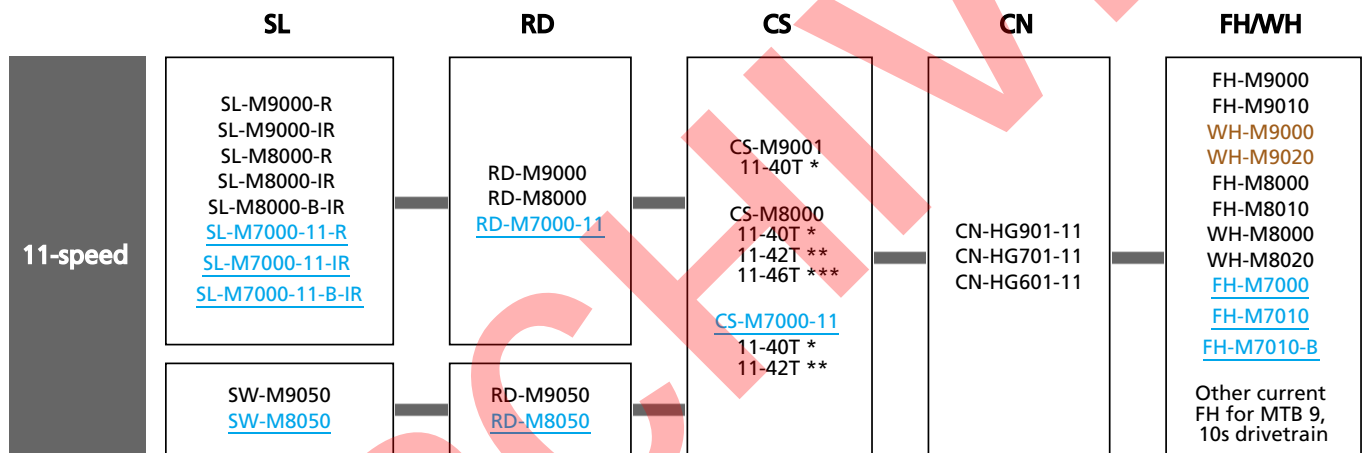
## Rear drivetrain compatibility [MTB]

### 9,10,11-speed rear drivetrain compatibility C-434



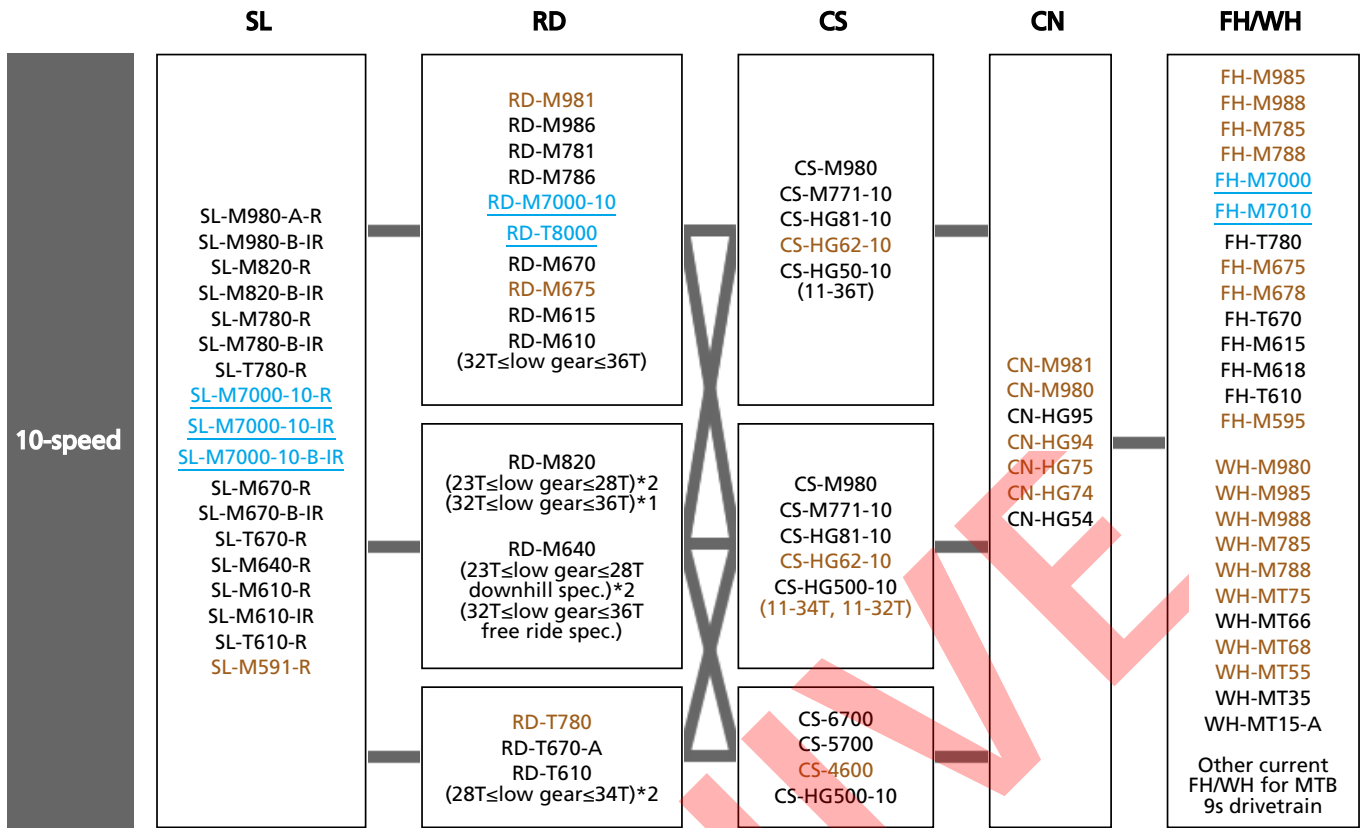
### 11-speed rear drivetrain [MTB] C-435

XTR M9000/DEORE XT M8000/SLX M7000 Series



- \* 3/2x11-speed drive train
- \*\* 2/1x11-speed drive train
- \*\*\* Only for 1x11-speed drivetrain

# 10-speed rear drivetrain [MTB] C-436



\*1 Mode converter

\*2 Compatible with road Cassette sprocket

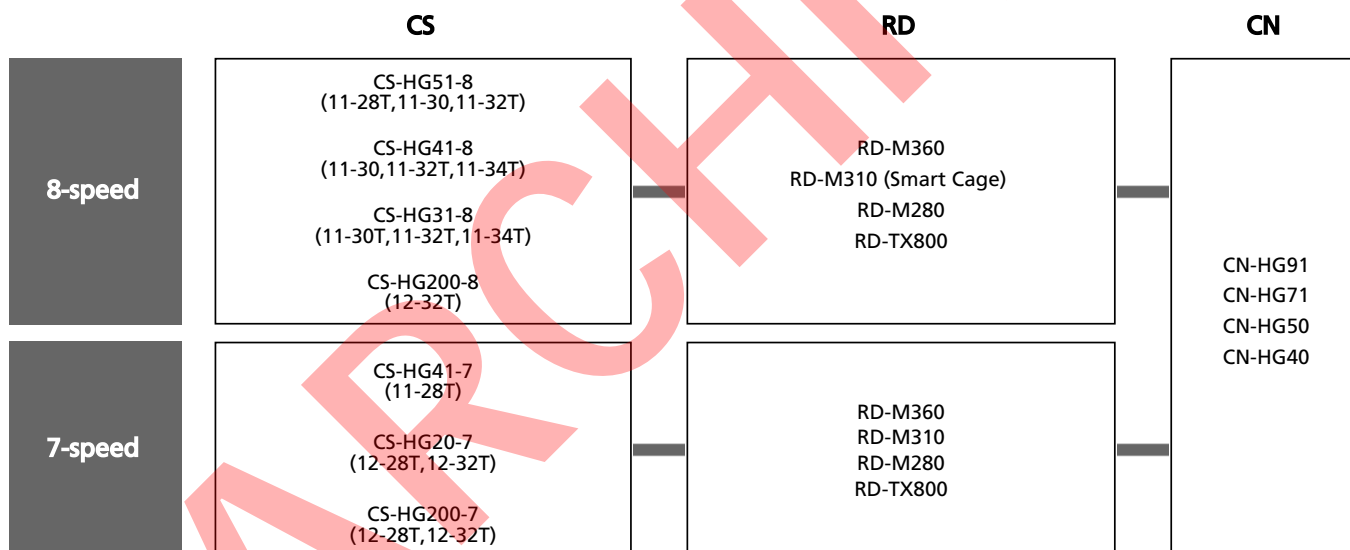
## 9-speed rear drivetrain [MTB] C-437

Cassette Sprocket			Shadow RD	W-servo RD	CN
			RD-M772 RD-M662 RD-M592 RD-M4000 RD-M3000	RD-T4000 RD-T3000 RD-M370	CN-7701 CN-HG93 CN-HG73 CN-HG53
CS-HG61-9	bh	12-36T	X	-	X
CS-HG400-9	bh				
CS-HG300-9	bh				
CS-HG80-9	au	11-34T	X	X	X
CS-HG61-9	au				
CS-HG400-9	au				
CS-HG300-9	au				
CS-HG200-9	bn				
CS-HG80-9	ar	11-32T	X	X	X
CS-HG61-9	ar				
CS-HG400-9	ar				
CS-HG300-9	ar				
CS-HG200-9	bo				
CS-HG80-9	bg	11-28T	-	X	X
CS-HG61-9	bg				
CS-HG400-9	bg				
CS-HG300-9	bg				

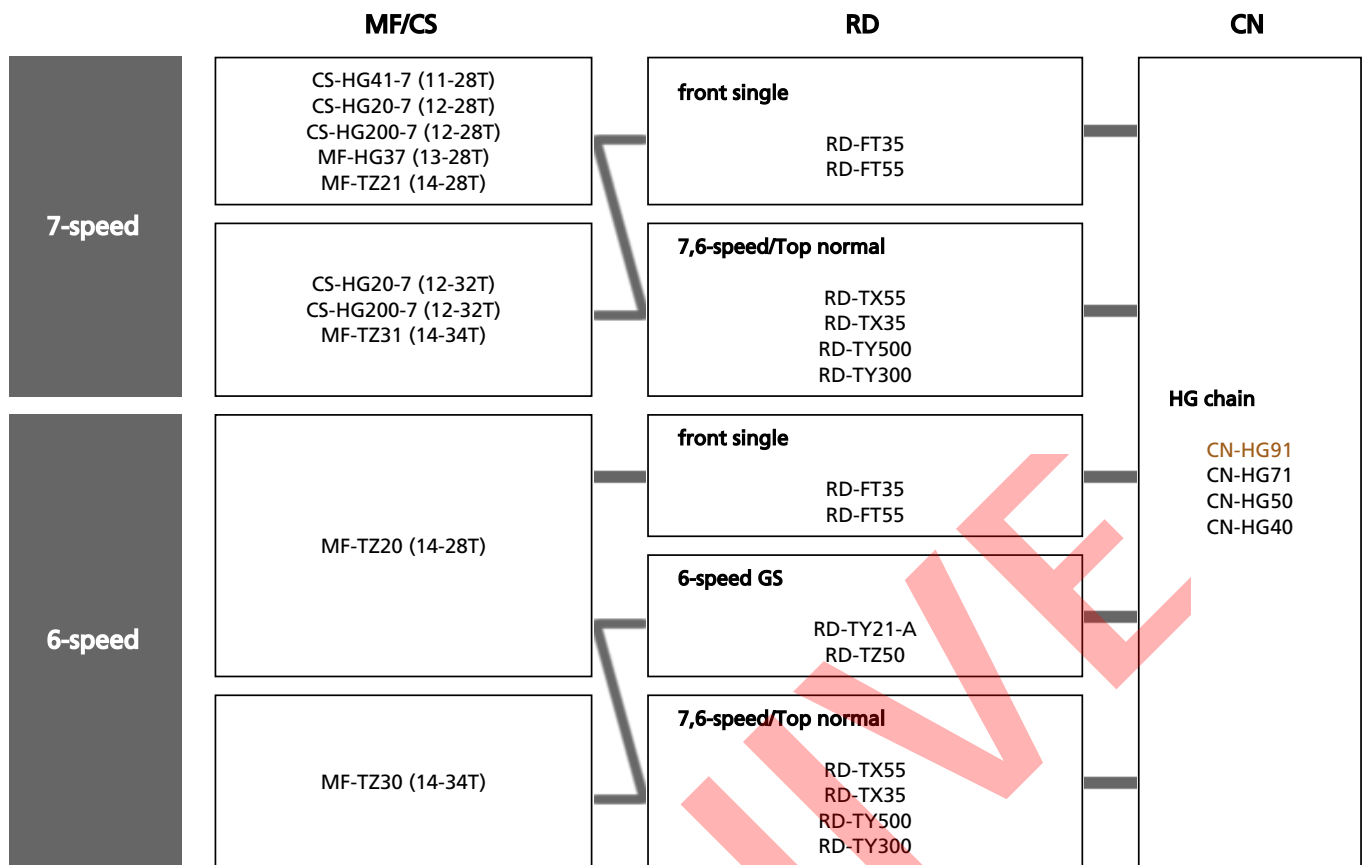
X: Yes

## 8,7-speed HG [MTB] C-438

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

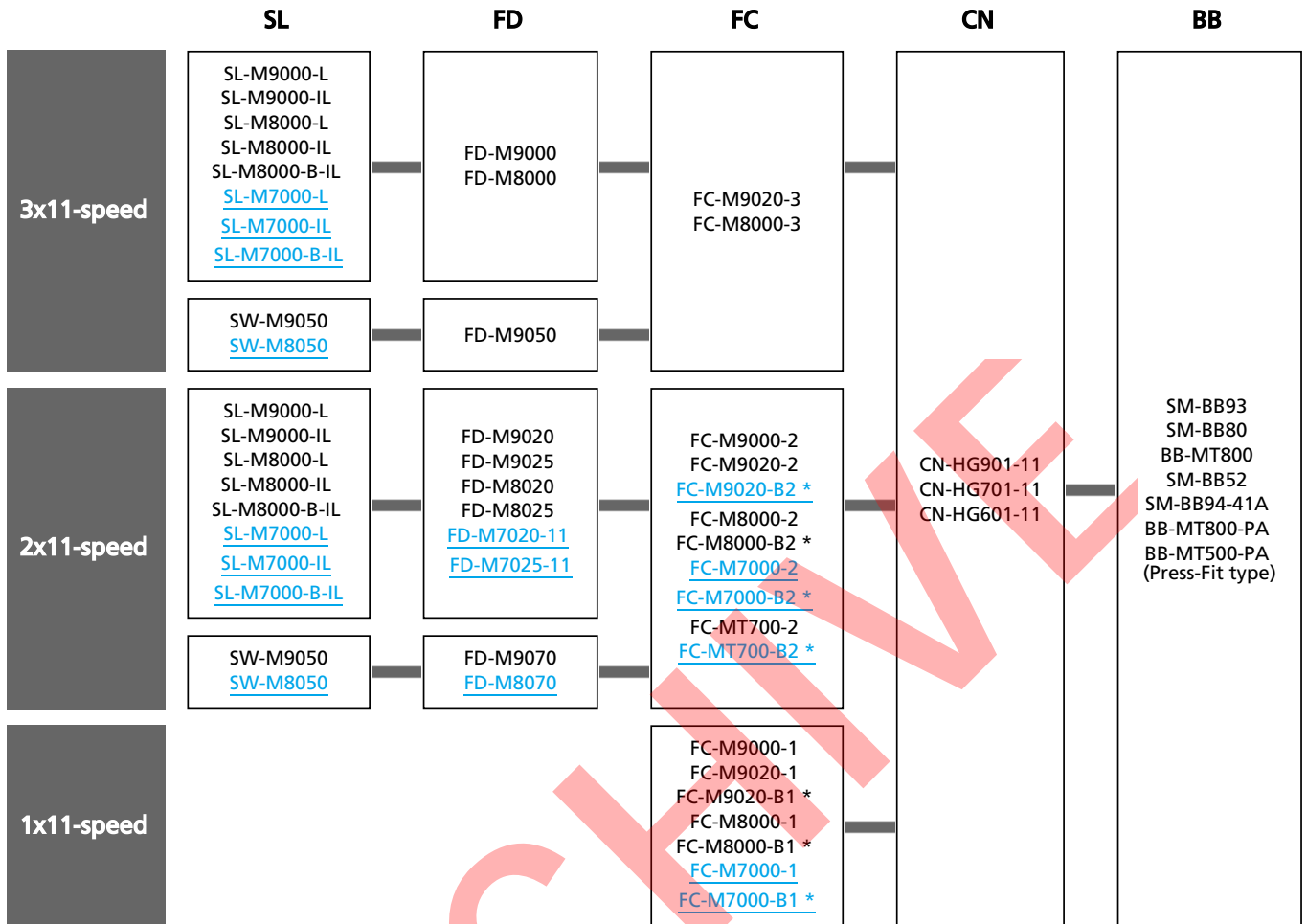


# 7-speed HG and 6-speed [MTB] C-439



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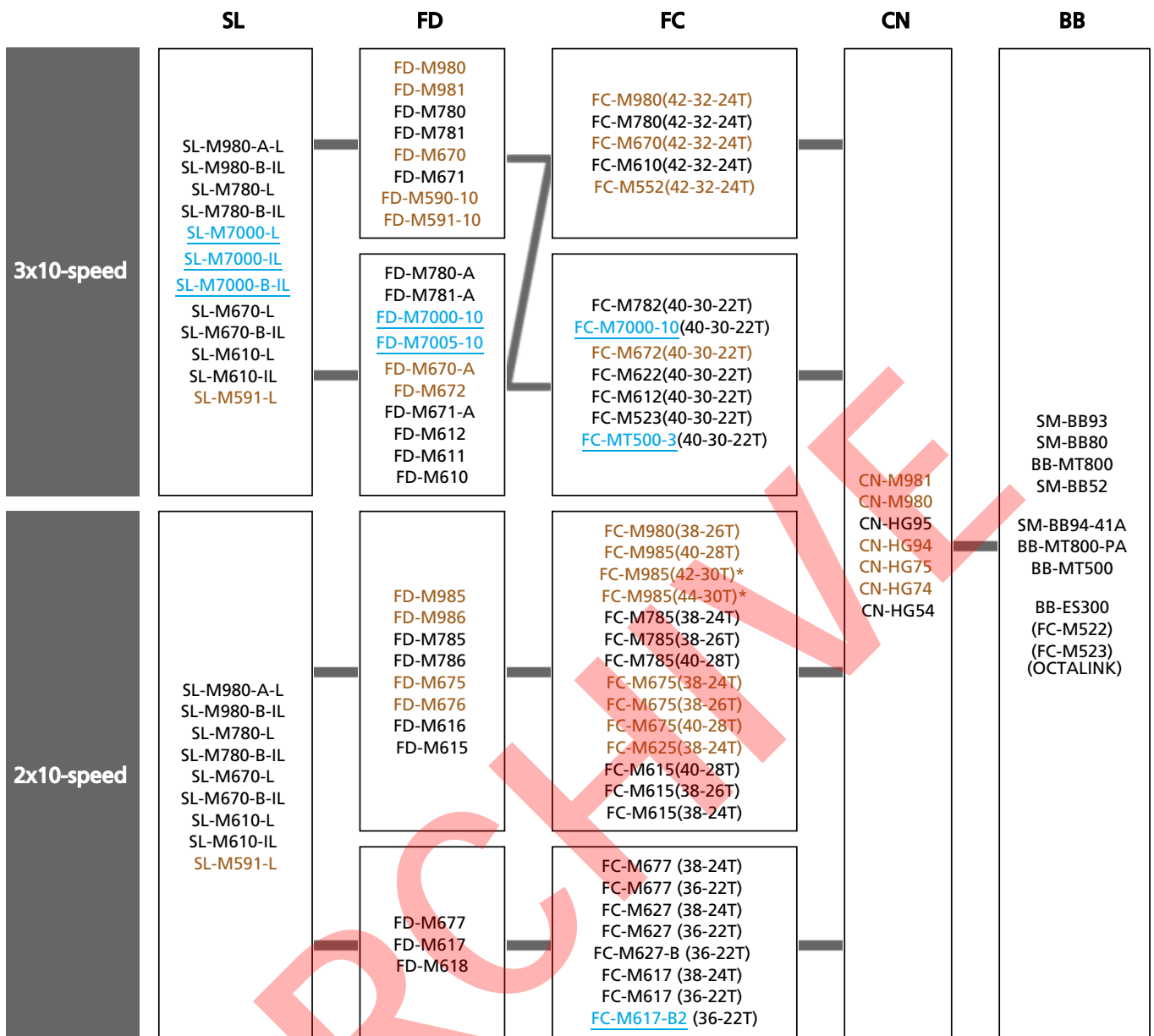
## 11-speed front drivetrain C-441



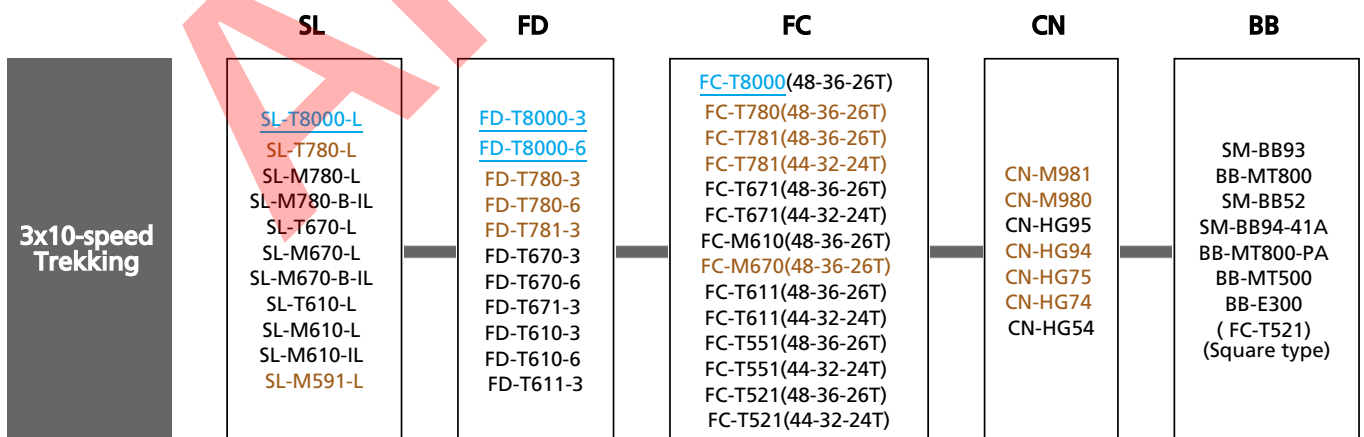
**NOTE**  
 \*It also requires new dimension of frame which cassette position is 3mm outboard



# 10-speed front drivetrain [MTB] C-442



\*: Not compatible with E2 type front derailleur.



## 11-speed FC-FD compatibility [MTB] C-443

		Speed		11-speed	
		Chain stay angle		66-69°	
Chain line (mm)	FC Model No.	Gear combination	For triple	For double	
			FD-M9000 FD-M9050 FD-M8000	FD-M9020 FD-M9025 FD-M9070 FD-M8020 FD-M8025 <a href="#">FD-M8070</a> <a href="#">FD-M7020-11</a> <a href="#">FD-M7025-11</a>	
48.8	FC-M9000-2 FC-M9020-2 FC-M8000-2 <a href="#">FC-M7000-11-2</a>	38-28T	-	X	
		36-26T	-	X	
		34-24T	-	X	
	FC-MT700-2	36-26T	-	X	
		34-24T	-	X	
50	FC-M9020-3 FC-M8000-3	40-30-22T	X	-	

## 11-speed FC-FD compatibility B type

		Speed		11-speed	
		Chain line	Chain stay angle	51.8 66-69°	
Chain line (mm)	FC Model No.	Gear combination	For double		
			FD-M9020 FD-M9025 FD-M9070 FD-M8020 FD-M8025 <a href="#">FD-M8070</a> <a href="#">FD-M7020-11</a> <a href="#">FD-M7025-11</a>		
51.8	<a href="#">FC-M9020-B2</a> <a href="#">FC-M8000-B2</a> <a href="#">FC-MT700-B2</a>	36-26T		X	
		34-24T		X	

# 10-speed FC-FD compatibility [MTB] C-444

Model No.	Top swing / Side swing (L:Band-type, E-type)				
	For triple				
	Chain stay angle	66°- 69°			63°- 66°
	Mount	Band-type		E-type	Band-type
Gear combination	<a href="#">FD-M7005-10-L</a> <a href="#">FD-M7000-10-L</a> FD-M780-A FD-M612-L FD-M610	<a href="#">FD-T8000-L-6</a> FD-T670-6 FD-T610-6	<a href="#">FD-M7005-10-E</a> <a href="#">FD-M7000-10-E</a> FD-M612-E FD-M610-E	<a href="#">FD-T8000-L-3</a> FD-T670-3 FD-T610-3	
FC-M780 FC-M610 FC-M522 (BB-ES300 113 mm)	42-32-24T	X	-	X	-
FC-M782 <a href="#">FC-M7000-10</a> FC-M622 FC-M612 <a href="#">FC-MT500</a>	40-30-22T	X	-	X	-
FC-M523	40-30-22T	X	-	X	-
FC-M610	48-36-26T	-	X	-	X
<a href="#">FC-T8000</a>	48-36-26T	-	X	-	X
FC-T671 FC-T611 FC-T551 FC-T521	48-36-26T	-	X	-	X
	44-32-24T	-	X	-	X

Model No.	Top swing / Side swing (L:Band-type, E-type)				
	For double				
	Chain stay angle	66°- 69°			
	Mount	Band-type		E-type	
Gear combination	FD-M785 FD-M675 FD-M615	FD-M677-L FD-M617-L FD-M618-L	FD-M785-E2 FD-M675-E2 FD-M615-E2 (w/o BB plate only)	FD-M677-E FD-M617-E FD-M618-E	
FC-M785 FC-M675 FC-M625 FC-M615	40-28T	X	-	X	-
	38-26T	X	-	X	-
	38-24T	X	-	X	-
FC-M677 FC-M627 FC-M617	38-24T	-	X	-	X
	36-22T	-	X	-	X

Model No.	Down swing / Side swing (H:Band-type, D-type)			
	For triple			
	Chain stay angle	66°- 69°		63°- 66°
	Mount	Band-type	D-type	Band-type
Gear combination	<a href="#">FD-M7005-10-H</a> <a href="#">FD-M7000-10-H</a> FD-M781-A FD-M671-A FD-M612-H FD-M611	<a href="#">FD-M7005-10-D</a> <a href="#">FD-M7000-10-D</a> FD-M781-A-D FD-M671-A-D FD-M612-D FD-M611-D	<a href="#">FD-T8000-H-3</a> FD-T671-3 FD-T611-3	
FC-M780 FC-M610 FC-M522 (BB-E5300 113 mm)	42-32-24T	X	X	-
<a href="#">FC-T8000</a>	48-36-26T	X	X	-
<a href="#">FC-M7000-10-3</a> FC-M782 FC-M622 FC-M612	40-30-22T	X	X	-
FC-M523	40-30-22T	X	X	-
FC-M610	48-36-26T	-	-	X
FC-T671 FC-T611 FC-T551 FC-T522	48-36-26T	-	-	X
	44-32-24T	-	-	X

Model No.	Down swing / Side swing (H:Band-type, D-type)				
	For double				
	Chain stay angle	66°- 69°			
	Mount	Band-type		D-type	
Gear combination	FD-M786 FD-M676 FD-M616	FD-M677-H FD-M617-H FD-M618-H	FD-M786-D FD-M676-D FD-M616-D	FD-M677-D FD-M617-D FD-M618-D	
FC-M785 FC-M675 FC-M625 FC-M615	40-28T	X	-	X	-
	38-26T	X	-	X	-
	38-24T	X	-	X	-
FC-M677 FC-M627 FC-M617	38-24T	-	X	-	X
	36-22T	-	X	-	X

X: Yes

### 10-speed FC-FD compatibility B type

Model No.		Top swing / Side swing	Down swing / Side swing
		For double	
	Chain stay angle	66°- 69°	
	Mount	E-type	D-type
Gear combination	FD-M677-E FD-M617-E FD-M618-E	FD-M677-D FD-M617-D FD-M618-D	
<a href="#">FC-M627-B</a> <a href="#">FC-M617-B2</a>	36-22T	X	X

# 9-speed triple FC-FD compatibility [MTB] C-445

		Speed		9-speed									
		Chain line		50 mm									
		Chainstay angle		66° - 69°									
		Top swing FD		-	FD-M770-E	FD-M4000-TS6 FD-M3000-TS6	FD-M770 FD-M590-6 FD-T4000-TS6 FD-T3000-TS6 FD-M390-6 FD-M370-6						
Chain line	BB Model No. / Structure	Down swing FD		FD-M771 FD-M771D FD-M661D	-	FD-M4000-DS6	FD-M591-6 FD-M371-6						
50 mm	2pc type FC	FC-M4050	40-30-22T	-	-	X	-						
		FC-M770	44-32-22T	X	X	-	X						
		FC-M542											
		FC-M543K											
		FC-M590											
		FC-M591	48-36-26T	-	-	-	X						
		FC-T4060											
		FC-M543K											
		FC-M590											
		FC-M591											
	FC-M4060	BB-ES300 (please refer chart as below for detailed combination)	FC-M521	44-32-22T	X	X	-	X					
	FC-T4010												
	FC-T3010-8												
	FC-T3010												
	FC-M371												
	FC-M351												
	FC-M4000								40-30-22T	-	-	X	-
	FC-M3000-8												
	FC-M3000								44-32-22T	X	X	-	X
	FC-M430-8												
FC-M430	BB-ES300 (please refer chart as below for detailed combination)	FC-M521	48-36-26T	-	-	-	X						
FC-T4010													
FC-T3010-8													
FC-T3010													
FC-M371													

		Speed		9-speed			
		Chain line		50 mm			
		Chainstay angle		63° - 66°			
		Top swing FD		FD-M4000-TS3 FD-M3000-TS3	FD-M772A FD-T660A-3 FD-M590-3 FD-T4000-TS3 FD-T3000-TS3 FD-M390-3 FD-M370-3		
Chain line	BB Model No. / Structure	Down swing FD		FD-M4000-DS3	FD-M773 FD-T661-3 FD-M591-3 FD-T4000-DS3 FD-M371-3		
50 mm	2pc type FC	FC-M4050	40-30-22T	X	-		
		FC-M770	44-32-22T	-	X		
		FC-M542					
		FC-M543K					
		FC-M590					
		FC-M591					
		FC-T4060					
		FC-M543K	48-36-26T	-	X		
		FC-M590					
		FC-M591					
		FC-M4060					
		FC-T4060	44-32-22T	-	X		
	BB-ES300 (please refer chart as below for detailed combination)	FC-M521					
	BB-ES300 126 (-K)	FC-T4010					
		FC-T3010-8					
	BB-UN26 LL123 (-K) BB-UN100 LL123 (-K)	FC-T3010					
		FC-M371					
	BB-ES300 118	FC-M351					
		FC-M4000				40-30-22T	X
	BB-UN26 LL113	FC-M3000-8					
BB-ES300 118 (-E)	FC-M3000	44-32-22T				-	X
BB-UN26 LL113 (-E)	FC-M430-8						
BB-ES300 (please refer chart as below for detailed combination)	FC-M430	48-36-26T	-	X			
	FC-M521						
	BB-ES300 126 (-K)				FC-T4010		
					FC-T3010-8		
	BB-UN26 LL123 (-K) BB-UN100 LL123 (-K)				FC-T3010		
					FC-M371		

X: Yes

### FC-M521 / BB-ES300 combination

		MTB (without chain case) Trekking (with chain case) E-type	Trekking (with chain case)	E-type
BB shell width	68 mm	ABBES300AKB21W (use with 1.8 mm spacer) / ABBES300B21	ABBES300AKB21W (use without 1.8 mm spacer) / ABBES300AKB21	ABBES300EB21
	73 mm	ABBES300C21	-	ABBES300EC21

# 8,7,6-speed triple FC-FD compatibility [MTB] C-446

		Speed		8,7-speed					
		Chain line		50.0 mm		47.5 / 47.5+t mm / 50.0 mm		47.5 / 47.5+t mm / 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-TY700-TS6	FD-M190-3 FD-TY700-TS3
Chain line	BB Model No. / Structure	Down swing FD	-	-	FD-M313-6	FD-M313-3	-	-	
50 mm	BB-ES300 (-K) 126 (K)	FC-M361-8	42-32-22T	-	-	X	X	-	-
		FC-M311-8	42-32-22T	-	-	X	X	-	-
	BB-UN26 (-K) LL123 (-K) BB-UN100 (-K) LL123 (-K)	FC-M361	42-32-22T	-	-	X	X	-	-
		FC-M311 FC-TX801	48-38-28T	-	-	X	X	-	-
47.5+t mm	BB-UN26 (-E) LL123 (-E)	FC-M361	42-32-22T	X	X	-	-	-	-
		FC-M311	42-32-22T	-	-	-	-	-	-
47.5+t mm	BB-UN26 (-K) D-NL (-K) BB-UN100 (-K) D-NL(-K)	FC-TY701	42-34-24T	-	-	-	-	X	X
		FC-TY501 FC-TY301	48-38-28T	-	-	X	X	-	-
47.5 mm	BB-UN26 D-NL BB-UN100 D-NL	FC-TY701	42-34-24T	-	-	-	-	X	X
		FC-TY501 FC-TY301	48-38-28T	-	-	X	X	-	-

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		Speed		8,7-speed		7,6-speed				7,6-speed	
		Chain line		47.5 / 47.5+t mm / 50.0 mm		47.5 / 47.5+t mm / 50.0 mm		47.5 / 47.5+t mm / 50.0 mm		47.5 mm	
		Chainstay angle		66°-69°	63°-66°	66° - 69°	63° - 66°	66° - 69°	63° - 66°	66° - 69°	66° - 69°
		Top swing FD		FD-M191-6 FD-TY710-TS6	FD-M191-3 FD-TY710-TS3	FD-TX50-6 FD-TY500-TS6 FD-TY300*	FD-TX50-3 FD-TY500-TS3	FD-TX51-6 FD-TY510-TS6	FD-TX51-3 FD-TY510-TS3	FD-TZ30	FD-TZ31
Chain line	BB Model No. / Structure	Down swing FD		-	-	-	-	-	-	-	-
50 mm	BB-ES300 (-K) 126 (K)	FC-M361-8	42-32-22T	-	-	-	-	-	-	-	-
		FC-M311-8									
	BB-UN26 (-K) LL123 (-K) BB-UN100 (-K) LL123 (-K)	FC-M361 FC-M311 FC-TX801	42-32-22T 48-38-28T	- X	- X	- -	- -	- X	- X	- -	- -
47.5+t mm	BB-UN26 (-K) D-NL (-K) BB-UN100 (-K) D-NL(-K)	FC-TY701 FC-TY501 FC-TY301	42-34-24T 48-38-28T	- X	- X	X -	X -	- X	- X	- -	- -
		BB-UN26 D-NL BB-UN100 D-NL	FC-TY701 FC-TY501 FC-TY301	42-34-24T 48-38-28T	- X	- X	X -	X -	- X	- X	X -

\* FD-TY300 L size is designed for 50 mm chain line.  
X: Yes

#### 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.



## Front derailleur and crankset

C-447

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.

$$\begin{aligned} FC(\text{top gear}) - (\text{low gear}) &\leq FD(\text{top and low capacity}) \\ FC(\text{top gear}) - (\text{middle gear}) &= FD(\text{allowance of difference in teeth number between top and middle}) \end{aligned}$$

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

## Front derailleur and chain line (TOURNEY)

C-448

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-TY300	47.5	50.0	
	FD-TZ31	47.5		
	FD-TZ30			

## Crankset, bottom bracket and chain line [MTB]

C-449

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.

## Separate type FC-BB compatibility [MTB] C-450

Speed	Series	Crankset				Bottom bracket Model No.	Chain line and axle mark			
		Model No.	Type of crank				47.5 mm	50.0 mm	52.5 mm	47.5+t mm
			OCTALINK	Square	Chain case					
10	SHIMANO	FC-M523	X	-	-	BB-ES300	-	118	-	-
		FC-M522	X	-	-	BB-ES300	-	113	-	-
9	SHIMANO	FC-M521	X	-	X*	BB-ES300-AK	-	**	-	-
	ALIVIO	FC-M4000	X	-	-	BB-ES300	-	118	-	-
		FC-T4010	X	-	X*	BB-ES300(-K)	-	126(-K)	-	-
		FC-M430-8	X	-	-	BB-ES300(-E)	-	118(-E)	-	-
		FC-M430	-	X	-	BB-UN26(-E)	-	LL113(-E)	-	-
	Acera	FC-M3000-8	X	-	-	BB-ES300	-	118	-	-
		FC-M3000	-	X	-	BB-UN26	-	LL113	-	-
		FC-T3010-8	X	-	X*	BB-ES300(-K)	-	126(-K)	-	-
		FC-T3010	-	X	X*	BB-UN26(-K)	-	LL123(-K)	-	-
	SHIMANO	FC-M371	-	X	X*	BB-UN26(-K)	-	LL123(-K)	-	-
FC-M351		-	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-ES300(-K)	-	126(-K)	-	-
8, 7, 6	SHIMANO	FC-TX801	-	X	X*	BB-UN26(-K) BB-UN100(-K)	-	LL123(-K)	-	-
		FC-TY701 FC-TY501 FC-TY301	-	X	X	BB-UN26(-K) BB-UN100(-K)	D-NL(122.5)	-	-	D-NL-K (122.5)

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

\*\* : Please refer to [C-445](#) for detailed combination.

X: Yes

### NOTE

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

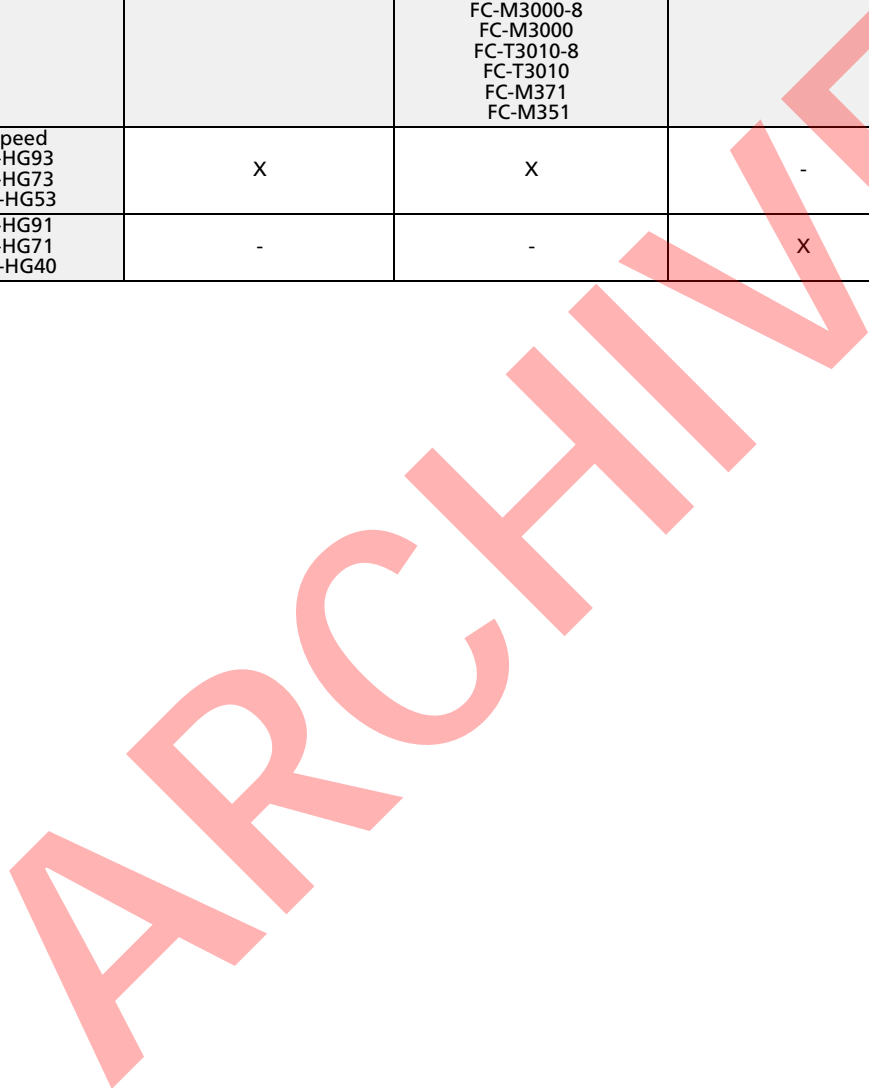
If using an E-type front derailleur, select a BB-○○○○ (-E) bottom bracket.

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

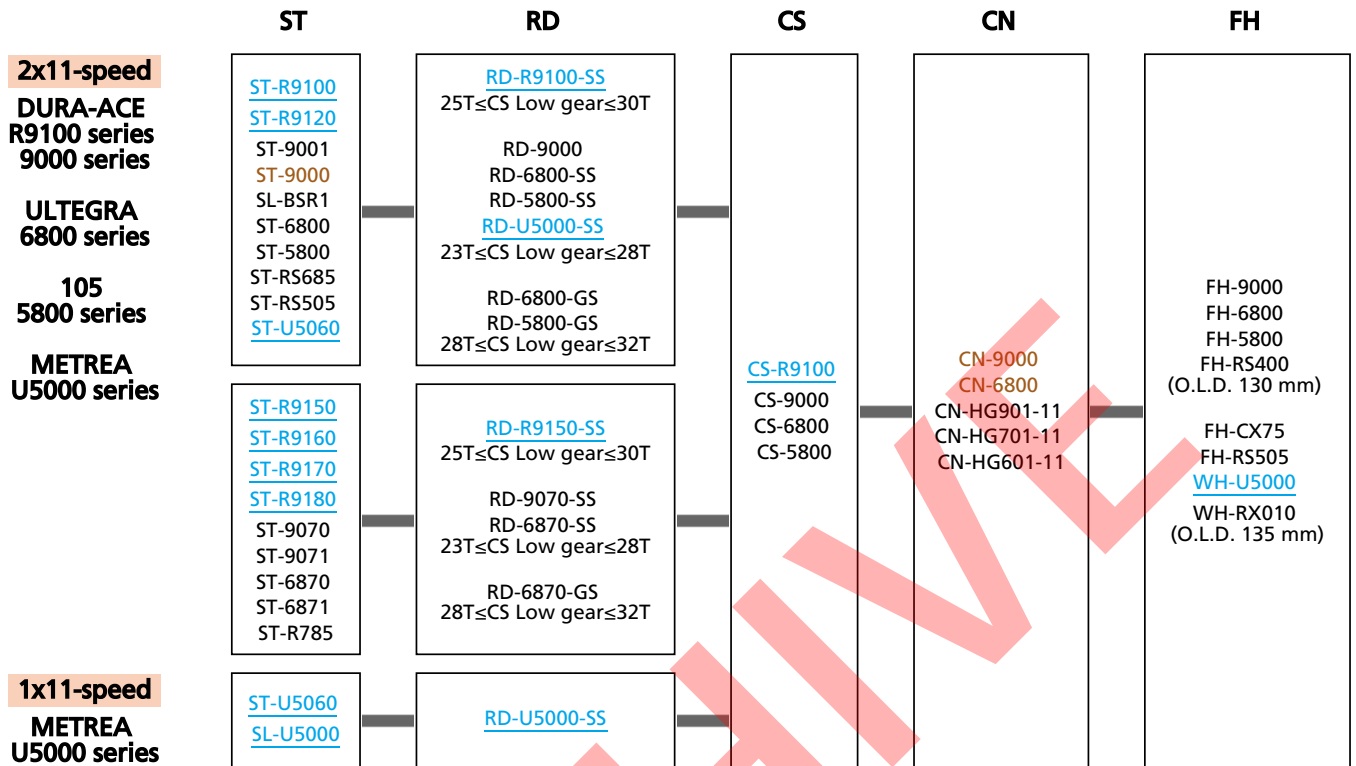
# Chain, chainring and cassette sprocket [MTB]

The allowable combinations 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-HG50-9 CS-HG400-9 CS-HG300-9 CS-HG200-9	FC-M770 FC-M665 FC-M591 FC-M590 FC-M543-K FC-M542 FC-M521 FC-M4060 FC-M4050 FC-T4060 FC-M4000 FC-T4010 FC-M430 FC-M430-8 FC-M3000-8 FC-M3000 FC-T3010-8 FC-T3010 FC-M371 FC-M351	CS-HG51-8 CS-HG41-8 CS-HG31-8 CS-HG200-8 CS-HG41-7 CS-HG20-7 CS-HG200-7	FC-M361 FC-M311 FC-M311-8 FC-TX801 FC-TY701 FC-TY501 FC-TY301
CN	9-speed CN-HG93 CN-HG73 CN-HG53	X	X	-	-
	CN-HG91 CN-HG71 CN-HG40	-	-	X	X



## Rear drivetrain compatibility [ROAD, URBAN SPORT] C-454



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**2x10-speed**

**ULTEGRA  
6700 series**

**105  
5700 series**

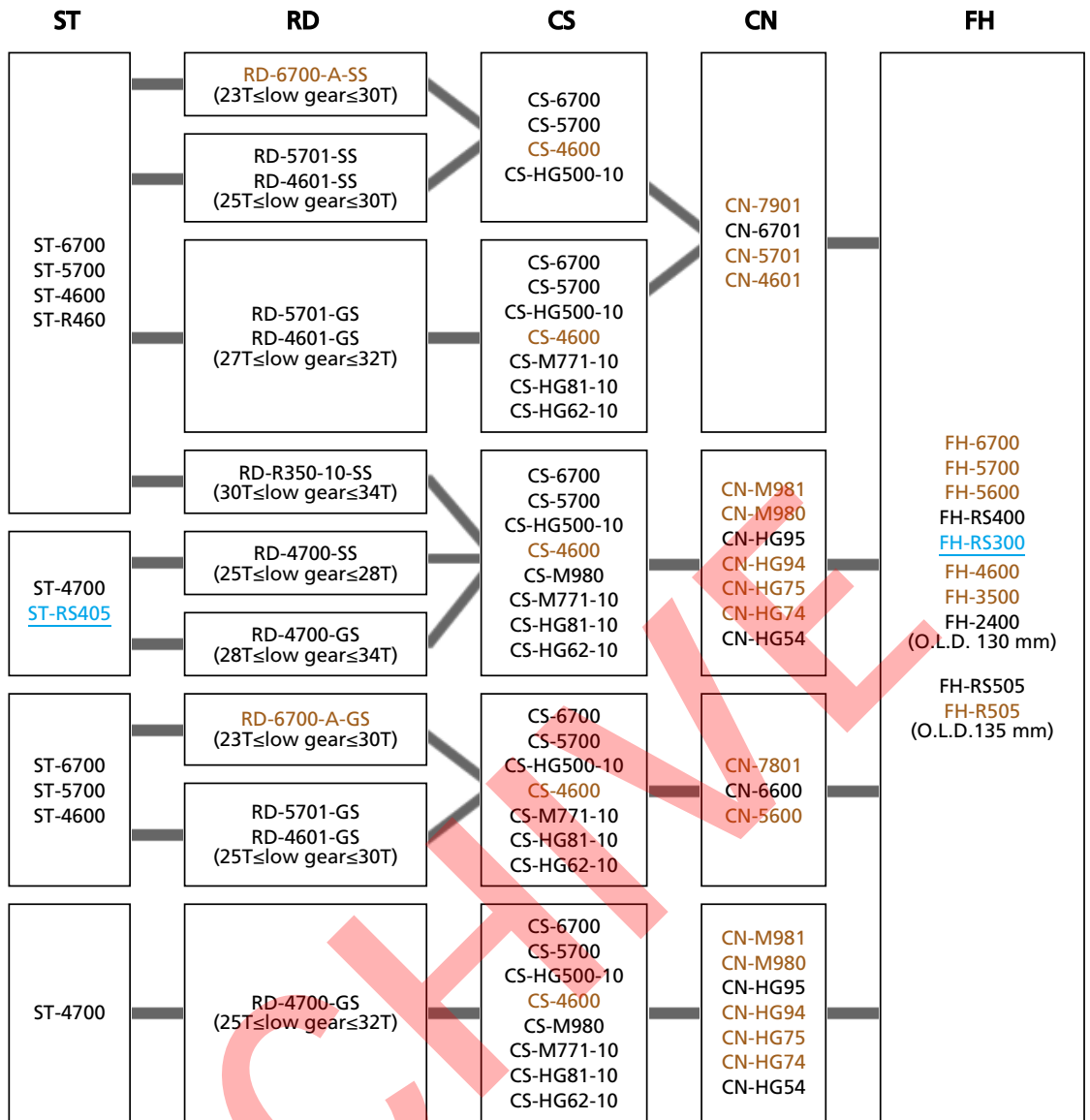
**TIAGRA  
4700 series  
4600 series**

**3x10-speed**

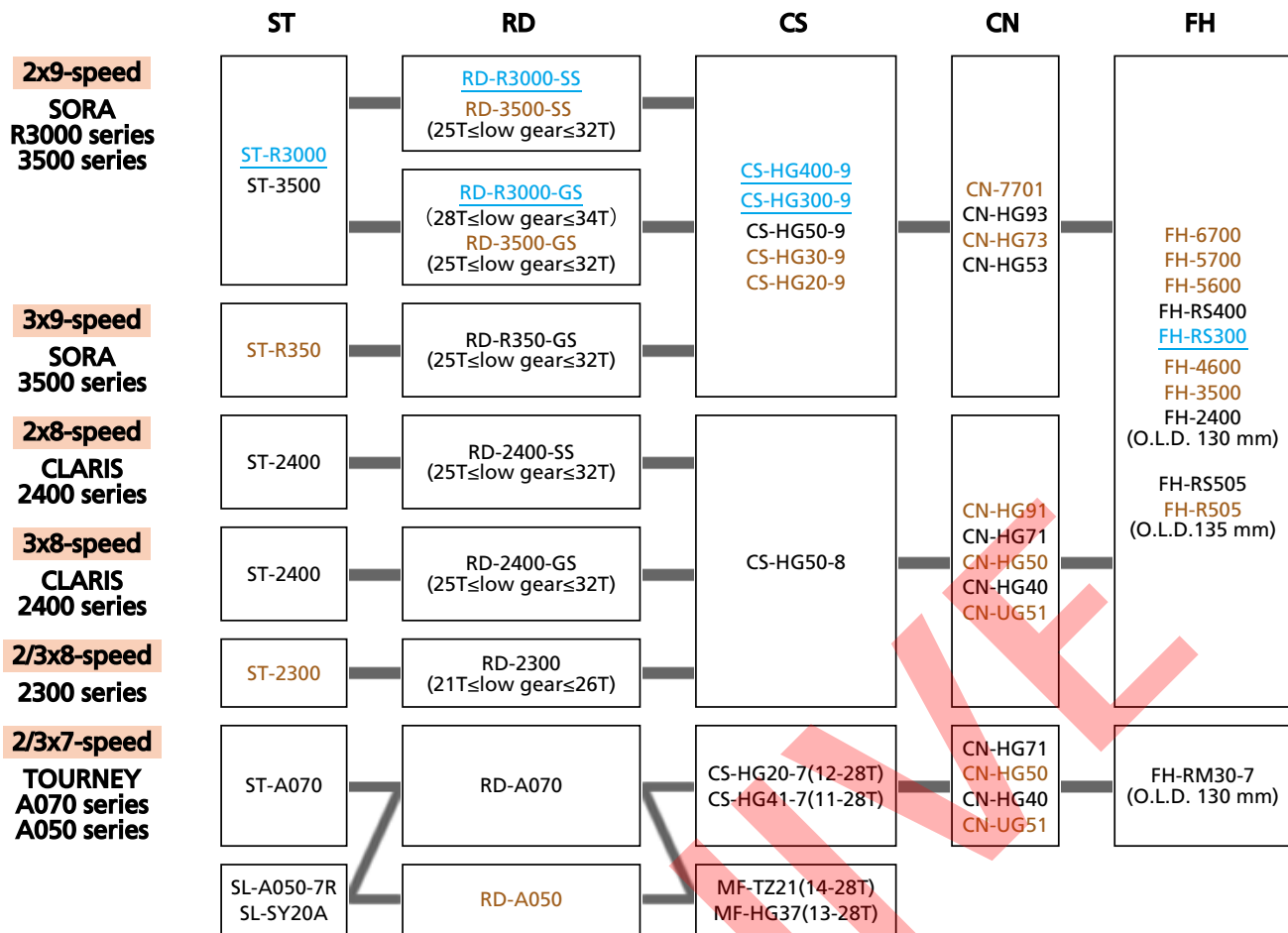
**ULTEGRA  
6700 series**

**105  
5700 series**

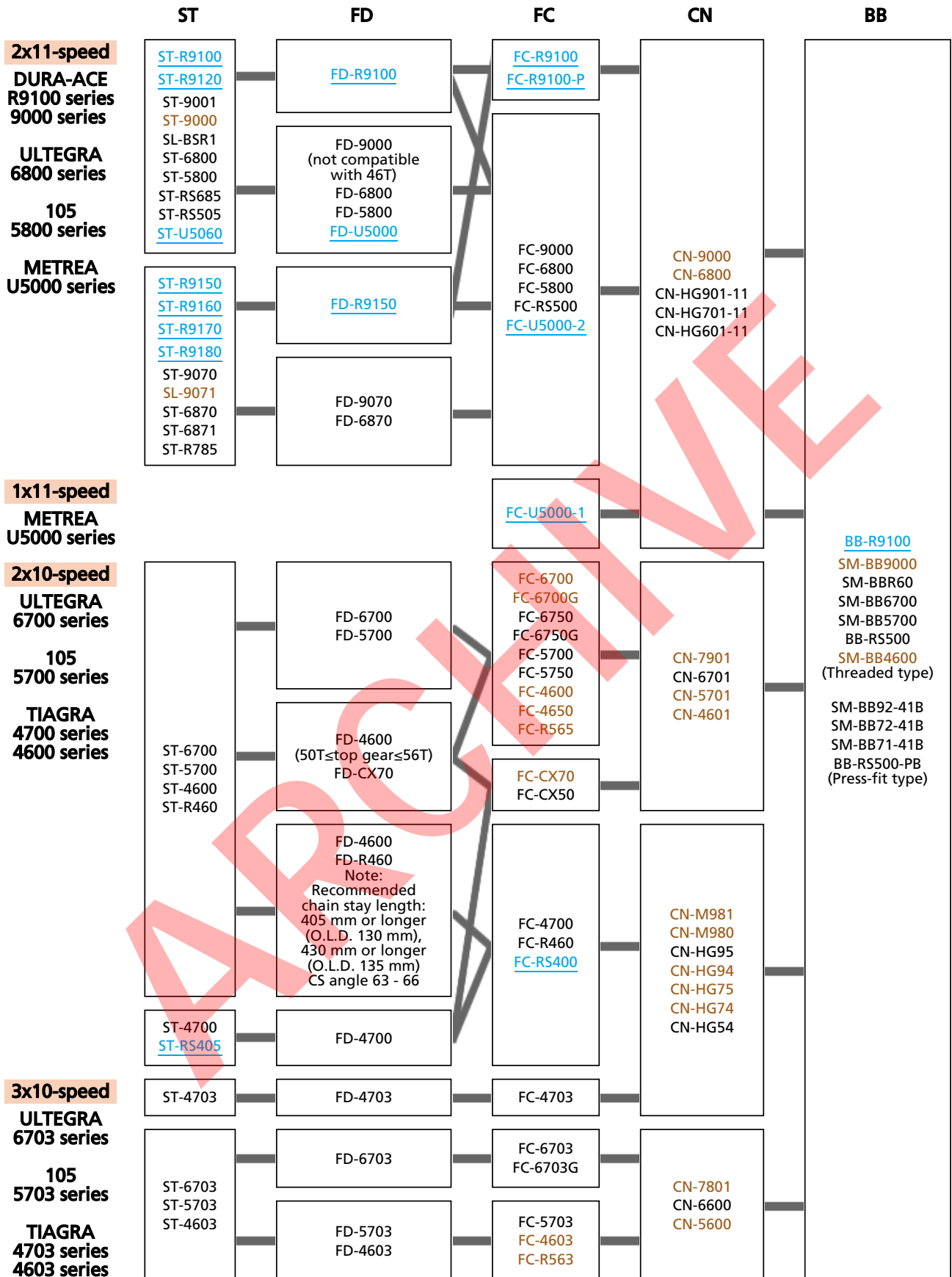
**TIAGRA  
4700 series  
4600 series**

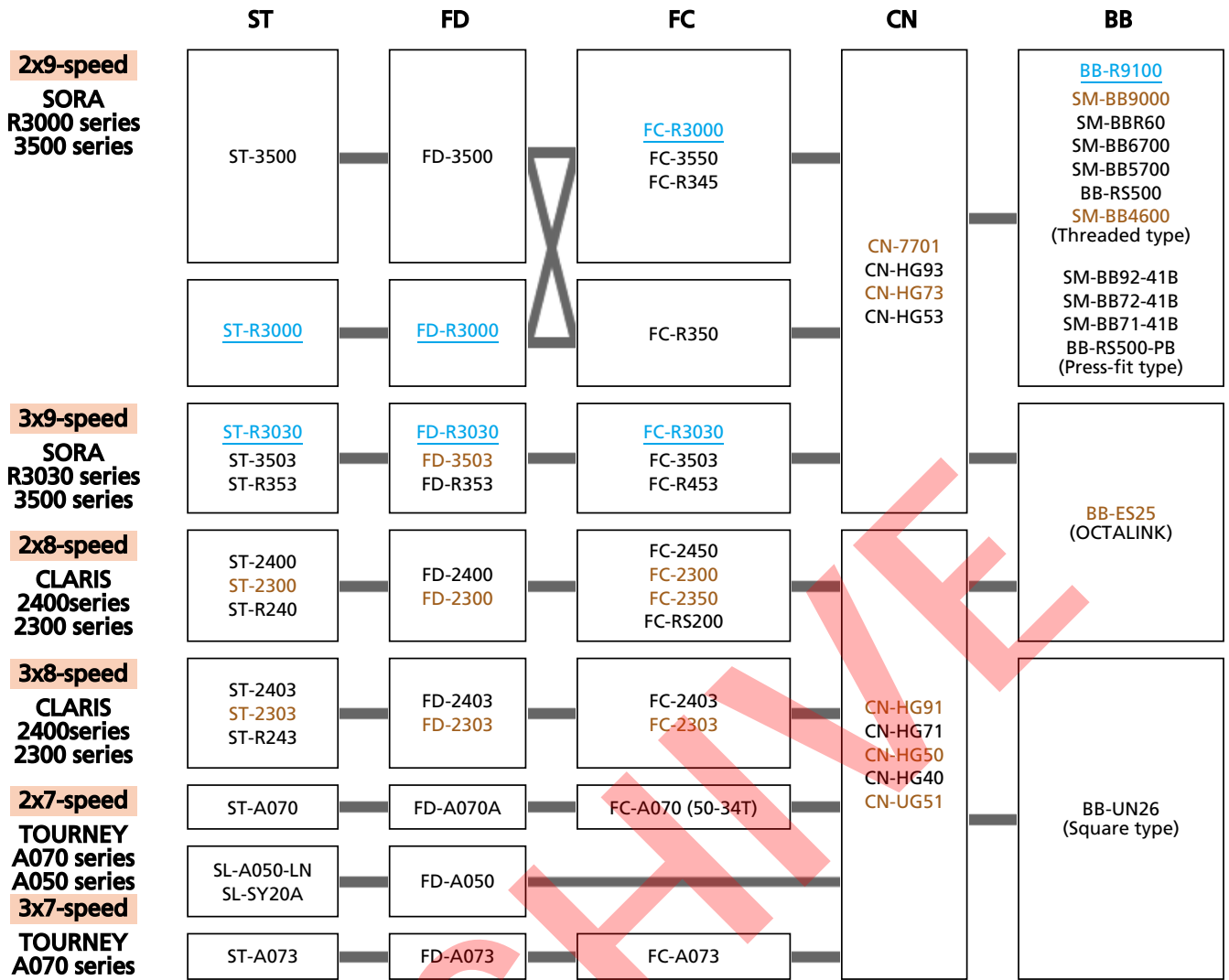


ARCADE



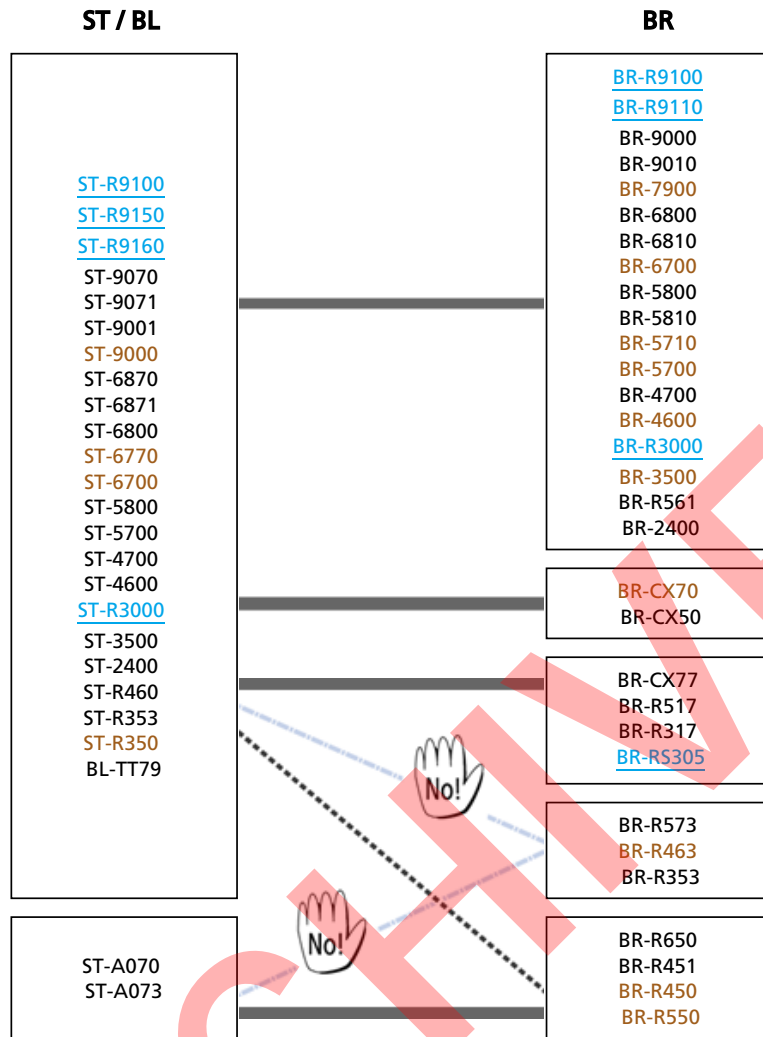
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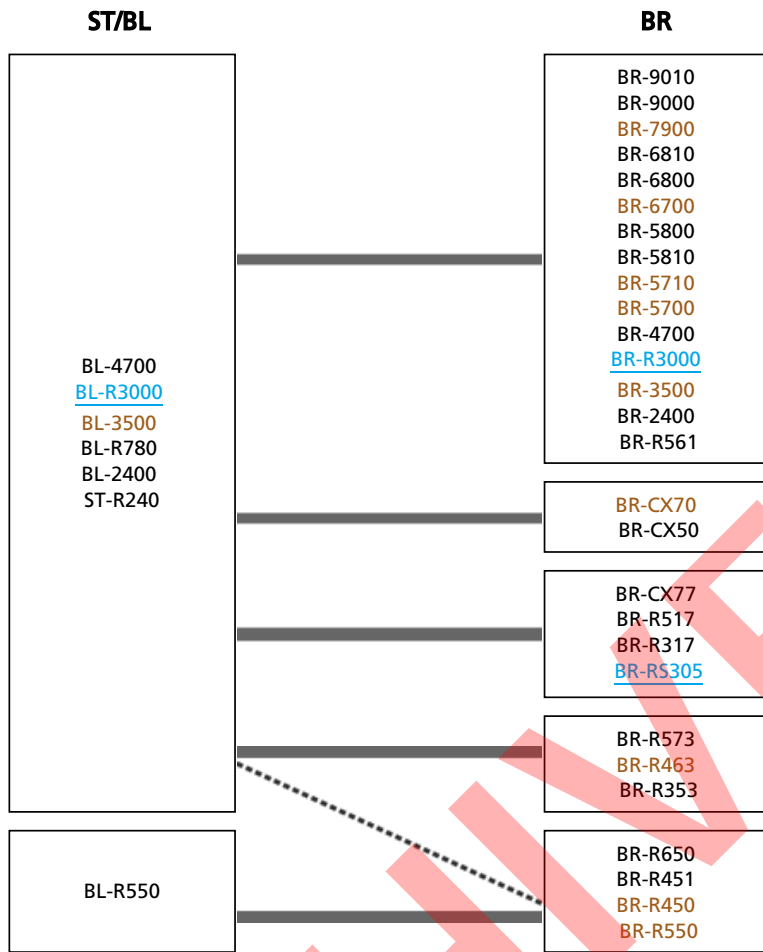
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-----: Braking power is slightly less than standard combination.

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



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



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

## Hydraulic systems compatibility [ROAD]

C-499



## Hydraulic systems compatibility [URBAN SPORT]

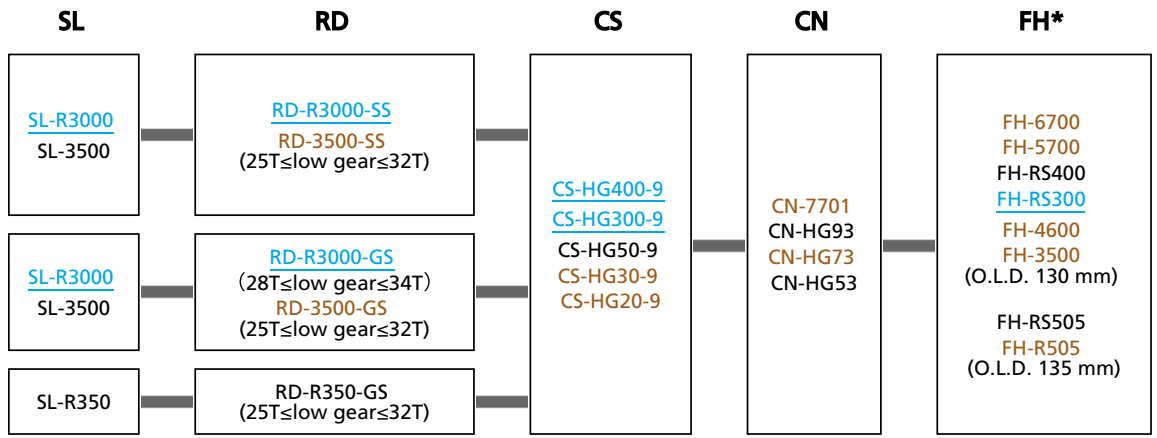
C-500



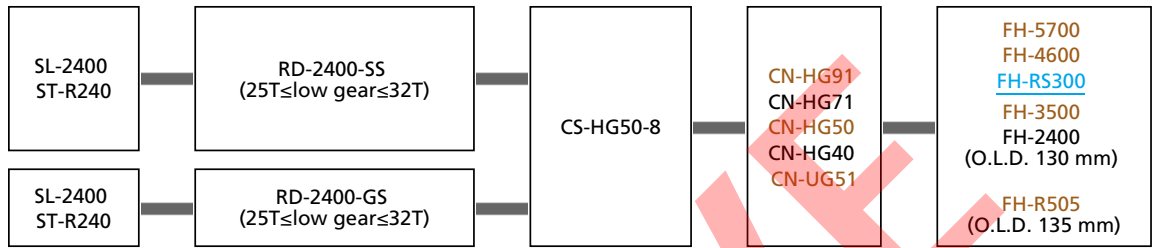
## Rear system C-458

	SL	RD	CS	CN	FH*
<b>2x11-speed</b> <b>DURA-ACE</b> <b>R9100 series</b> <b>9000 series</b>  <b>ULTEGRA</b> <b>6800 series</b>  <b>105</b> <b>5800 series</b>  <b>METREA</b> <b>U5000 series</b>	SL-R5700 <a href="#">SL-U5000</a>	<a href="#">RD-R9100-SS</a> RD-9000 RD-6800-SS RD-5800-SS (23T≤CS low gear≤28T)  RD-6800-GS RD-5800-GS <a href="#">RD-U5000-SS</a> (28T≤CS low gear≤32T)	<a href="#">CS-R9100</a> CS-9000 CS-6800 CS-5800	CN-9000 CN-6800 CN-HG901-11 CN-HG701-11 CN-HG601-11	FH-9000 FH-6800 FH-5800 FH-RS400 (O.L.D. 130 mm)  FH-CX75 FH-RS505 <a href="#">WH-U5000</a> WH-RX010 (O.L.D. 135 mm)
<b>1x11-speed</b> <b>METREA</b> <b>U5000 series</b>	<a href="#">SL-U5000</a>	<a href="#">RD-U5000-SS</a> (28T≤CS low gear≤32T)			
<b>2x10-speed</b> <b>ULTEGRA</b> <b>6700 series</b>  <b>105</b> <b>5700 series</b>	SL-R780 SL-4600 SL-R460	RD-6700-A-SS (23T≤low gear≤30T)  RD-5701-SS RD-4601-SS (25T≤low gear≤30T)	CS-6700 CS-5700 CS-4600 CS-HG500-10	CN-7901 CN-6701 CN-5701 CN-4601	
<b>TIAGRA</b> <b>4700 series</b> <b>4600 series</b>	SL-4700	RD-4700-SS (25T≤low gear≤28T)  RD-4700-GS (28T≤low gear≤34T)	CS-M980 CS-M771-10 CS-HG81-10 CS-HG62-10 CS-6700 CS-HG500-10 CS-4600	CN-M981 CN-M980 CN-HG95 CN-HG94 CN-HG75 CN-HG74 CN-HG54	FH-6700 FH-5700 FH-RS400 <a href="#">FH-RS300</a> FH-4600 FH-3500 (O.L.D. 130 mm)
<b>3x10-speed</b> <b>ULTEGRA</b> <b>6700 series</b>	SL-4700	RD-4700-GS (25T≤low gear≤32T)			FH-RS505 FH-R505 (O.L.D. 135 mm)
<b>105</b> <b>5700 series</b>	SL-R780 SL-4600	RD-6700-A-GS (23T≤low gear≤30T)  RD-5701-GS RD-4601-GS	CS-6700 CS-5700 CS-HG500-10 CS-4600	CN-7801 CN-6600 CN-5600	
<b>TIAGRA</b> <b>4600 series</b>					

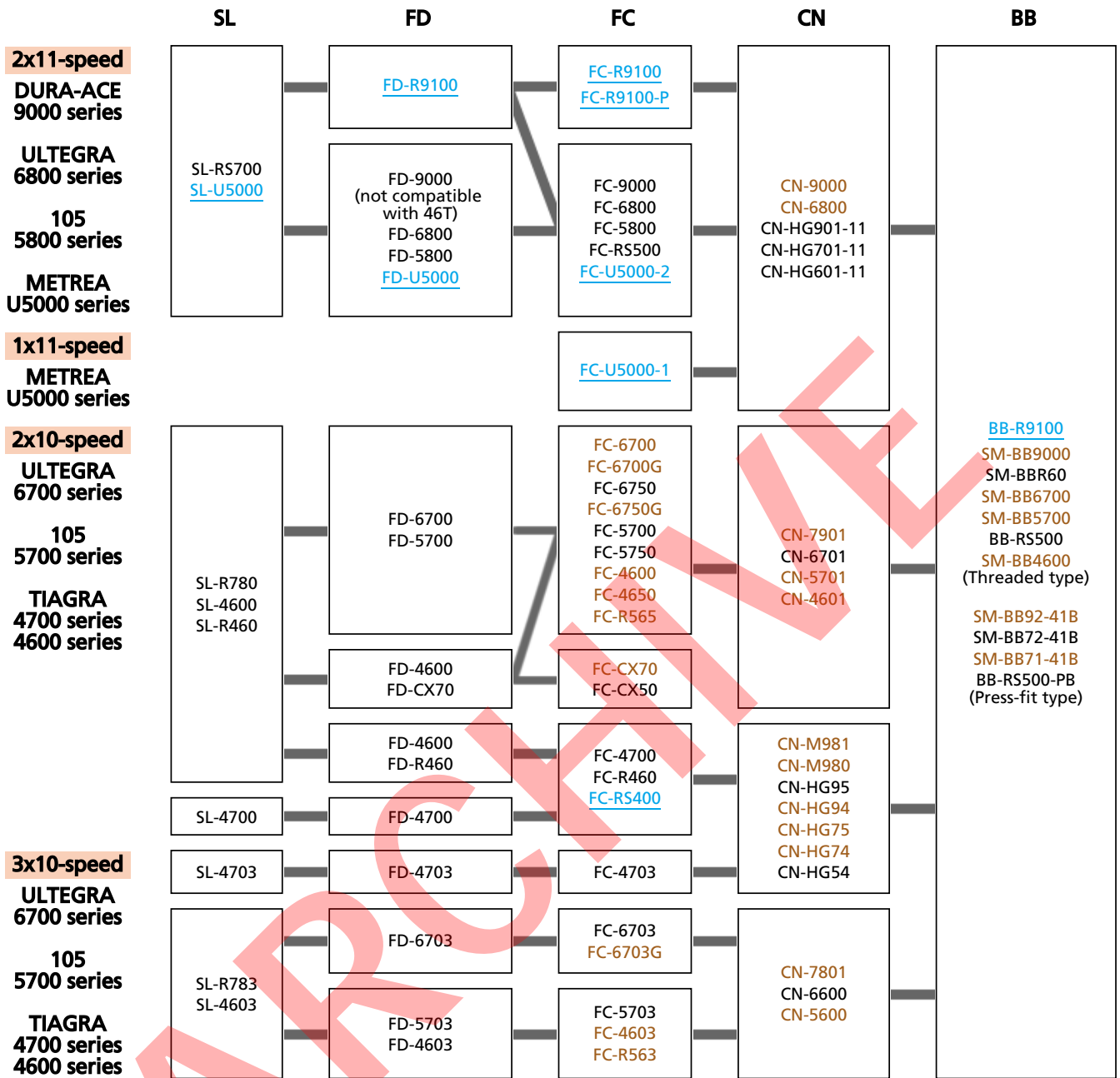
3x9-speed  
2x9-speed  
SORA  
R3000 series  
3500 series



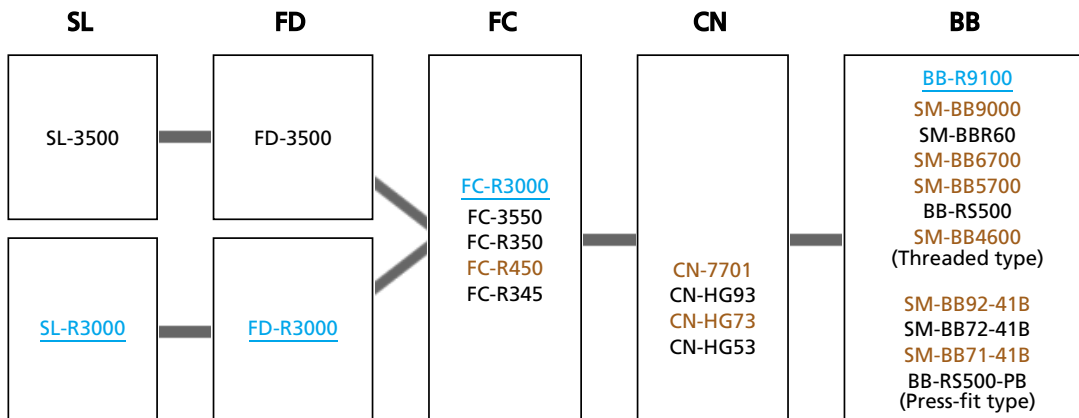
3x8-speed  
2x8-speed  
CLARIS  
2400 series



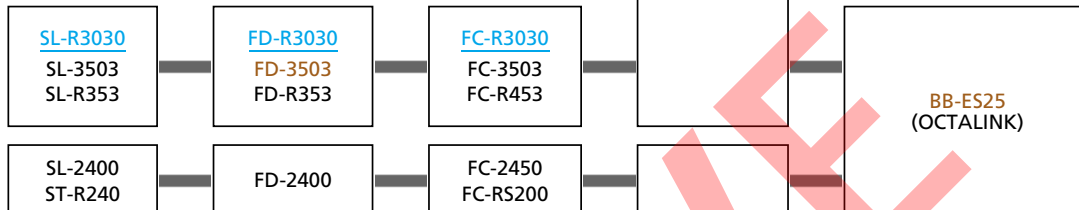
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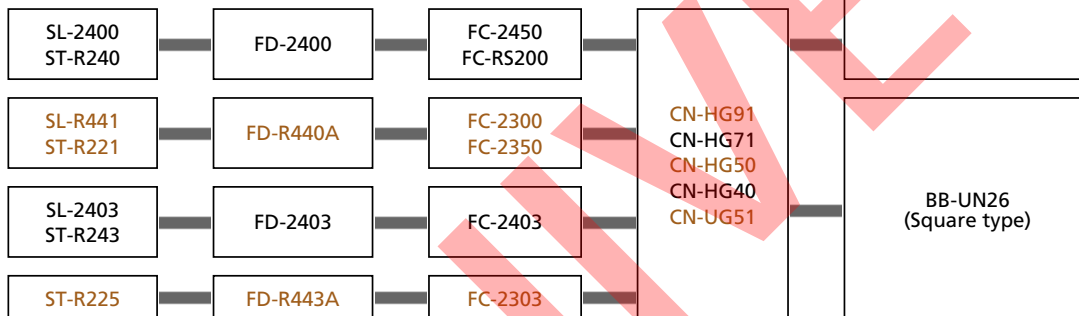
**2x9-speed**  
SORA  
R3000 series  
3500 series



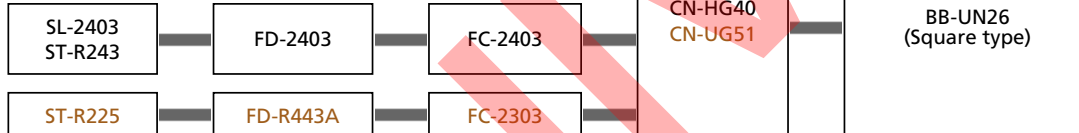
**3x9-speed**  
SORA  
R3000 series  
3500 series



**2x8-speed**  
CLARIS  
2400 series  
2300 series



**3x8-speed**  
CLARIS  
2400 series  
2300 series



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## Disc brake caliper and Rotor compatibility

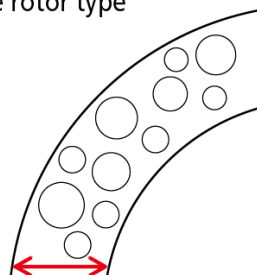
C-461

Caliper	Pad material	Type	Rotor size			
			203 mm (L)	180 mm (M)	160 mm (S)	140 mm (SS)
BR-M9000 BR-M9020 BR-M8000 <a href="#">BR-M7000</a> BR-M615	Metal / Resin	Narrow	SM-RT99-L SM-RT86-L SM-RT81-L <a href="#">SM-RT70-L</a> SM-RT76-L SM-RT64-L SM-RT66-L	SM-RT99-M SM-RT86-M SM-RT81-M <a href="#">SM-RT70-M</a> SM-RT76-M SM-RT64-M SM-RT66-M	SM-RT99-S SM-RT86-S SM-RT81-S <a href="#">SM-RT70-S</a> SM-RT76-S SM-RT64-S SM-RT66-S	SM-RT99-SS <a href="#">SM-RT99-A</a> SM-RT81-SS
BR-M820 BR-M640	Metal / Resin					
BR-S700	Resin					
BR-T675 BR-T615 BR-M4050 BR-M447 BR-M446 BR-M416-A BR-M3050 BR-M395 BR-M375 <a href="#">BR-M365</a> <a href="#">BR-M315</a> BR-TX805 BR-R317	Resin	Wide	-	<a href="#">SM-RT10-M</a> <a href="#">SM-RT26-M</a> SM-RT30-M SM-RT54-M SM-RT56-M	<a href="#">SM-RT10-S</a> <a href="#">SM-RT26-S</a> SM-RT30-S SM-RT54-S SM-RT56-S	-
<a href="#">BR-R9170</a> BR-RS805 BR-R785 BR-RS785 BR-RS505 <a href="#">BR-RS405</a>	Metal / Resin	Narrow	-	-	<a href="#">SM-RT900-S</a> SM-RT99-S SM-RT86-S SM-RT81-S <a href="#">SM-RT70-S</a>	<a href="#">SM-RT900-SS</a> SM-RT99-SS <a href="#">SM-RT99-A</a> SM-RT81-SS
BR-CX77 BR-R517 BR-R317 <a href="#">BR-RS305</a>	Metal / Resin	Narrow	-	-	<a href="#">SM-RT99-S</a> SM-RT86-S SM-RT81-S SM-RT76-S SM-RT75-S <a href="#">SM-RT70-S</a> SM-RT64-S SM-RT66-S	SM-RT99-SS <a href="#">SM-RT99-A</a> SM-RT81-SS
<a href="#">BR-U5000</a>	Metal / Resin	Narrow	-	-	<a href="#">SM-RT99-S</a> SM-RT86-S SM-RT81-S SM-RT76-S SM-RT75-S <a href="#">SM-RT70-S</a> SM-RT64-S SM-RT66-S	<a href="#">SM-RT500-SS</a> SM-RT99-SS <a href="#">SM-RT99-A</a> SM-RT81-SS

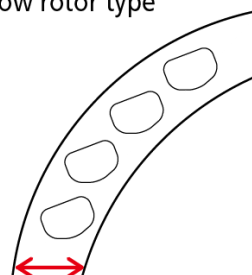
### NOTE

- SM-RT56 / SM-RT54 / SM-RT30 / [SM-RT26](#) / SM-RT10 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-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 type



Narrow rotor type



## 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 BR-M4050 BR-M447 BR-M446 BR-M3050 BR-M395 <a href="#">BR-M365</a> <a href="#">BR-M315</a>	<a href="#">SM-RT900</a> <a href="#">SM-RT500</a> SM-RT99 <a href="#">SM-RT99-A</a> SM-RT81	<a href="#">SM-RT900</a> SM-RT99 SM-RT86 SM-RT81 SM-RT76 <a href="#">SM-RT70</a>	SM-RT99 <a href="#">SM-RT70</a>	SM-RT99 SM-RT86 SM-RT81 SM-RT76 <a href="#">SM-RT70</a>

## Combination chart (Mechanical Disc)

C-462

### Mechanical Disc Brake combination chart C-463

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

Model No.	Mount type	Brake lever	Rotor	Pad
BR-M416-A BR-M375 BR-TX805	*	V-BRAKE BL (2 finger)	SM-RT54 SM-RT56 SM-RT30 <a href="#">SM-RT10</a> for resin pad only	B01S Resin
BR-R517	*	Road lever**	SM-RT66 SM-RT64	G01S Resin
BR-R317	*	Road lever**	SM-RT56 SM-RT54	G01S Resin
BR-CX77	*	Road lever**	SM-RT86 SM-RT81	G01A Resin / G03Ti Metal
<a href="#">BR-RS305</a>	FLAT MOUNT	Road lever**	<a href="#">SM-RT81</a> <a href="#">SM-RT56</a> <a href="#">SM-RT54</a>	K02S-R L02A-R

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

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

### Mechanical Disc brake and Brake lever compatibility C-464

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
BR-TX805	X	-	X

\* Power modulator must be used for front brake










## Compatibility between brake systems

C-466

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.

		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	BR-IM81	BR-C6000 BR-C3010 BR-C3000
V-BRAKE Levers (2-finger)					
ST-M4000 ST-EF41 ST-TX800 ST-M370 ST-M310 <a href="#">ST-EF510</a> <a href="#">ST-EF500</a> ST-EF65 ST-EF51	BL-T610 BL-M571 BL-T4000 BL-T3000 BL-MX70	X	X	NOTE	NOTE
V-BRAKE Levers (3-finger)					
ST-T4000 ST-T3000	BL-T780 BL-T611 BL-T670 BL-T780-B BL-T4010 BL-T670-B		X		
V-BRAKE Levers with switch					
ST-R240	BL-4600 BL-R780 BL-4700 BL-2400	X	X		
Brake lever with switch					
ST-M310 (4-finger) SB-7S45 ST-EF65 (4-finger) ST-EF51 (4-finger) <a href="#">ST-EF510</a> (4-finger) <a href="#">ST-EF500</a> (4-finger)	<a href="#">BL-C6010</a>		X	X	X
Levers for Roller Brake			X	X	X

X: Yes

\* Power modulator must be used for front brake



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

### NOTE

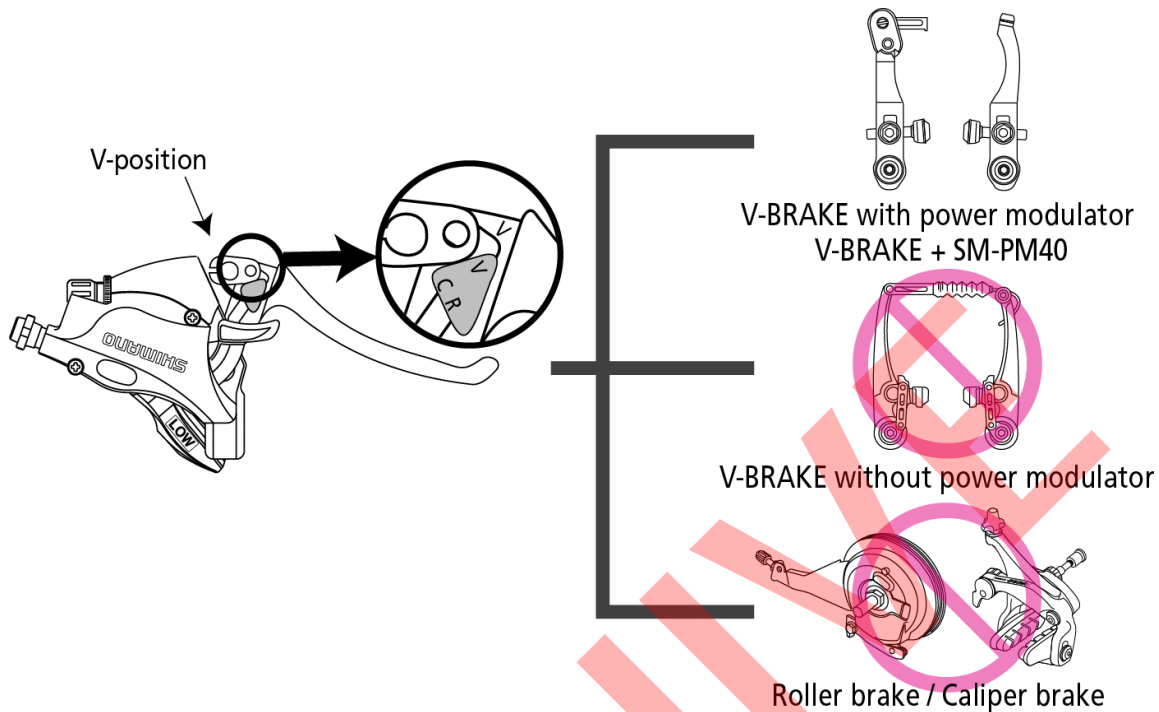
This combination will not provide the sufficient amount of braking force.

# Brake lever with switch compatibility

C-467

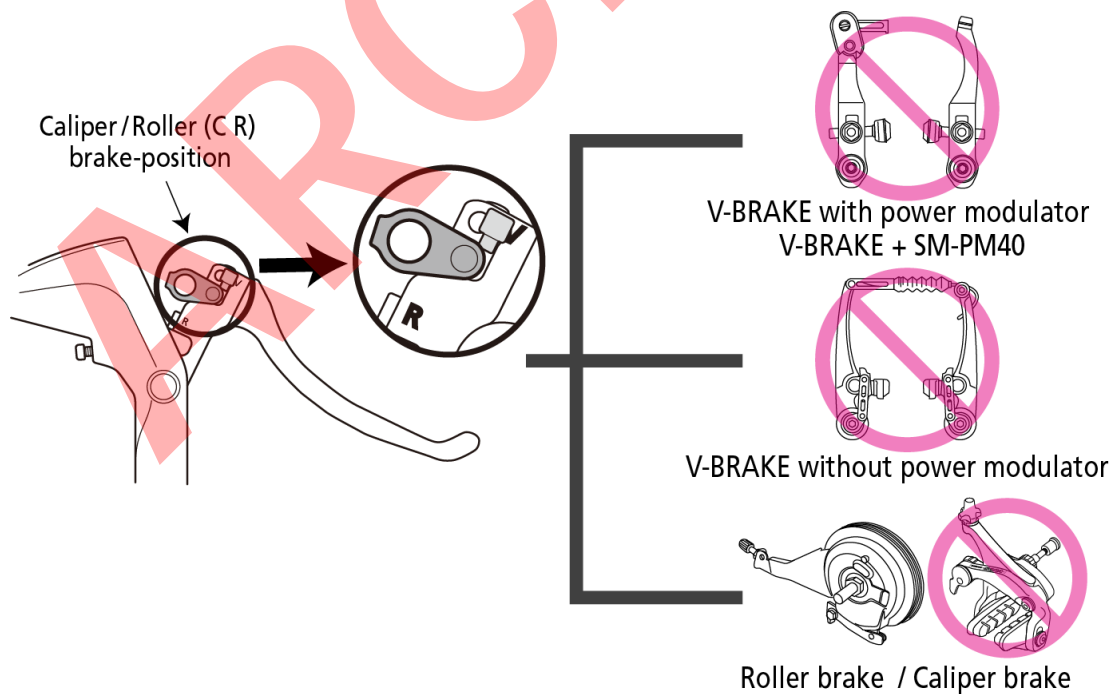
Four finger brake levers such as brake levers are equipped with a switch to change between the V-BRAKE with modulator mode (for example with SM-PM40) and the caliper brake or roller brake mode.

## For V-BRAKE (with power modulator) mode C-468

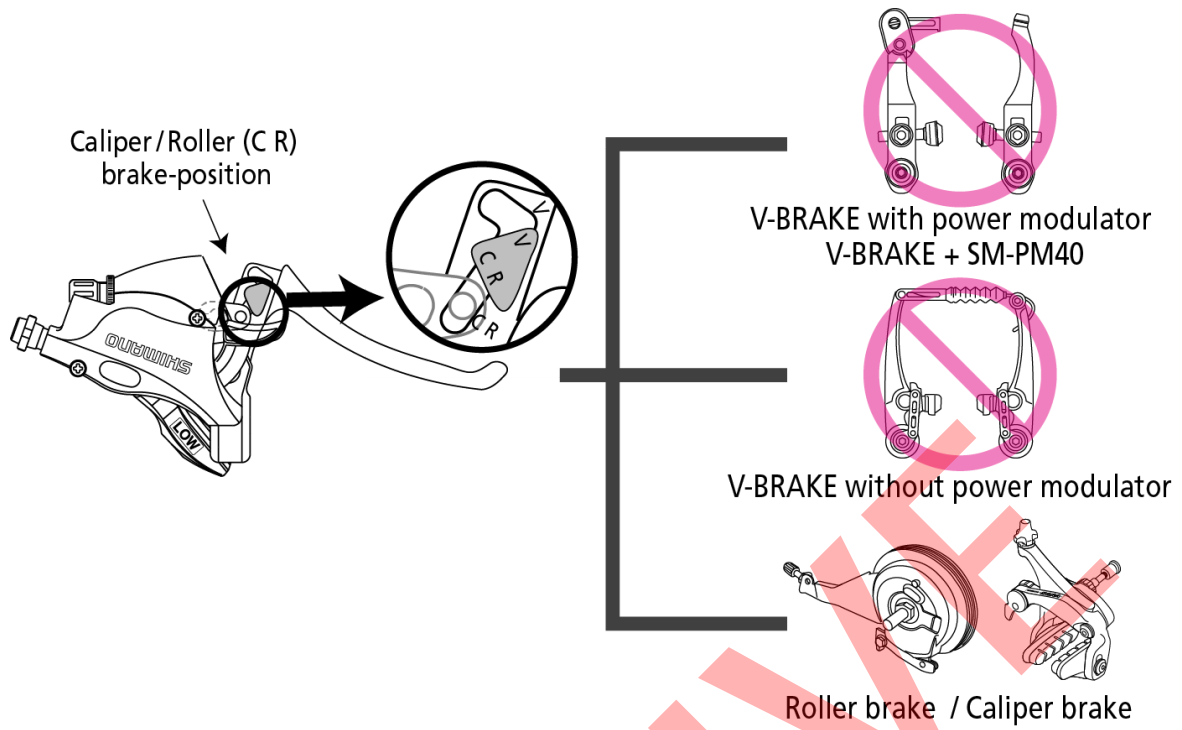


## For Caliper brake / Roller brake C-469

BL-C6010



## Other models







Some models can't be used with roller brake, please refer to [C-466](#) 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.

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

C-471

Dropout design	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 )	
Compatibility	NR: Not recommend		
FC	E	E: FC-NX75	
	F	FC-S501 : Double guard spec	
	G	FC-S501 : Single guard spec	
CN	H	H: CN-NX10(1 / 2" x 1 / 8") or HG 8S(1 / 2" x 3 / 32")	
	I	Super Narrow HG 9S	
	J	HG 8S(1 / 2" x 3 / 32")	

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Series	Speed	Brake type	Dropout design	Compatibility	CT use	CS / SM-GEAR	FC	CN	additional condition
ALFINE	11S / 8S	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	8S / 7S / 3S (except 3D)	HRB / V-BR	A	OK	-	SM-GEAR	E	H	*2
			B	OK	-	SM-GEAR	E	H	
			C	OK	-	SM-GEAR	E	H	
			D	NR	CT-S500	CS-S500	F	I	
		Coaster	A	OK	-	SM-GEAR	G	J	
			B	OK	-	SM-GEAR	E	H	
			C	OK	-	SM-GEAR	E	H	
			D	NR	CT-S500	-	-	-	
	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	
			D	NR	CT-S510	-	-	-	*4
			D	OK	-	SM-GEAR	G	J	
			D	OK	CT-S510	SM-GEAR	G	J	

\*1 Special disc brake mount design is needed.

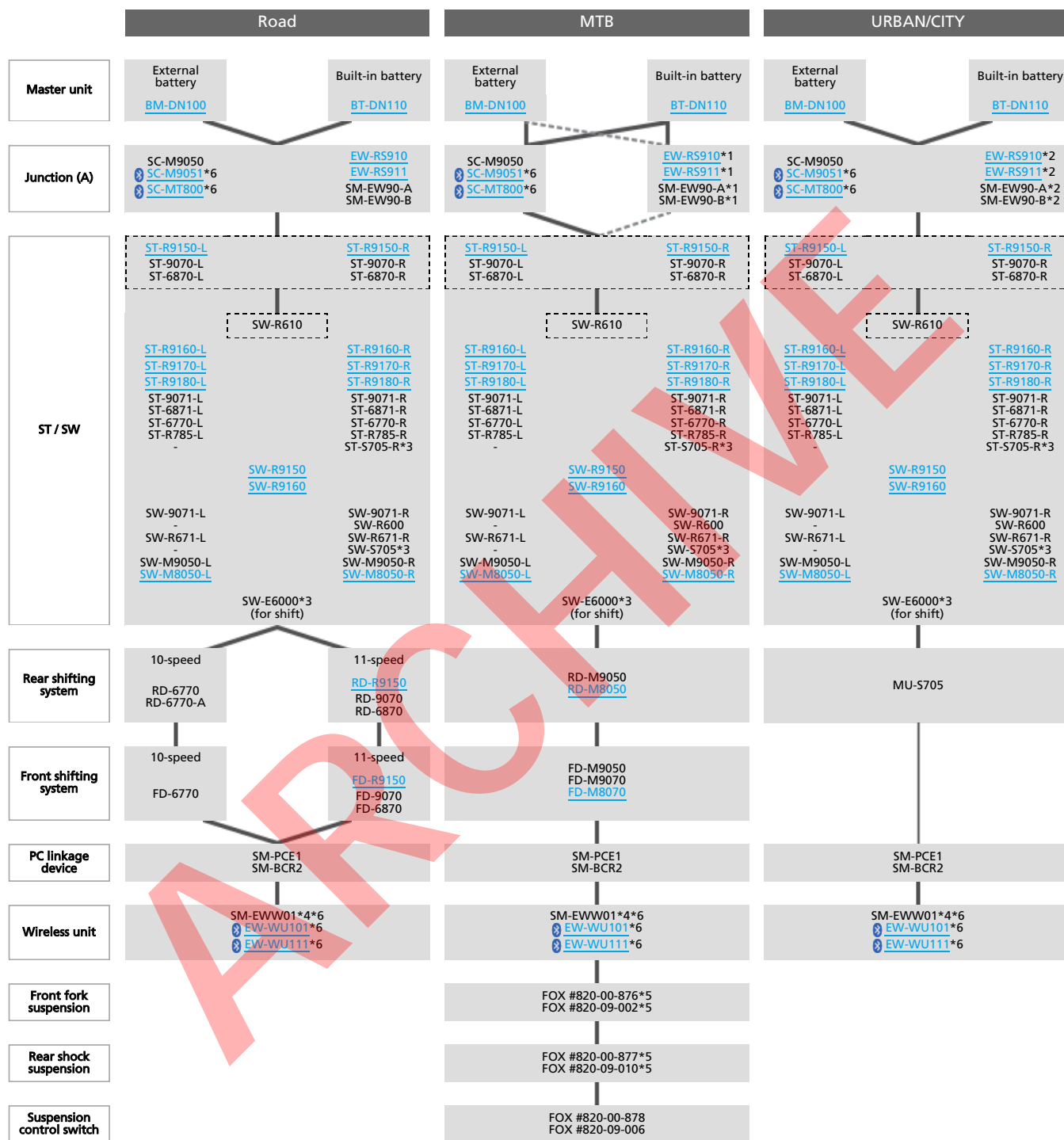
\*2 without chain guard for hub gear side.

\*3 Structure of CT-S500 can't transfer chain tension by back pedalling.

\*4 Not enough force of fixation against back pedalling power.

## E-TUBE compatibility chart

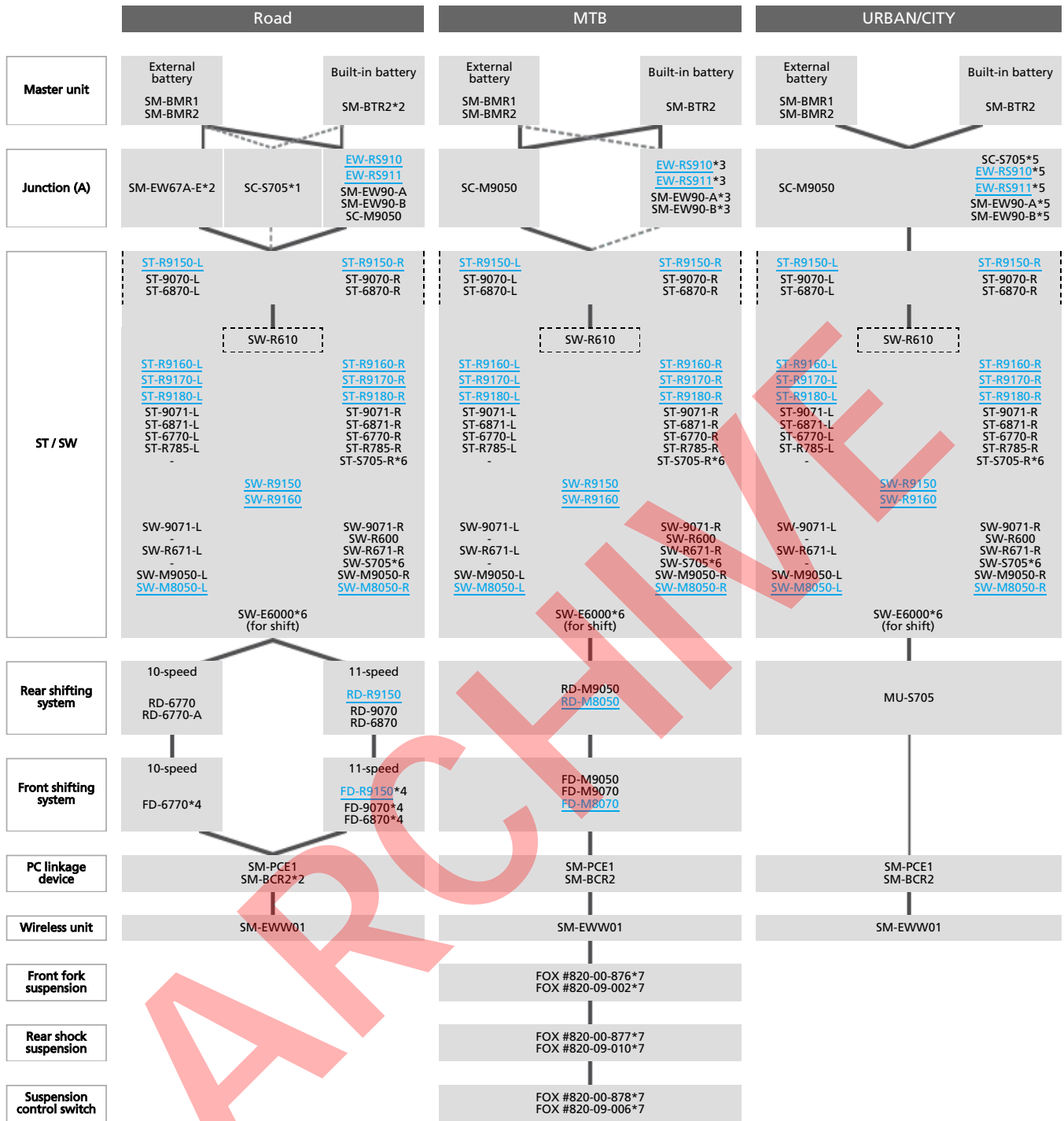
### Di2 with [BM-DN100](#) / [BT-DN110](#)



### Limitation of function with [BM-DN100](#) / [BT-DN110](#)

- \*1 SC-M9050, SC-M9051 or SC-MT800 is required for synchronized shift in MTB category.
- \*2 Shifting adjustment mode for MU-S705 is not supported. (need E-TUBE PROJECT to adjust)
- \*3 Only for rear shifting
- \*4 Not possible to connect to E-TUBE PROJECT for tablet/smartphone, as no support for Bluetooth LE.
- \*5 A designated control switch and/or the combination SW-M9050/SW-M8050-L with SC-M9050 / SC-M9051 / SC-MT800 is required to operate.
- \*6 The system accepts just 1 unit with wireless chip. (doesn't work if plural units with wireless chip are connected)

# Di2 with SM-BMR1 / SM-BMR2 / SM-BTR2



## Limitation of function with SM-BMR1 / SM-BMR2 / SM-BTR2

- \*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 and rear support shift in ROAD and URBAN/CITY category is not available.
- \*5 Shifting adjustment mode for MU-S705 is not supported. (need E-TUBE PROJECT to adjust)
- \*6 Only for rear shifting
- \*7 A designated control switch is needed to operate the suspension system.