

# FRONT DERAILLEUR FOR DOUBLE

(Until MY 2014)					

## WARNING!

This technical manual is intended for use by professional mechanics.

Anyone who is not a qualified professional for bicycle assembly must not attempt to install and operate on the components independently due to the risk of carrying out incorrect operations which could cause the components to malfunction, resulting in accidents, physical injury or even death.

## 1 - TECHNICAL SPECIFICATIONS

FRONT DERAILLEUR 10s	Capacity (teeth)	Max. chainring (teeth)	Chain line	Chainstay angle
	16	55	43,5 mm	63° - 66°

FRONT DERAILLEUR 11s	Capacity (teeth)	Max. chainring (teeth)	Chain line	Chainstay angle
	16	55	43,5 mm	63° - 66°

## 2 - COMPATIBILITY

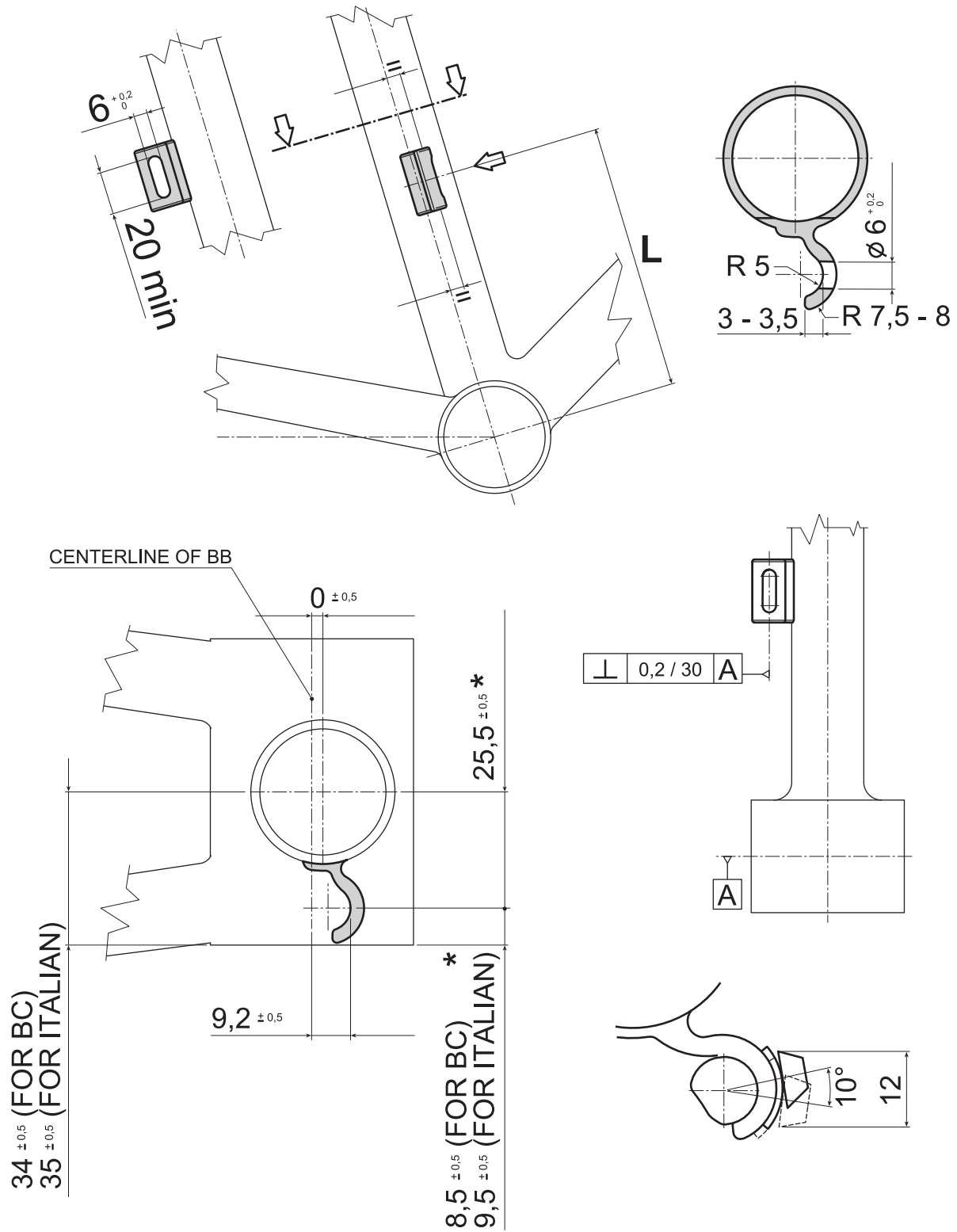
FRONT DERAILLEUR	CRANKSET	CONTROL LEVERS	CHAIN
FRONT DERAILLEUR 10s	Power - Torque system 10s	Ergopower Power - Shift 10s	Ultra-Narrow 10s
	CX 10	Bar - End 10s	
FRONT DERAILLEUR 11s	Power - Torque system 11s	Ergopower Power - Shift 11s	11s
	Bullet Ultra 11s		
	Bora Ultra 11s		
	Ultra - Torque 11s	Ergopower Ultra - Shift 11s	
	CX 11		
	Comp Ultra 11s		
Comp One 11s	Bar - End 11s		

## WARNING!

Different combinations from those included in the table could cause the malfunction of the drivetrain and result in an accident, personal injury or death.

### 3 - INTERFACE WITH THE FRAME

#### 3.1 - BRAZE-ON VERSION

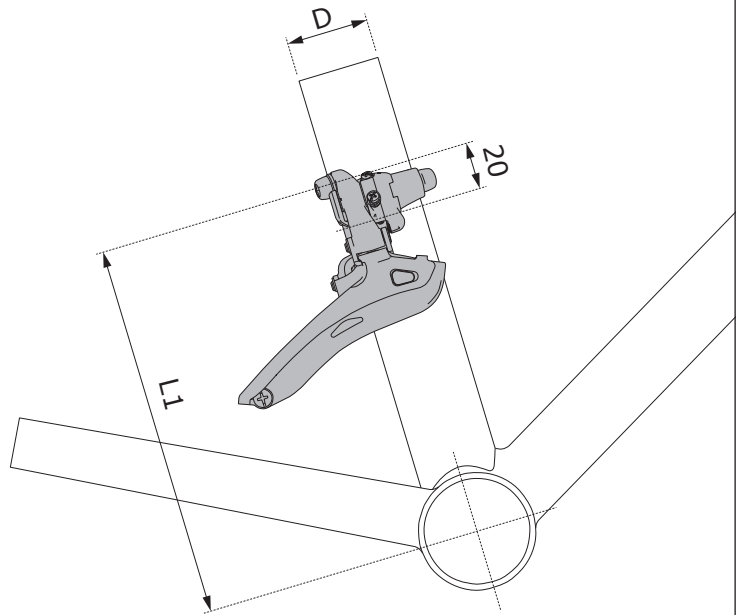


(\*) ONE OF TWO DIMENSION MUST BE RESPECTED

DIMENSION L	CENTERING OF THE MOUNTING BOSS	COMPATIBLE CHAINRINGS
140 mm	48	45 - 46 - 47 - 48 - 49 - 50 - 51
142 mm	49	46 - 47 - 48 - 49 - 50 - 51 - 52
144 mm	50	47 - 48 - 49 - 50 - 51 - 52 - 53
146 mm	51	48 - 49 - 50 - 51 - 52 - 53 - 54
148 mm	52	49 - 50 - 51 - 52 - 53 - 54 - 55
150 mm	53	50 - 51 - 52 - 53 - 54 - 55 - 56
152 mm	54	51 - 52 - 53 - 54 - 55 - 56 - 57

**3.2 - CLAMP-ON VERSION**

EXT. CHAINRINGS	L1 mm
48	152
50	156
52	160
53	162
54	164
55	166

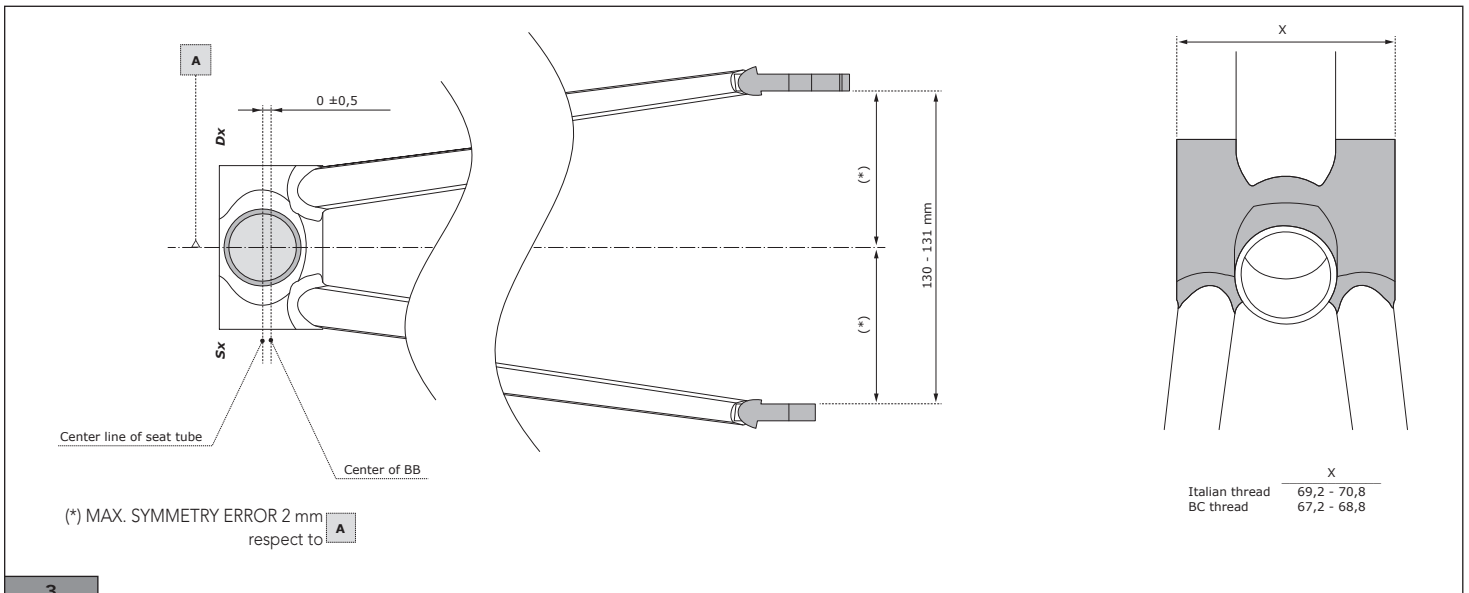


$D 28 \pm 0,2$	$D 32 \pm 0,2$
$D 35 + 0,8 / - 0,2$	$D 35 \pm 0,2$ (only for Veloce)

2

**CAUTION**

Make sure nothing interferes with the frame in the area indicated as L1.



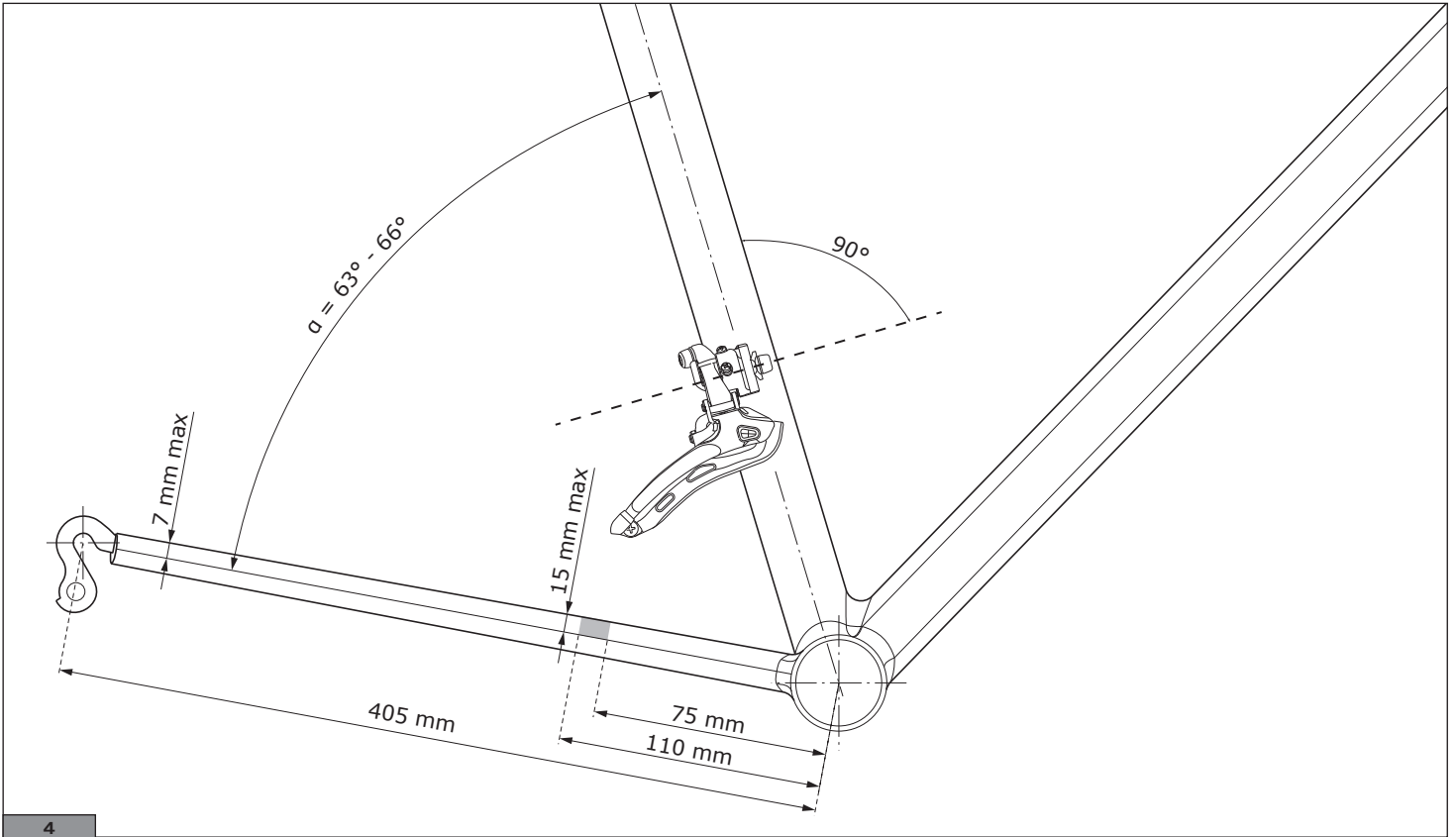
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### 3.3 - CHAINSTAY DIMENSIONING

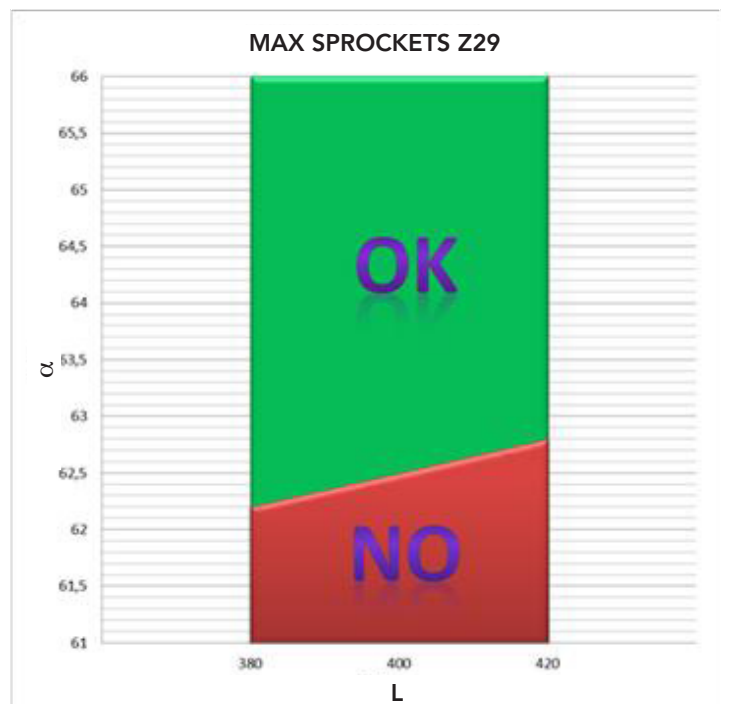
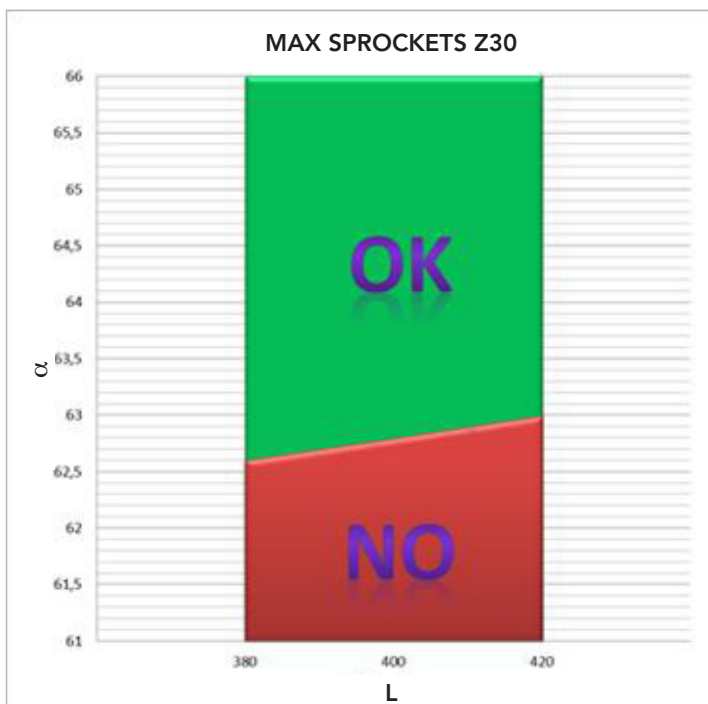
$\alpha$  = virtual angle between the thru-post tube for the front derailleur and lower drop-out mounts

**L** = length of the lower drop-outs

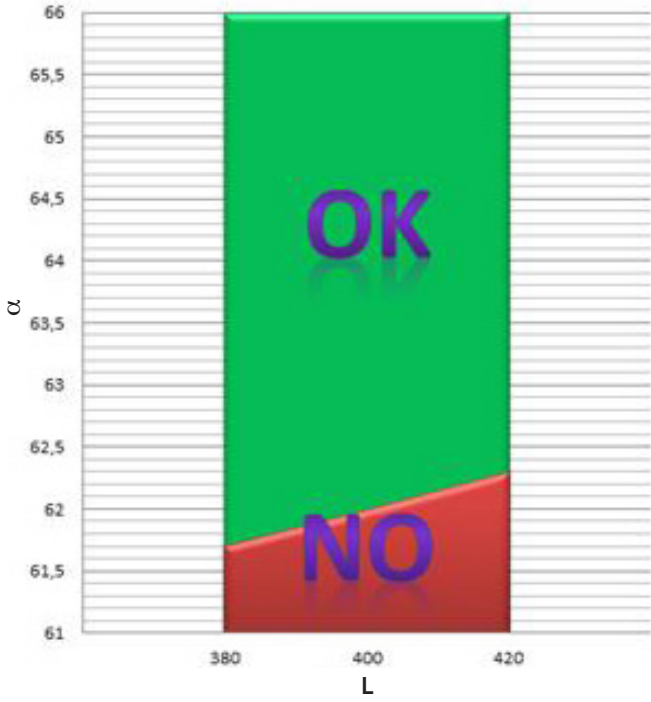
The figure assumes that the front derailleur fixing screw axis is perpendicular to the axis of the post tube



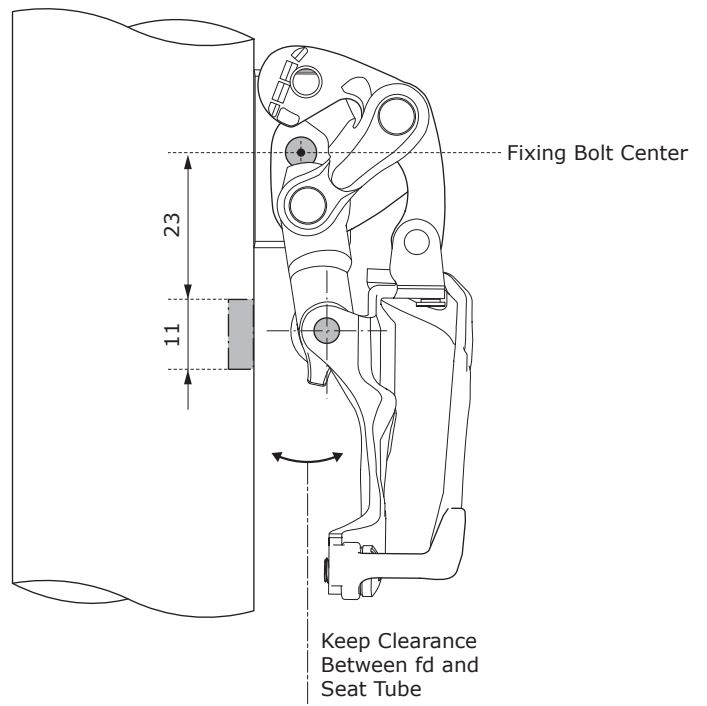
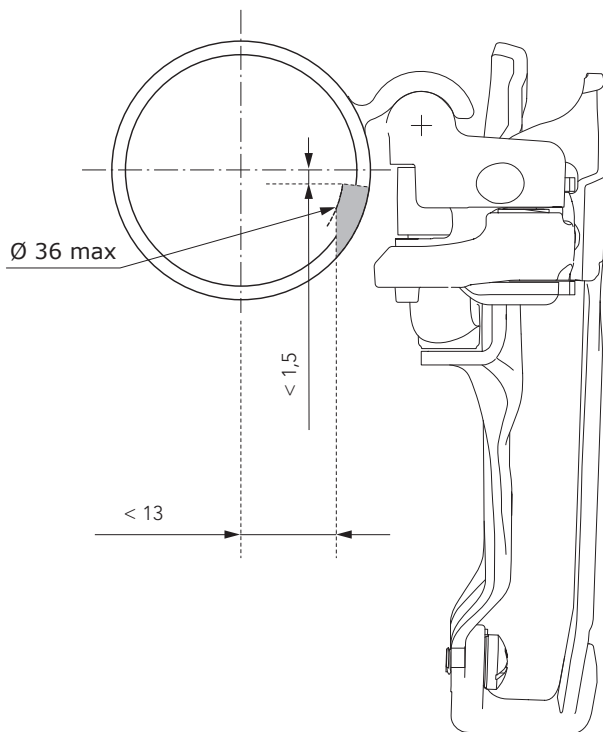
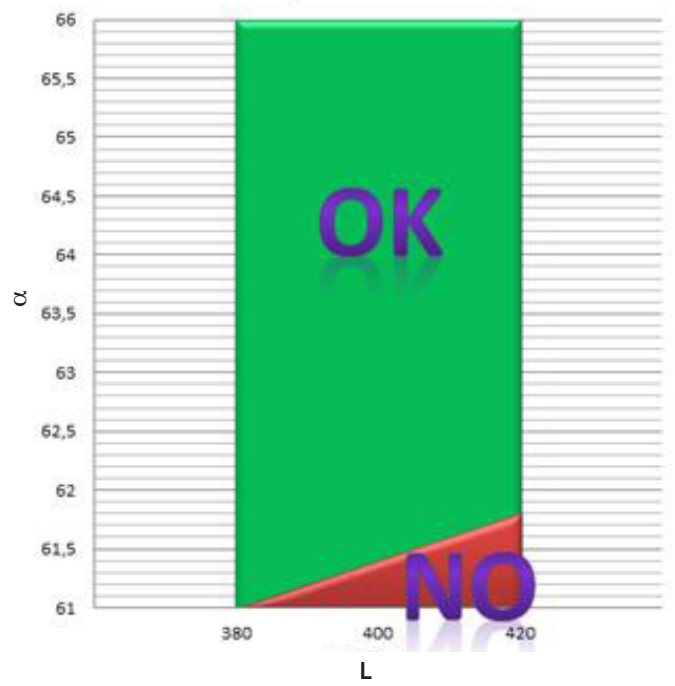
Also different measurements are permitted for the Alfa angle and the length of the lower drop-outs based on the type of largest sprocket used, as indicated in the following figures. The figures refer to the most critical condition, that is with Compact cranksets (main chainring Z50).



MAX SPROCKETS Z27



MAX SPROCKETS Z25



## 4 - ASSEMBLY

### 4.1 - PRE-ASSEMBLY CHECKS

- Check the crankset is fitted correctly.
- Check the derailleur is compatible with your frame.

### 4.2 - FRONT DERAILLEUR ASSEMBLY

#### CLIP-ON DERAILLEUR:

Loosen the screw using a 5 mm Allen wrench (A - Fig. 1), open the clip completely and clamp it onto the frame.

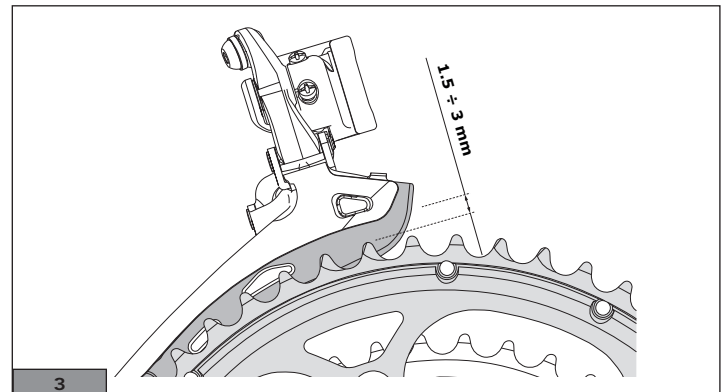


#### BRAZE-ON DERAILLEUR:

Loosen the screw using a 5 mm Allen wrench (A - Fig. 2) and remove the screw together with the washers, then secure the derailleur on the frame's braze-on coupling.

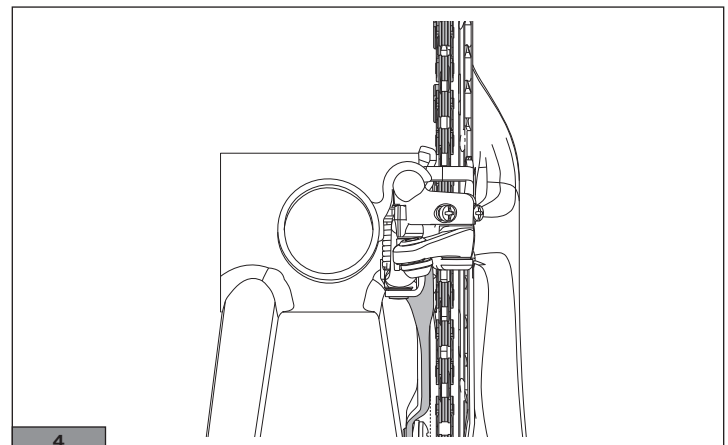


- Adjust the height of the derailleur so that the cage is at a distance of  $1,5 \div 3$  mm from the larger chainring (Fig. 3).

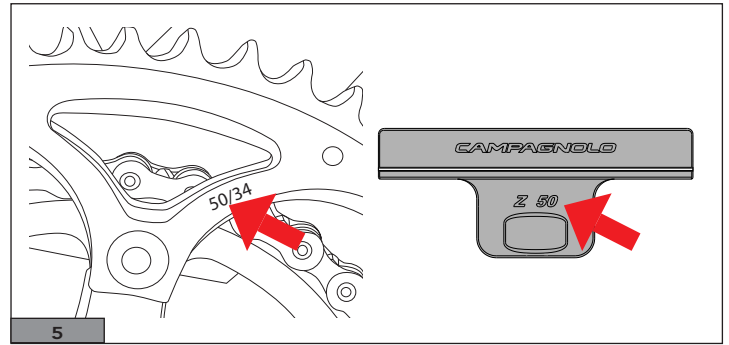


- Align the front derailleur: the external surface of the derailleur cage must be parallel to the chainring (Fig. 4).

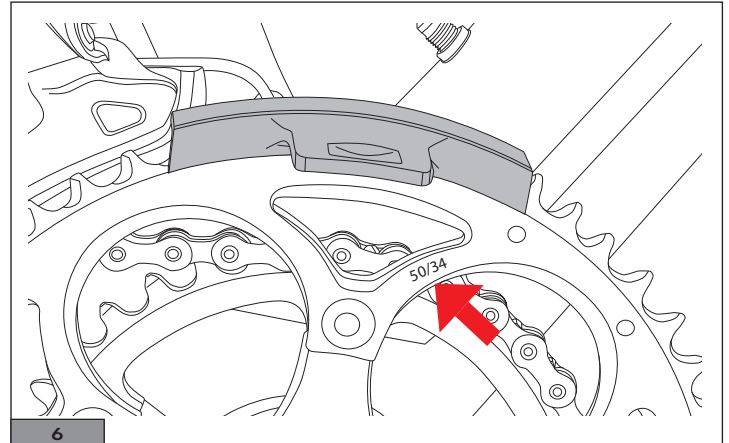
For correct positioning we recommend using Campagnolo tool UT-FD020.



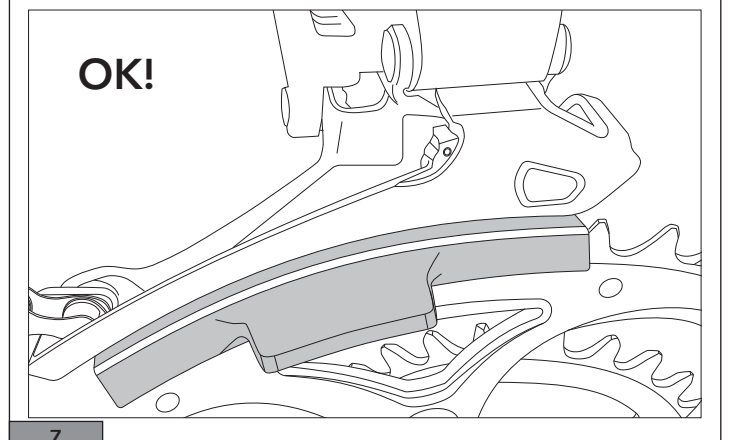
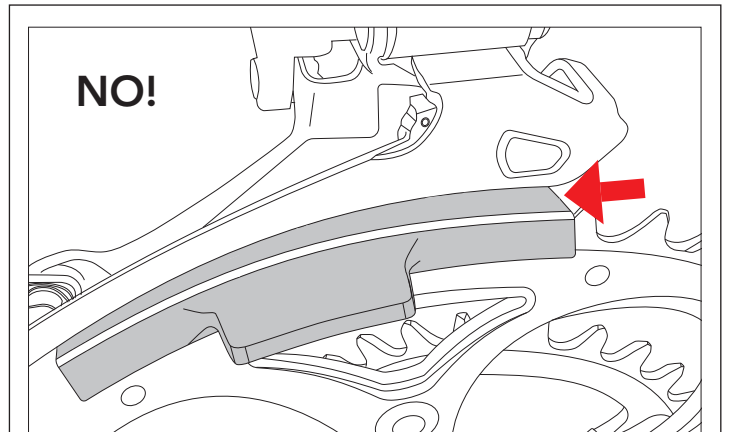
- Ensure that the tool is compatible with your crankset (Fig. 5).
- Position the front derailleur so that it is ready to be locked into its final position.



- Install the tool on the largest chainring, positioning it as shown in Fig. 6, so that the longest teeth rest on the bottom of the tool's spline.



- Rotate the chainring anticlockwise, bringing the tool under the derailleur cage.
- Rest the entire length of the external cage-half on the tool (Fig.7)



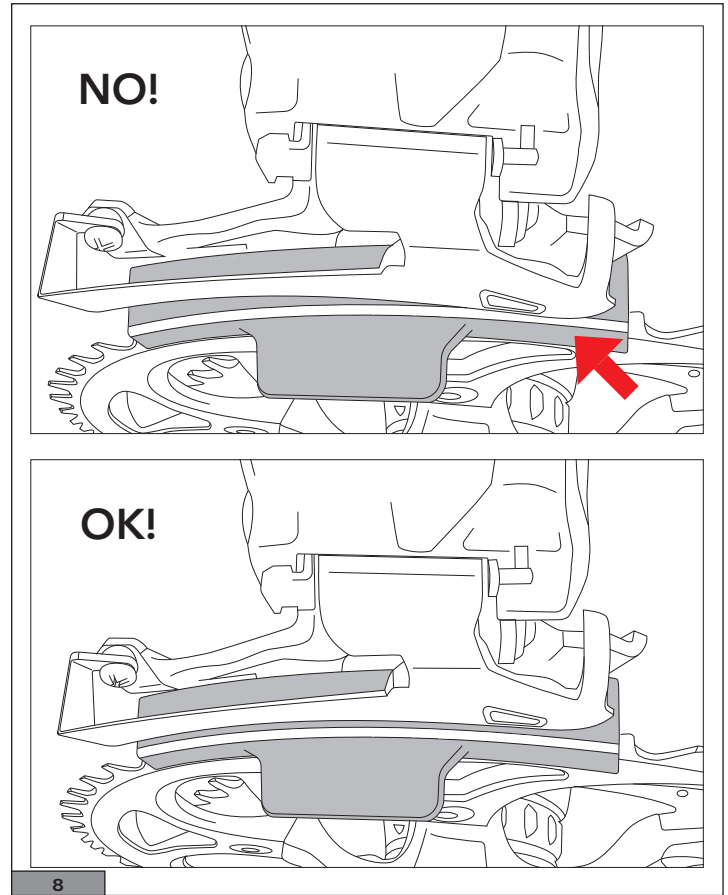
- Rotate the front derailleur until the external cage-half is perfectly parallel to the white line (Fig.8).

- Using a torque wrench, fasten the tightening bolt (Fig. 1/2 pos. A) to the frame, torquing to the following values:
  - 7 N.m (62 in.lbs) for braze-on versions
  - 5 N.m (44 in.lbs) for clamp-on versions.

**⚠ WARNING!**

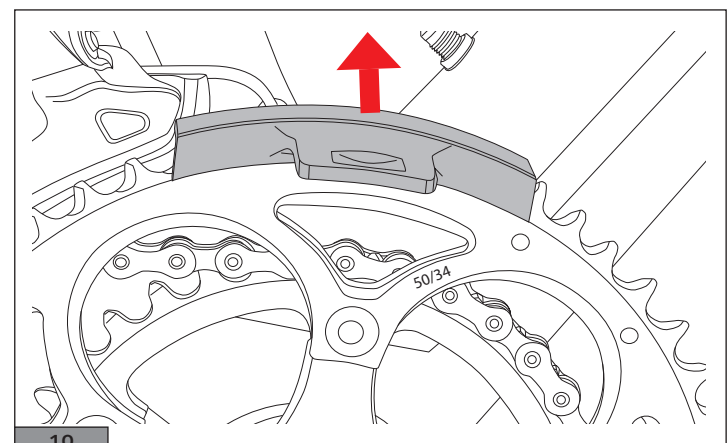
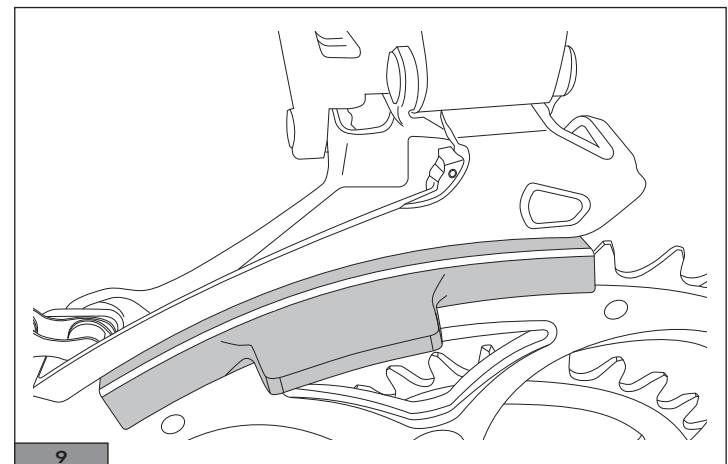
If your frame is made of carbon fiber, contact the frame manufacturer to insure that the frame will not be damaged by this 5 Nm (44 in.lbs) tightening torque, or to determine what actions need to be taken to protect the frame from damage. Even slight damage to a carbon fiber frame can result in an unexpected failure, resulting in an accident, personal injury or death.

- Install the chain and position it on the smaller chainring and larger sprocket.



- After locking down the front derailleur following the instructions in the "Front derailleur installation" procedure in the technical manual (available for download at [www.campagnolo.com](http://www.campagnolo.com)), ensure that the cage is still resting on the tool and that the external edge is parallel with the white line (Fig. 9).

- Rotate the chainring clockwise, remove the tool from the chainring and check for proper operation of the front derailleur (Fig. 10).

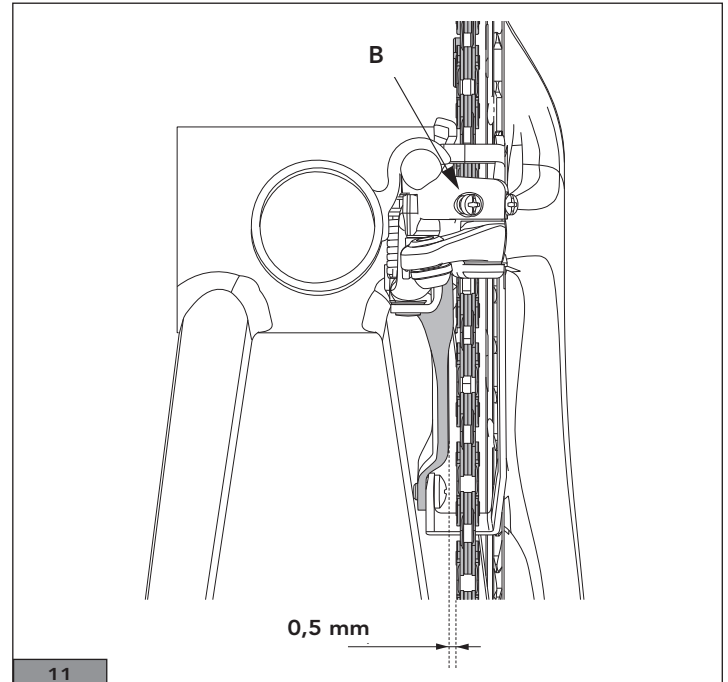




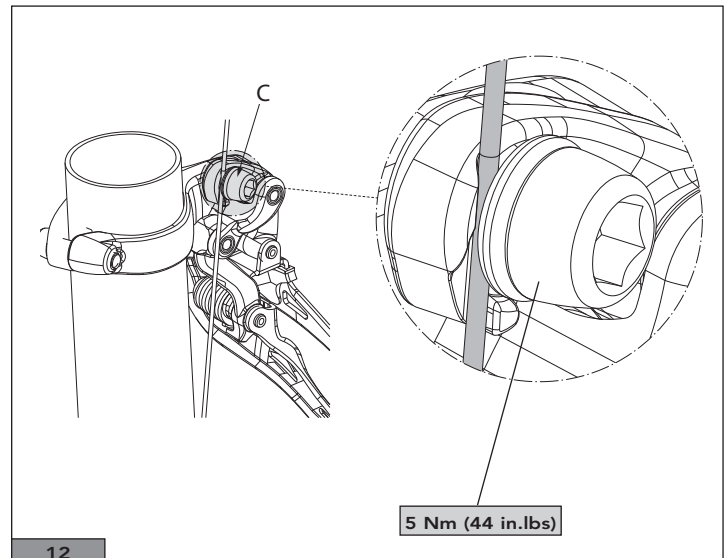
## 4.3 - ADJUSTING THE FRONT DERAILLEUR

### 4.3.1 - Lower position

1) With the chain on the smallest gear and on the biggest sprocket, adjust the internal travel limit screw (B - Fig. 11) so that the inside face of the derailleur cage is 0.5 mm from the internal side of the chain (Fig. 11).



2) Install the cable and pull it moderately. Position it on the spline underneath the washer (C - Fig. 12) and tighten at **5 Nm (44 in.lbs)** with a 5 mm Allen wrench.



3) Set the cable by pulling the cable moderately (Fig. 13). If it has lost tension, repeat points 1 and 2.



### 4.3.2 - Upper position

1) Leaving the chain on the biggest sprocket of the cassette, shift operating the shift lever FOR 3 CLICKS.

2) Adjust the tension of the cable with the adjuster (E - Fig. 15) so that the inside face of the derailleur cage just skims the chain (0.5 mm max.) (Fig. 14).

3) Adjust the external travel limit screw (D - Fig. 15) to bring it flush (Fig. 15).

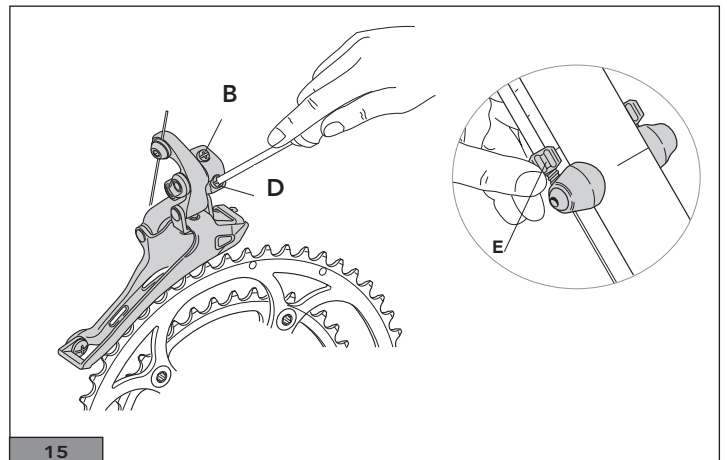
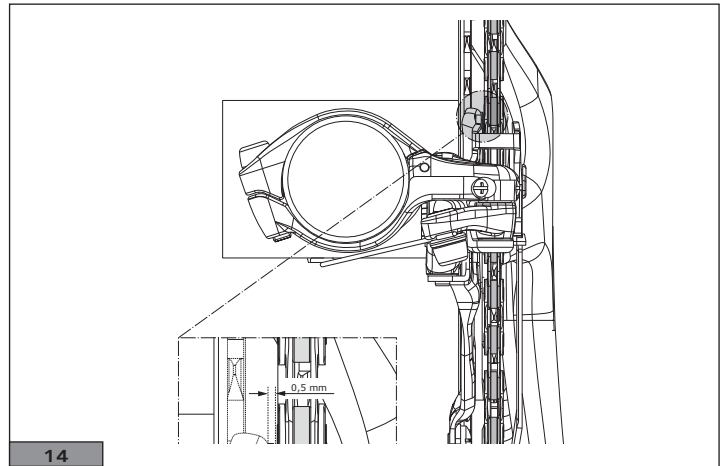
#### ATTENTION!

After adjusting the derailleur, test it and check the chain never goes down inside the smallest gear or outside the biggest one.

#### IMPORTANT!

If you have a frame with internal cable runs, also ensure that there is no contact between the rear and front derailleur cables. If necessary, completely loosen the rear derailleur cable, checking front derailleur operation in these conditions.

THE DERAILLEUR MUST WORK IN 3 CLICKS.



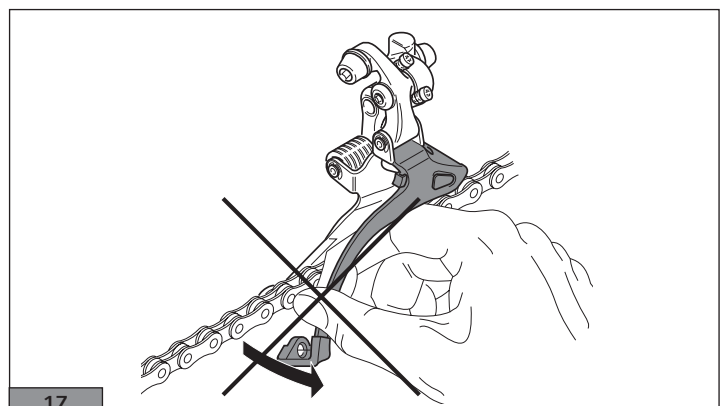
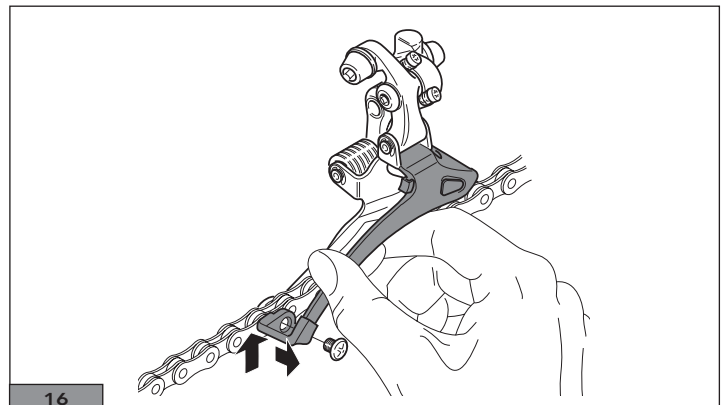
### 4.4 - INSTRUCTIONS FOR DERAILLEUR WITH CARBON FIBER EXTERNAL CAGE

#### CAUTION!

When you slip the chain through the derailleur cage (Fig. 16), do not strain the external carbon fiber semi-cage (Fig. 17) since this could be irreversibly damaged.

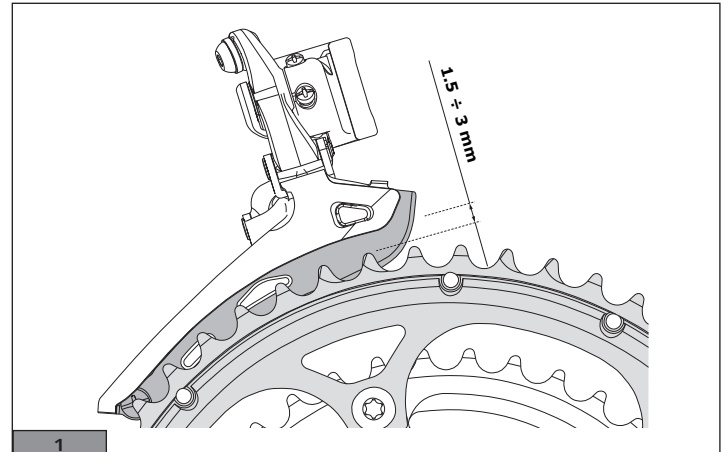
#### CAUTION

The dimensions of the derailleurs with a carbon-fibre fork don't fit the Z46 cyclocross chainrings.

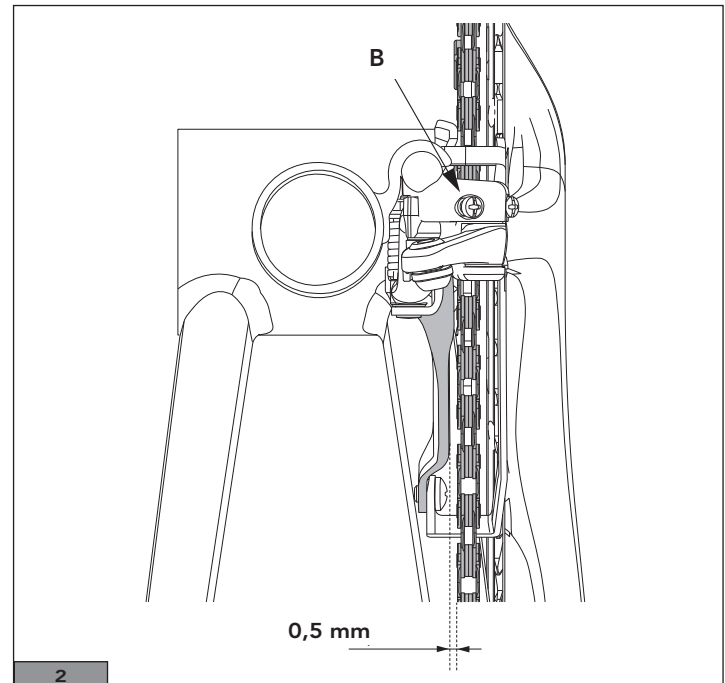


## 5 - MAINTENANCE

- **Never remove the front derailleur spring from its seat. If this operation has been carried out, go to a Campagnolo Service centre to restore the front derailleur's functionality.**
- Regularly lubricate all moving parts of the derailleur mechanism and make sure the derailleur bar moves freely.
- Make sure that the derailleur is always properly adjusted:
  - the derailleur cage must be positioned 1,5÷3 mm from the larger chainring (Fig. 1).
  - the outside side of the derailleur cage must be parallel with the larger chainring (Fig. 2).



- **The life of the components depends on conditions of use and on the frequency and quality of maintenance. To keep the components in good condition, cleaning and lubrication must therefore be repeated frequently, especially if it is subjected to heavy-duty use (i.e. after washing your bicycle, after every ride in wet, dusty or muddy conditions etc.).**
- Dirt seriously damage bicycles and their components. Thoroughly rinse, clean and dry your bike after using it in these conditions.
- Never spray your bicycle with water under pressure. Pressurized water, even from the nozzle of a small garden hose, can pass seals and enter into your Campagnolo® components, damaging them beyond repair. Wash your bicycle and Campagnolo® components by wiping them down with water and neutral soap. Dry them using a soft cloth. Never use abrasive or metal pads.



Maintenance intervals are strictly approximate and may vary significantly in relation to the intensity and conditions of use (for example: competitions, rain, winter roads with salt, weight of the athlete, etc.). Schedule the appropriate maintenance with your mechanic.

PROCEDURE	MILEAGE IN KM (MAX)	TIME (MAX)	METHOD FOR CHECKING
check screws are tightened to the correct torque	2000	2 months	torque wrench
Lubricate the joints in the front derailleur mechanism as normal with oil	6000	6 months	