

FRONT DERAILLEUR: Interchangeability

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) \cong FD (top and low capacity)

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

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

■ 9-speed Triple FC-FD compatibility

Chain line	BB model no./structure	FC model no.	Chain line						
			50 mm			47.5/50 mm			
			Chain stay angle						
			66-69		63-66		66-69	63-66	
			Top swing FD						
FD-M970	FD-M970E FD-M770E FD-M660E	FD-M770 FD-M660 FD-T660-6 FD-M530-6	FD-M772 FD-T660-3 FD-M530-3	FD-M510-6	FD-M510-3				
Down swing FD									
FD-M971 FD-M771 FD-M771D FD-M661 FD-M661D		FD-T661-6 FD-M531-6	FD-M773 FD-T661-3 FD-M531-3	FD-M511-6	FD-M511-3				
50 mm	2pc type FC	FC-M970	44-32-24	X	X	X	X	X	X
		FC-M970 FC-M770 FC-M660 FC-T661 FC-M542 FC-M543K FC-M532 FC-M533K	44-32-22	X	X	X	X	X	X
		FC-M771K FC-M660 FC-T661 FC-M543K FC-M532 FC-M533K	48-36-26	-	-	X	X	X	X
	BB-ES25 (please refer chart as below for detailed combination)	FC-M521	44-32-22	X	-	X	X	X	X
	BB-ES25 126	FC-M443-8							
	BB-UN26 LL123 (-K)	FC-M443							
	BB-ES25 (-E) 118 (-E)	FC-M442-8	44-32-22	X	X	X	X	X	X
	BB-UN26 (-E) LL113 (-E)	FC-M442							
	BB-ES25 (please refer chart as below for detailed combination)	FC-M521	48-36-26	-	-	X	X	X	X
	BB-ES25 126	FC-M443-8							
	BB-UN26 LL123 (-K)	FC-M443							
	BB-ES25 121	FC-M443-8	44-32-22	-	-	-	-	X	X
	BB-UN26 117.5	FC-M443							
	BB-ES25 113	FC-M442-8							
	BB-UN26 MM110	FC-M442							
BB-ES25 121	FC-M443-8	48-36-26	-	-	-	-	X	X	
BB-UN26 117.5	FC-M443								
BB-ES25-K 121	FC-M443-8	44-32-22	-	-	-	-	X	X	
BB-UN26-K 117.5	FC-M443								
BB-ES25-K 121	FC-M443-8	48-36-26	-	-	-	-	X	X	
BB-UN26-K 117.5	FC-M443								

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

FRONT DERAILLEUR & CRANKSET: Specifications

■ 9-speed Double FC-FD compatibility

Chain line	BB model no./structure	FC model no.		Chain line	
				54.3 mm	46.8 mm
				Chain stay angle	
				65-71	
				Top swing FD	
				NEW FD-M815	NEW FD-M665
				NEW FD-M665-E	NEW FD-M665-E
				Down swing FD	
				NEW FD-M817	NEW FD-M667
54.3 mm	2pc type FC	NEW FC-M815	36-22	X	-
46.8 mm	2pc type FC	NEW FC-M810 NEW FC-M665 NEW FC-M545	36-22	-	X

■ Front derailleur specifications

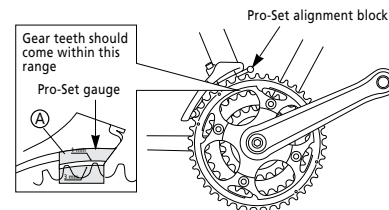
	SPCM (Triple)	FD-M412-6 FD-M412-3 FD-M413-6 FD-M413-3 NEW FD-M360-6 NEW FD-M360-3 8/75	FD-M310-6 FD-M310-3 FD-M311-6 FD-M311-3	FD-T301 FD-C102 8/75	FD-M190-6 FD-C101-E 8/75
		FD-C810	FD-M410-E FD-M330 FD-M330-E for top gear 42T	FD-C051 FD-TZ31 FD-TZ21 7/65	FD-C050 FD-TZ30 FD-TZ20 7/65
Top gear teeth number		42/48T	48T	42T	
Top-Middle min. teeth difference	SPCM (46/34/24T)	10T	10T	8T	
Capacity		20T	20T	18T	

■ Crankset specifications

	For HG Chain		
		FC-M411 FC-M410 FC-M410-8 NEW FC-M361 FC-M311 FC-M311-8	FC-M191 FC-M151
Top gear	42T	42T	48T
Middle gear	32T	34T	38T
Low gear	22T	24T	28T

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)



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.