FRONT DERAILLEUR

SUPER RECORD | RECORD | 12x2 SPEED

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.
The actual product may differ from what is illustrated, as the specific purpose of these instructions is to explain the procedures for using the component.

1 - TECHNICAL SPECIFICATIONS

FRONT DERAILLEUR 12s	CAPACITY (TEETH)	MAX CHAINRING (TEETH)	SHEATHS ANGLE
SUPER RECORD RECORD	16	55	61° - 66°

2 - COMPATIBILITY

FRONT DERAILLEUR 12s	CRANKSET 12s	ERGOPOWER CONTROLS 12s	CHAIN 12s
SUPER RECORD	SUPER RECORD	SUPER RECORD	SUPER RECORD
RECORD	RECORD	RECORD	

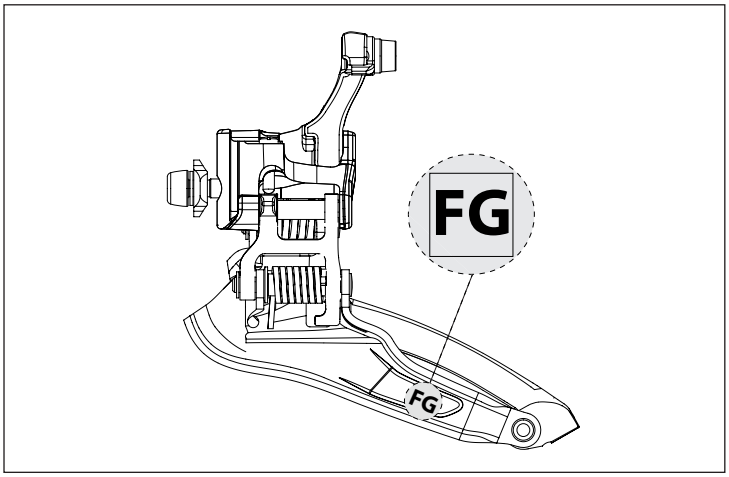
WARNING!

Combinations other than those provided in the table may cause malfunction of the drivetrain and cause accidents, personal injury or death.

This front derailleur is compatible with drivetrains with traditional brakes or hydraulic disc brakes.

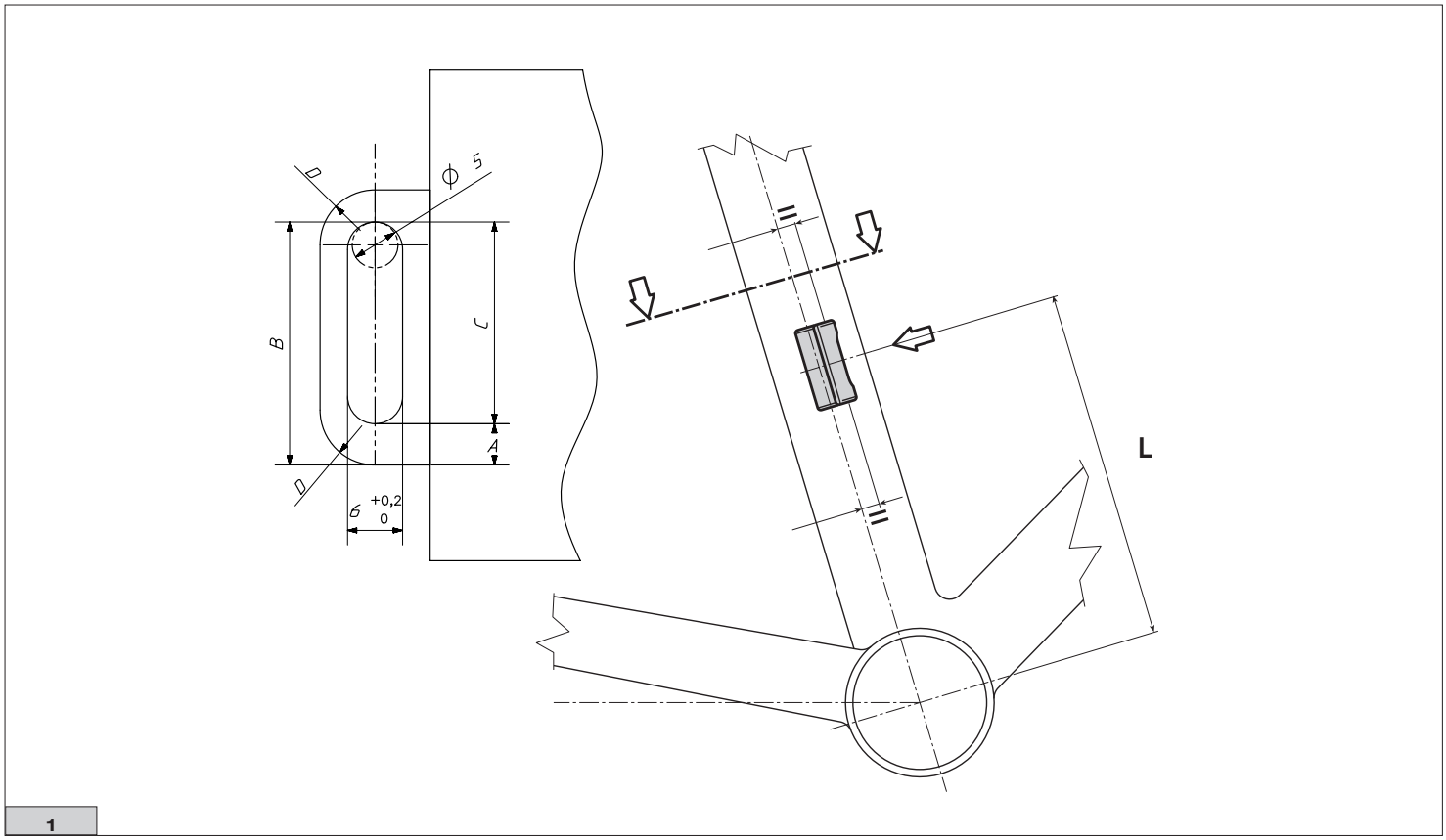
WARNING!

This front derailleur is marked FG and therefore is designed for and is only compatible with parts marked F, G or FG.



3 - INTERFACE WITH FRAME

3.1 - BRAZED ON VERSION



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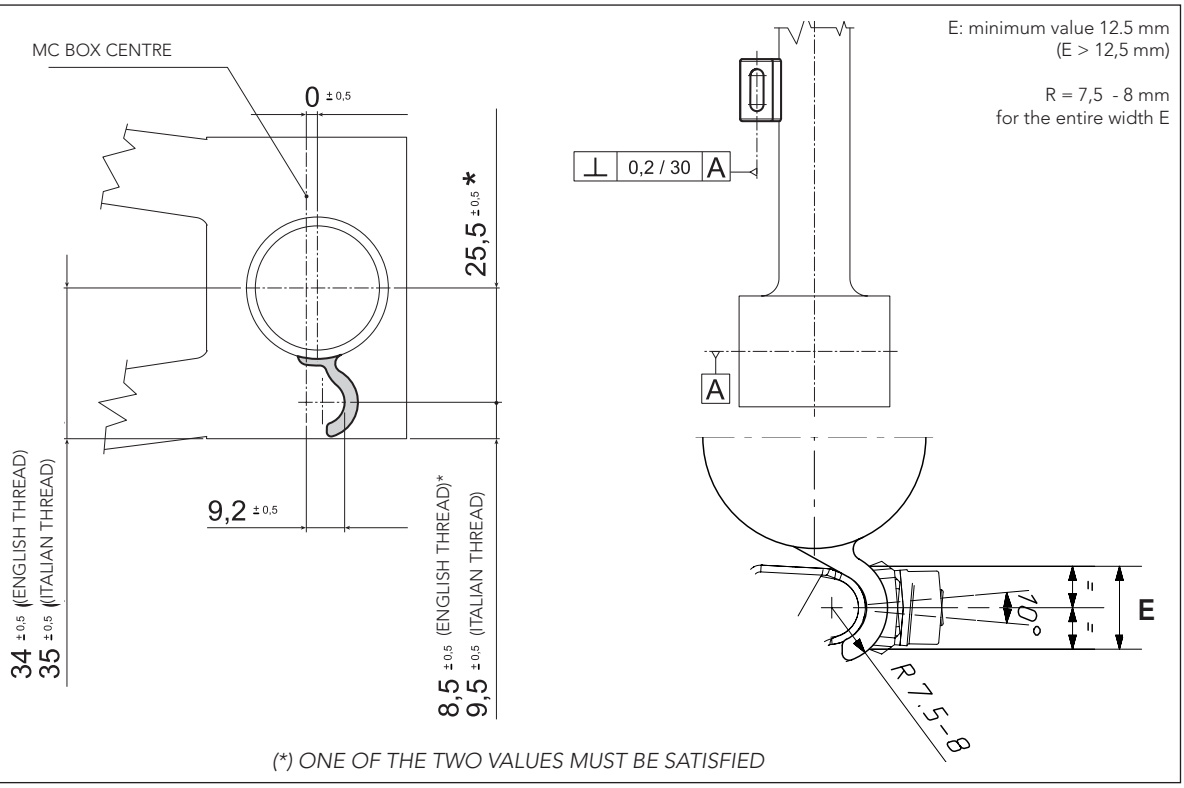
In order to have compatibility with all the chainrings indicated in table 1, the following measurements must be observed
C: minimum value 22 mm (C > 22 mm) - B: maximum value 27 mm (B < 27 mm) - A: maximum value 5 mm.
Increasing the dimensions of the slot, in other words, the C value, and therefore decreasing A, the compatibility of the chainrings can be increased beyond the indications in table 1.

TABLE 1

VALUE L (mm)	BRAZED ON MOUNT CENTRING	COMPATIBLE CHAINRINGS
138 mm	48	44-45-46-47-48-49-50-51
140 mm	49	45-46-47-48-49-50-51-52
142 mm	50	46-47-48-49-50-51-52-53
144 mm	51	47-48-49-50-51-52-53-54
146 mm	52	48-49-50-51-52-53-54-55
148 mm	53	49-50-51-52-53-54-55-56
150 mm	54	50-51-52-53-54-55-56-57
152 mm	55	51-52-53-54-55-56-57-58



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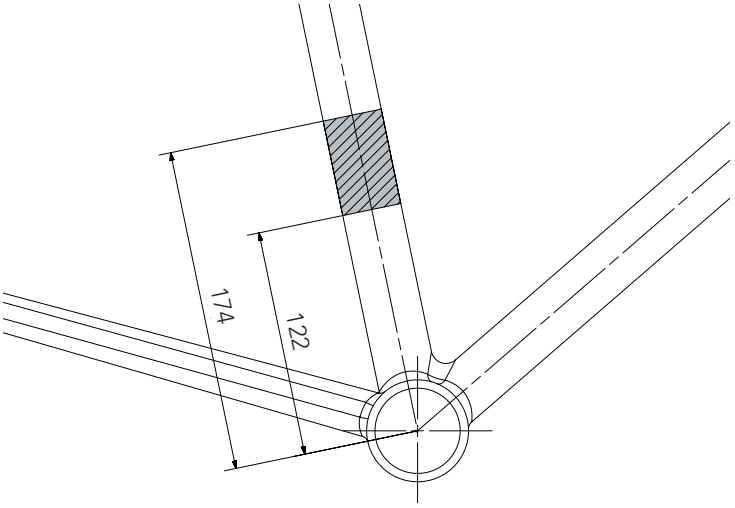
(*) ONE OF THE TWO VALUES MUST BE SATISFIED

3.2 - CLAMP-ON VERSION

The design indicates the area which must be cylindrical for fitting the clamp-on and to have compatibility with all the chainrings.
The clamp-on centreline should be positioned approximately at the following distances.

chainring 44	**130 mm**
chainring 52	**150 mm**
chainring 58	**162 mm**

D 35 + 0,8 /- 0,2	**D 32 ± 0,2**



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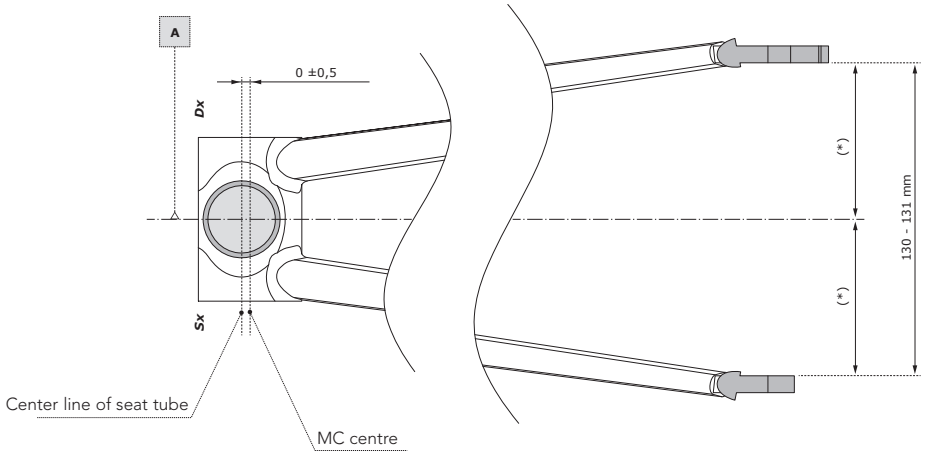
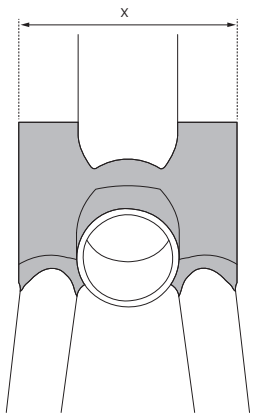


* errore di simmetria max 2mm rispetto ad A

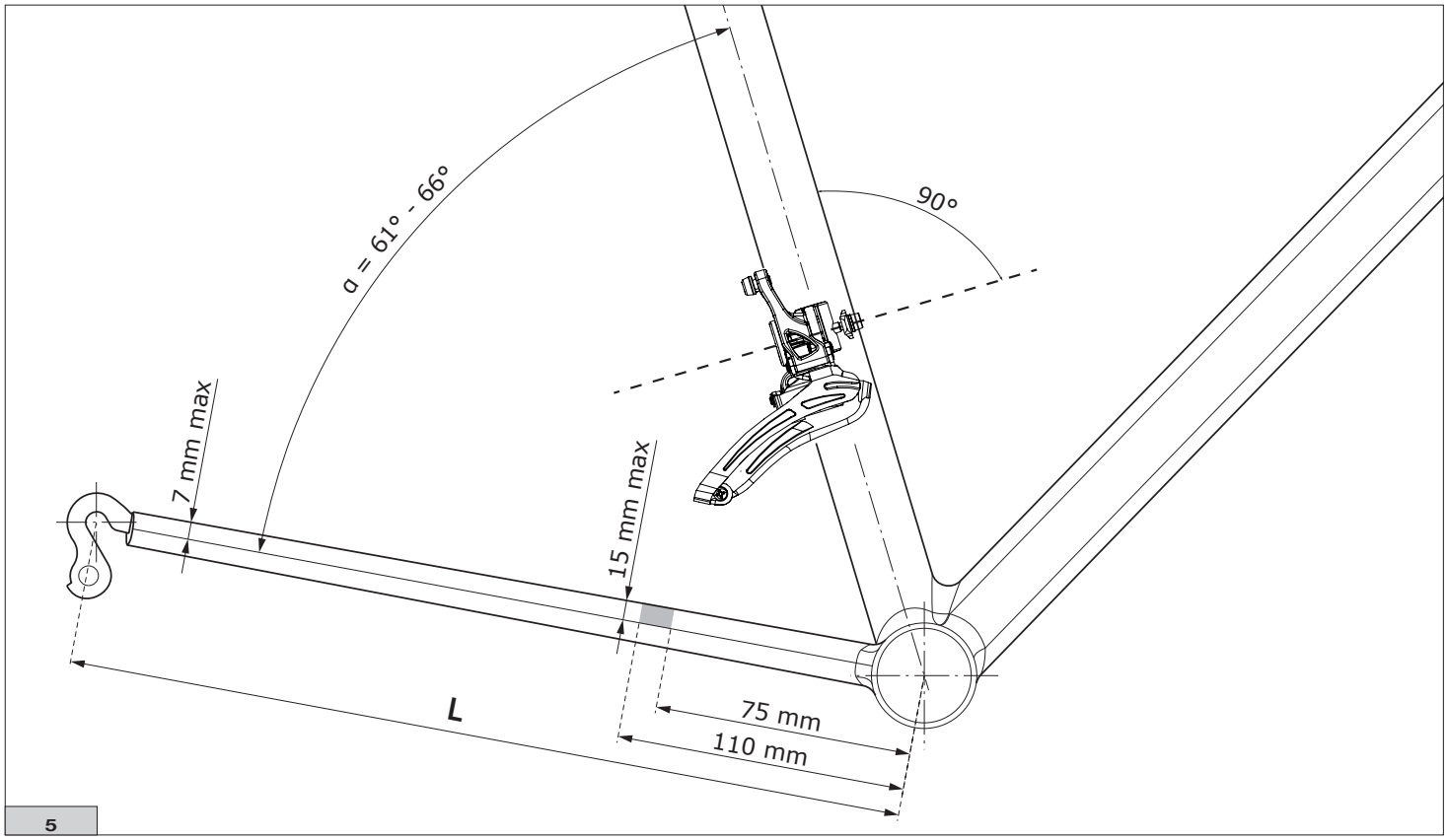


	X
italian thread	69,2 - 70,8
english thread	67,2 - 68,8

4

3.3 - SHEATHS SIZING

α = virtual angle between seat tube passing through front derailleur mount and lower drop-outs
L = lower drop-outs length
The graph assumes that the front derailleur fixing screw axis is perpendicular to the axis of the seat tube.



FRAMES FOR TRADITIONAL BRAKES	FRAMES FOR DISC BRAKES
L = 405 mm min.	**L = 410 mm min.**

4 - ASSEMBLY

4.1 - CHECKS BEFORE ASSEMBLY

• Make sure the crankset is correctly mounted and check that there is no clearance, by pushing the crankset in the direction of the bottom bracket axis.

• Check the compatibility of the front derailleur with your frame.

• For a correct adjustment, this front derailleur must absolutely provide the cable tension adjuster. If there is no front derailleur cable adjuster on the frame, the Campagnolo adjuster (Fig. 1) must be fitted, which is included in the package of the Ultra – Shift command of the current range.

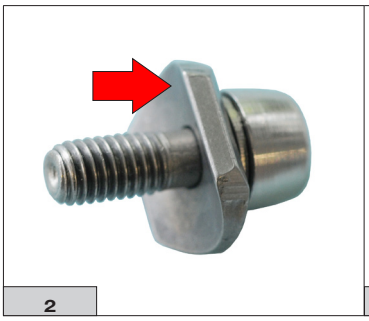
1

4.2 - INSTALLATION OF THE FRONT DERAILLEUR

• FRAME WITH "BRAZED ON" MOUNT:

Fit the front derailleur with the supplied screw and concave washer (Fig. 2), without tightening torque, to the brazed on mount of the frame, since first an exact positioning of the front derailleur must be performed.

If the Chain Security Device (CSD) that prevents the chain from falling between the smallest chainring and the frame must be fitted, use the screw with flat washer (Fig. 3).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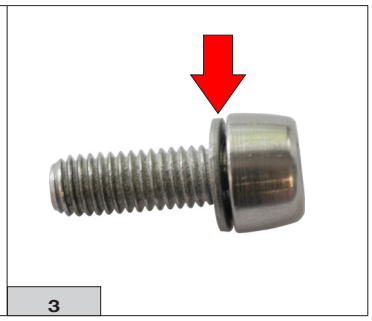
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• FRAME WITH "CLAMP-ON" MOUNT:

Fit the front derailleur to the clamp-on using the screw with flat washer and tighten the front derailleur on the clamp-on with **7 Nm (62 in.lbs)** (Fig. 4).

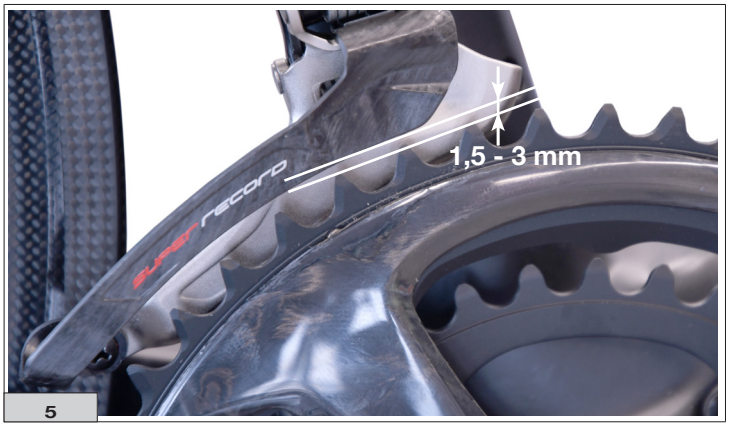
Mount the clamp-on to the frame without tightening to torque since first an exact positioning of the front derailleur must be performed.

4

4.2.1 - POSITIONING OF THE FRONT DERAILLEUR

1) It is very important to place the front derailleur exactly, therefore it is necessary to use the Campagnolo UT-FD120 tool that allows to:

• Adjust the height of the front derailleur so that the fork remains at a distance of 1.5 - 3 mm from the largest chainring (Fig. 5).



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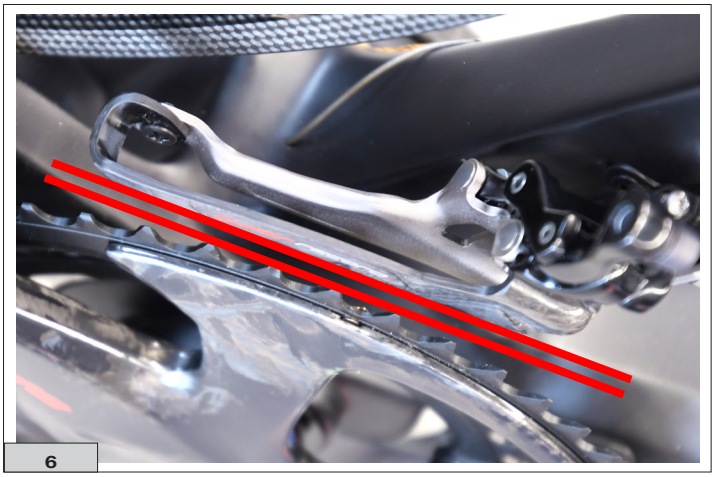
• Adjust the front derailleur the external side of the derailleur cage must be parallel to the chainring (Fig. 6).



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2) Check that the tool is compatible with your crankset (Fig. 7).

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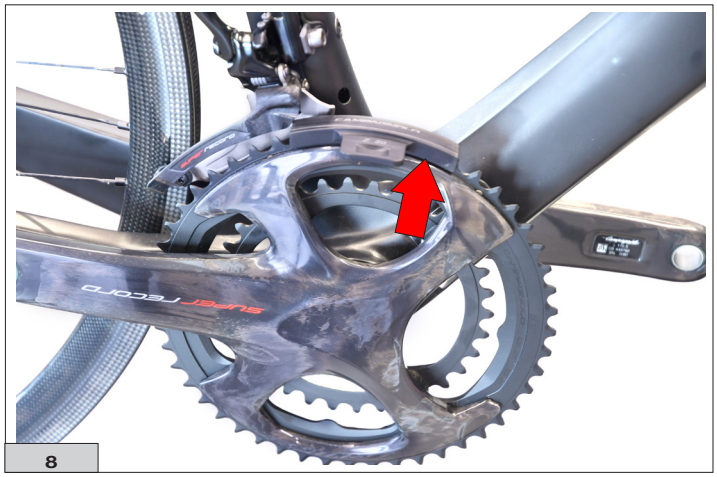
3) Fit the tool on the larger chainring having the hand crank almost in horizontal position, so that the longest teeth rest on the bottom of the tool's spline (Fig. 8).



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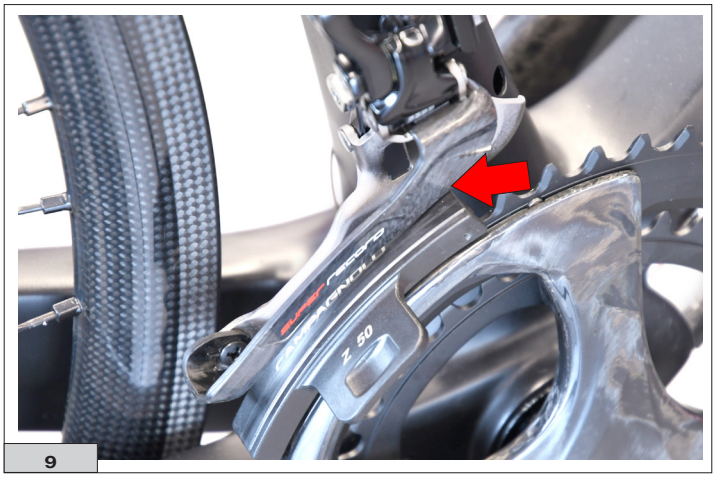
4) Turn the chainring in an anti-clockwise direction, moving the tool under the derailleur cage.

5) Rest the outer cage plate on (in the front part), on the tool. The ideal point of contact between the cage plate and the tool is on the tool surface near the white line. (Fig. 9).



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6) Turn the front derailleur until the outer cage plate is perfectly parallel to the white line (Fig. 10).

7) Keep the front derailleur in position and tighten the mount screw to the prescribed torque: **7 Nm (62 in.lbs)**.

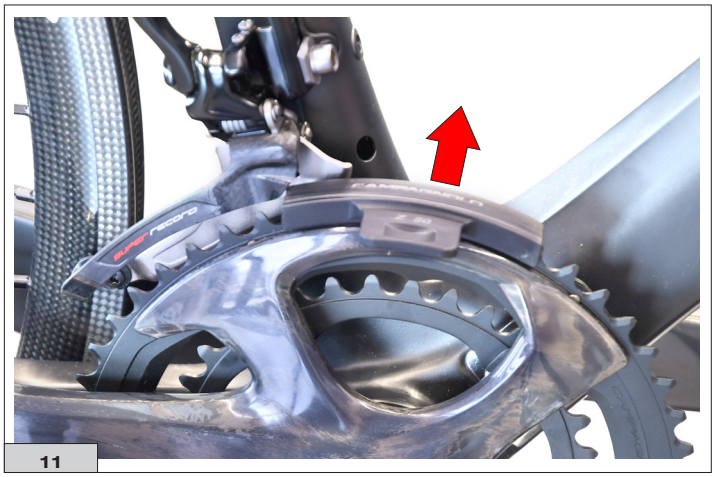
• In case of using the front derailleur with clamp-on, tighten the clamp screw to the prescribed torque: **5 Nm (44 in.lbs).** When with the clamp-on was used the Chain Security Device (CSD), before tightening to torque, check that the right surface of the fin has a distance of 1 mm to the smaller chainring.

10

⚠ **WARNING!**

If you have a carbon fibre frame contact the frame manufacturer in order to ensure that it will not be damaged after tightening to a torque of 5 Nm (44 in.lbs) or to define the actions to be taken in order to prevent damage.
Even the slightest damage caused to a carbon fibre frame can cause damages which may lead to accidents, injuries or even death.

8) After locking the front derailleur, check that the fork is always resting against the tool and that the outer edge is parallel to the white line (Fig. 11).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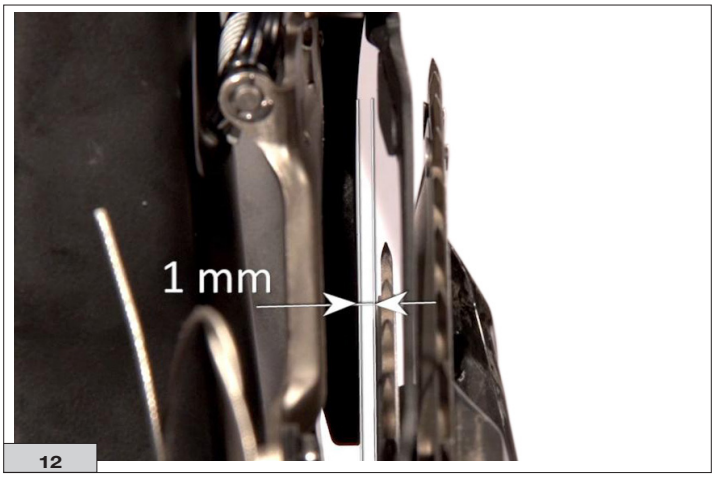
9) Turn the chainring clockwise, remove the tool from the chainring and check that the front derailleur is working correctly (Fig.11).

11) If your front derailleur provides the Chain Security Device (CSD), place the retaining surface at a distance of 1 mm from the chainring and tighten the nut (Fig.12).

12) Install the chain, positioning it on the smaller chainring and on the larger sprocket.



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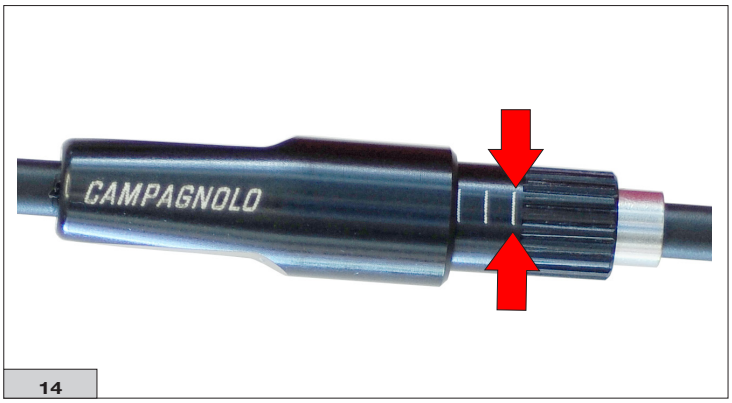
13) Install the cables, housings and ferrules for 12s drivetrains, ensuring they are the correct length, bearing in mind that if the cables have to pass inside the frame, you must also install the Campagnolo front-derailleur cable tension adjuster (included in the Ultra-Shift command pack).
The tension adjuster is placed with the knurled part on the bottom.
The lower housing must provide the housing end cap while the upper housing is fitted without housing end cap (Fig.13).
The tension adjuster is placed near the handlebar in an area where it does not interfere with the frame.

13

4.3 - REGISTRATION OF THE FRONT DERAILLEUR

4.3.1 - LOWER POSITION and UPPER POSITION

1) Thread the cables and housings and set the front-derailleur cable tension adjuster at the lowest level (Fig.14) so that you can increase the cable tension later.



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2) Position the chain on the smallest chainring and on the largest sprocket.


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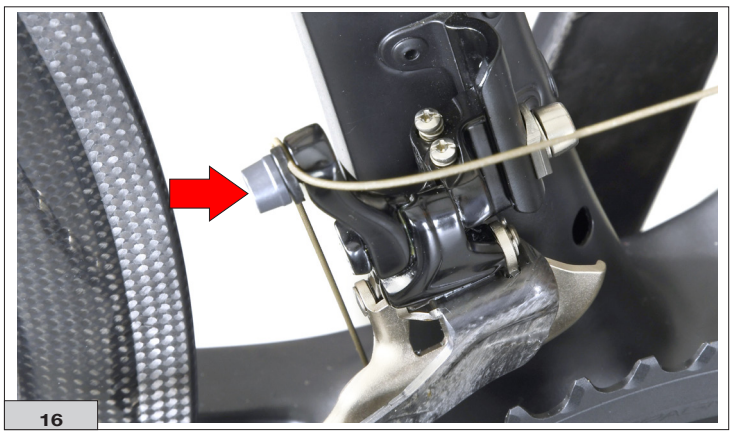
3) Depending on the distance of the cable from your frame, wheel and front derailleur, assess whether to leave the cable locking screw on the rear side or whether to position it on the front side (Fig. 16).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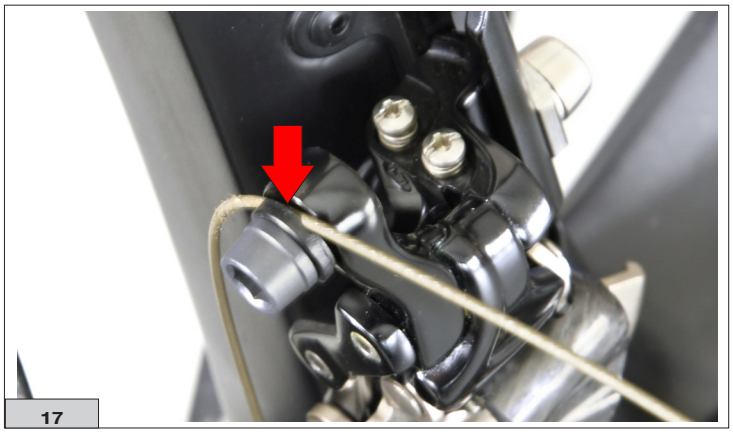
4) Thread the cable over the screw (Fig. 17).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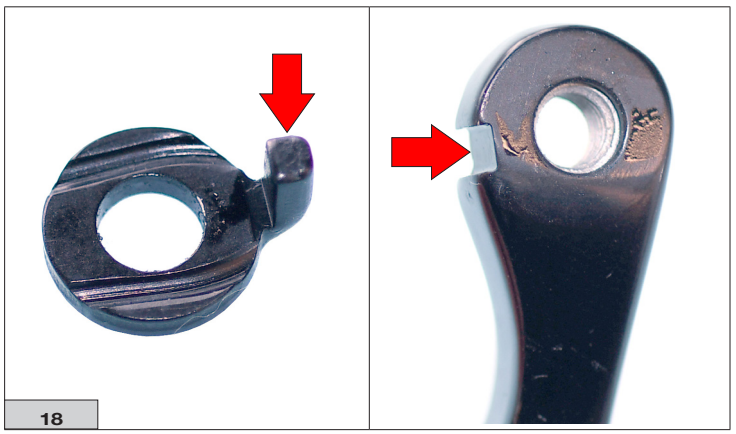
5) Make sure that the tooth on the cable fixing washer is positioned in the slot on the link of the front derailleur on the inner side (Fig. 18).



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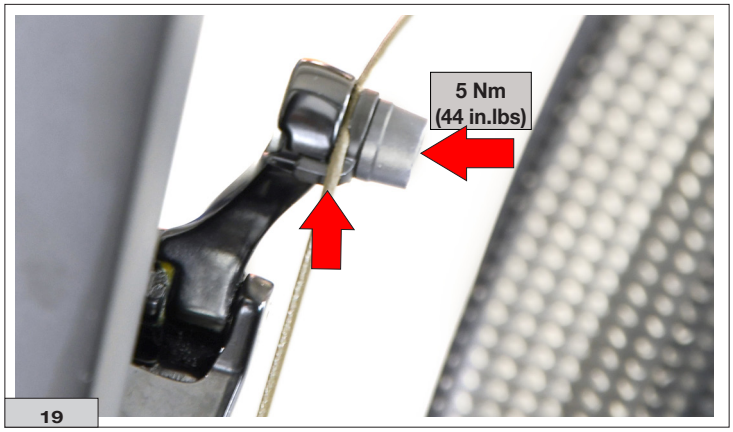
6) Pull strongly on the cable and lock it at a torque of **5 Nm (44 in.lbs)** (Fig. 19).



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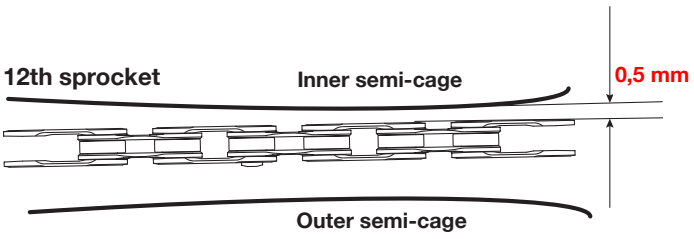
7) Use the cable tension adjuster (Fig. 14) to position the inner semi-cage at a distance of 0.5 mm from the chain (Fig. 20). To carry out this operation correctly, as you increase the cable tension, move up to the larger chainring and back down to the lower chainring, checking the position of the cage.



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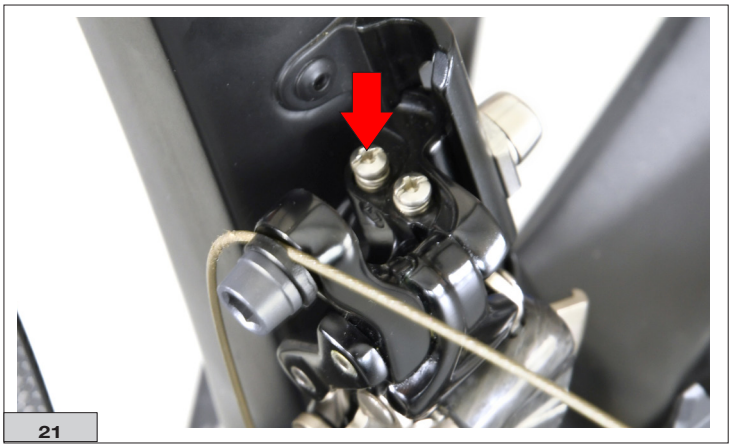
8) Put the chain on the smallest chainring and turn the inner limit screw until it stops (Fig. 21).



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9) Put the chain on the largest chainring and the smallest sprocket (Fig. 22).

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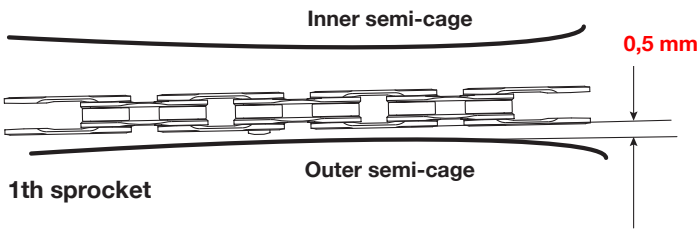
10) Turn the outer limit screw (Fig. 23) so that the outer semi-cage is 0.5 mm from the chain (Fig. 23).



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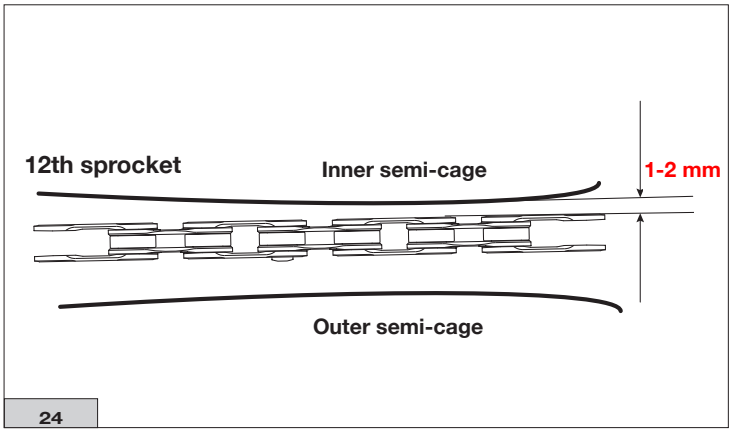
11) Move to the largest sprocket and do a micro-adjustment (1 click) with the front derailleur: make sure that the distance between the inner semi-cage and the chain is 1 – 2 mm (Fig. 24).

- If you are too close to the inner cage plate, reduce the cable tension.
- If you are too distant from the inner cage plate, increase the cable tension.

ATTENTION

In case the cable is excessively tensioned, the derailleur fork might not move not even when you do the micro-adjustment (1 click). The cable tension must be reduced.

In addition to this, if you did not do the phase 6 to lock the screw at the inner end stop, move down to the lower chainring, do another click inwards, and adjust the screw until the inner cage plate is at at distance of 0.5 mm from the chain.



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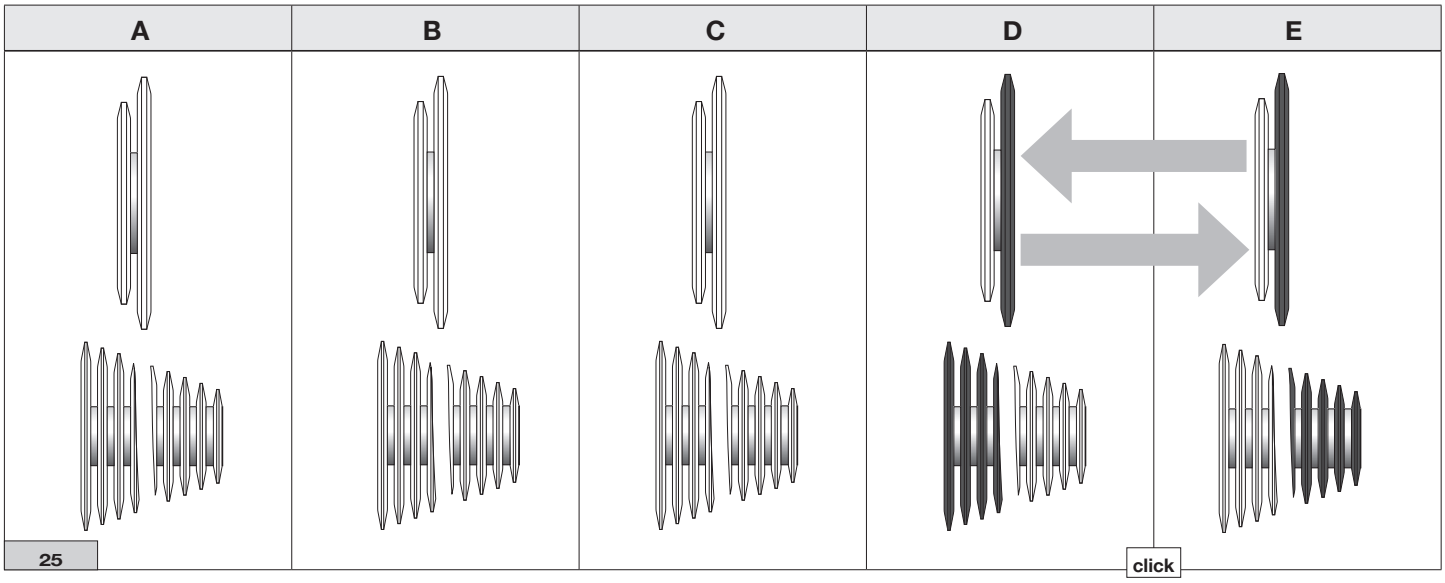
WARNING!

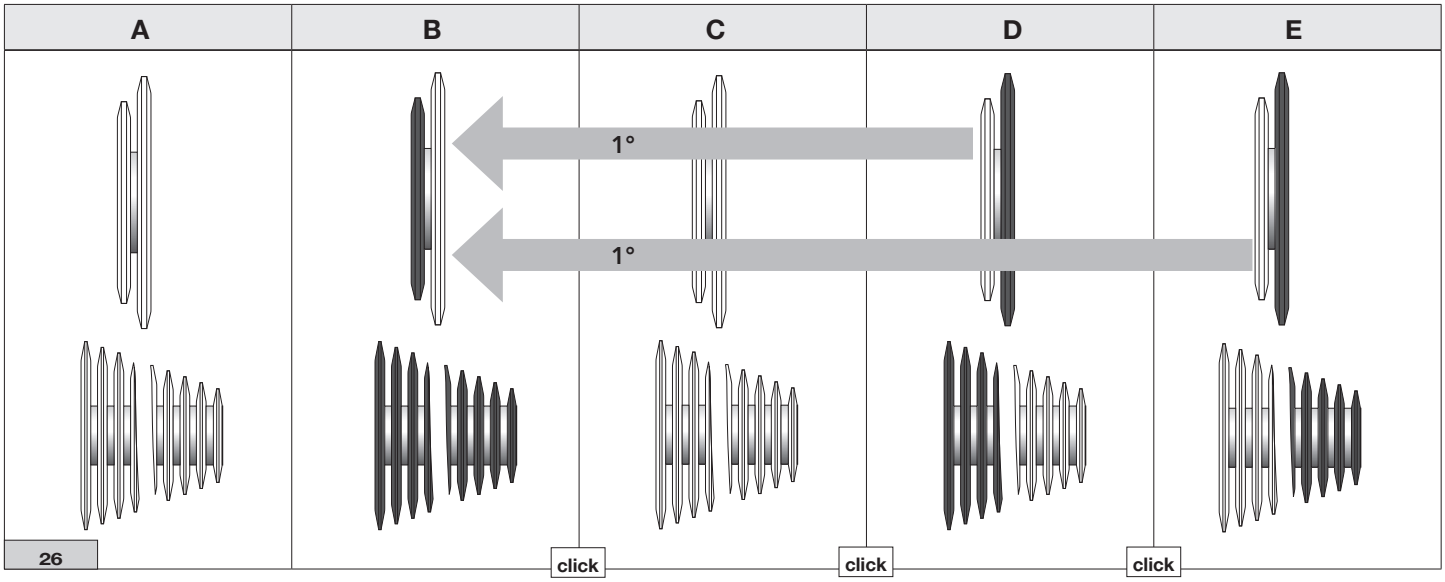
After having registered the front derailleur, carry out some derailing by checking that the chain never falls inside the smallest chainring neither outside the largest chainring.

4.4 - FRONT DERAILLEUR OPERATION

When the chain is on the larger chainring, there are two possible front derailleur positions to avoid any chain rub against the front derailleur cage (Fig. 25) that may be caused by the position of the rear derailleur.
The front derailleur is designed so that the chain can be shifted to the smaller chainring with a single push of the inner left-hand Ergopower lever to the end of its travel (either 2 or 3 clicks), regardless of whether the front derailleur is in the inner or outer position on the larger chainring.

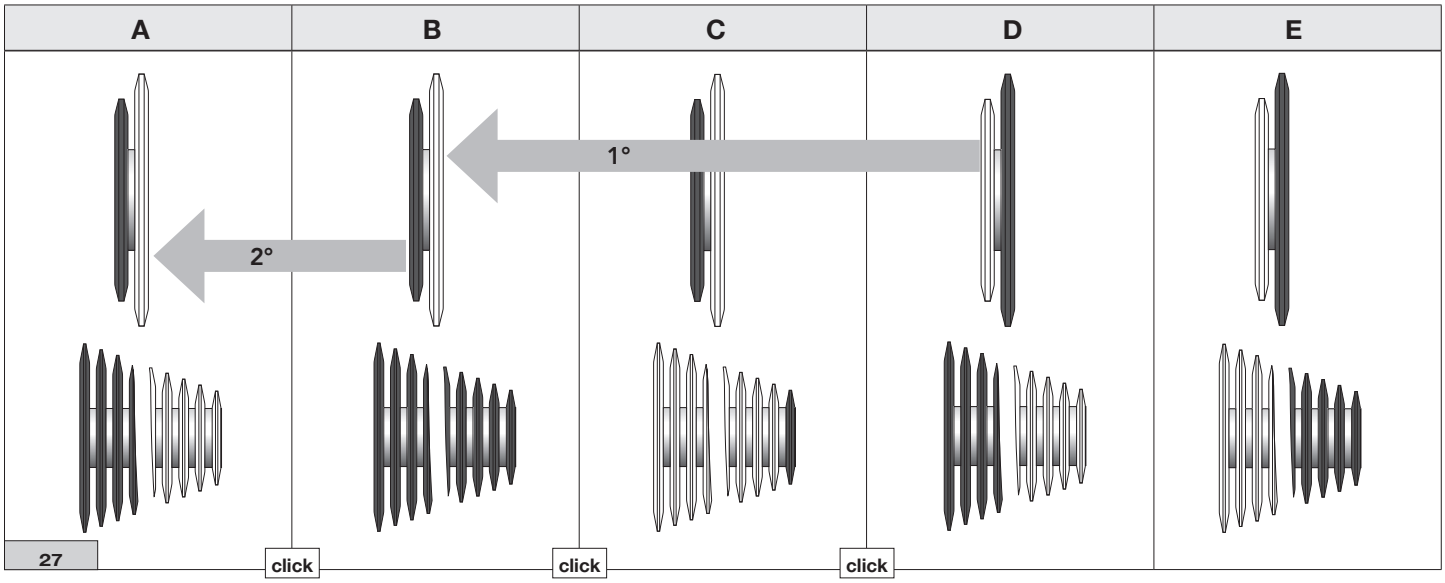


This significantly reduces the risk of the chain slipping into the frame, as the front derailleur cage stays very close to the chain (1st push / Pos. B - Fig.26).

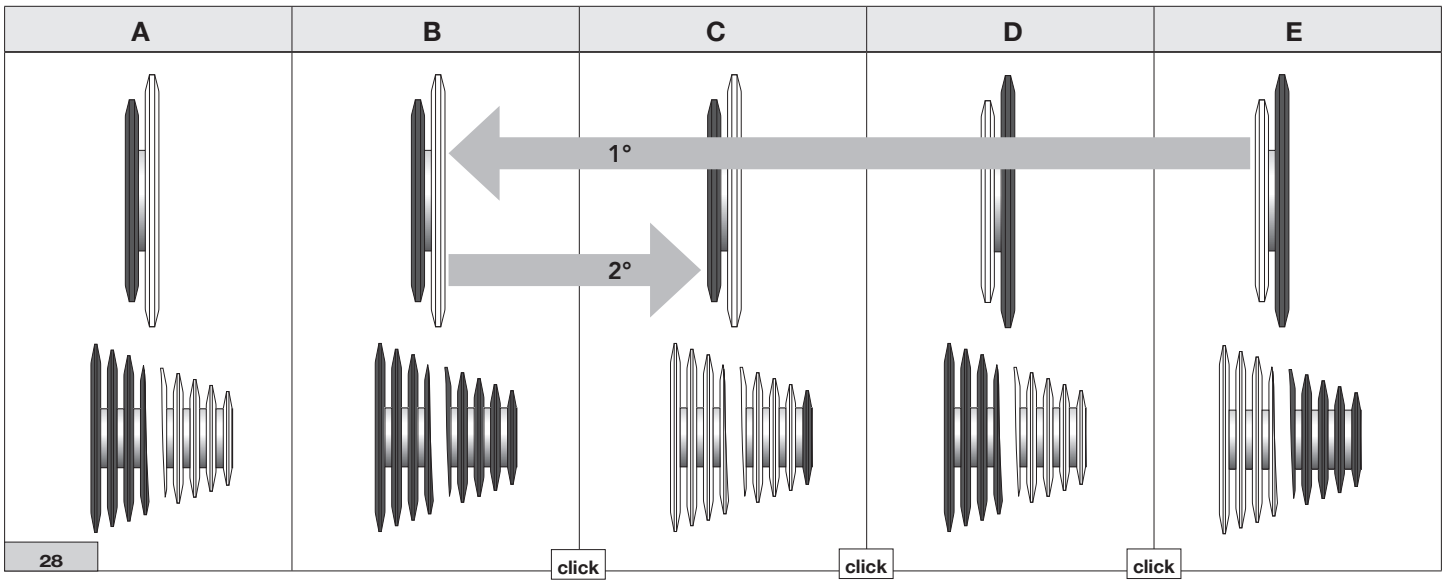


CAUTION
If the inner lever is not activated at the end stop, the front derailleur moves to position C and, once the inner lever is activated again, the front derailleur can move directly to position A with the risk that the chain will come off.

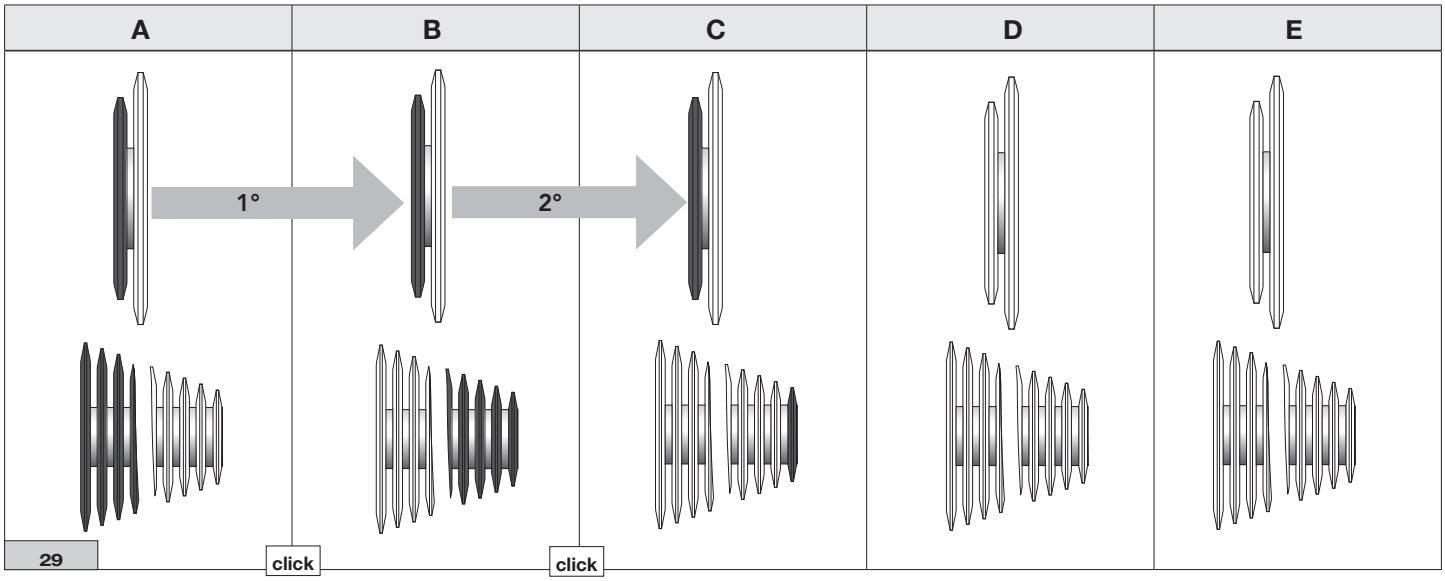
As a result, the chain may rub against the cage if the rear derailleur is on larger sprockets when changing down at the front. To eliminate this noise, once the chain is on the smaller chainring, push the lever again (1 click) (2nd push / Pos. A - Fig.27).



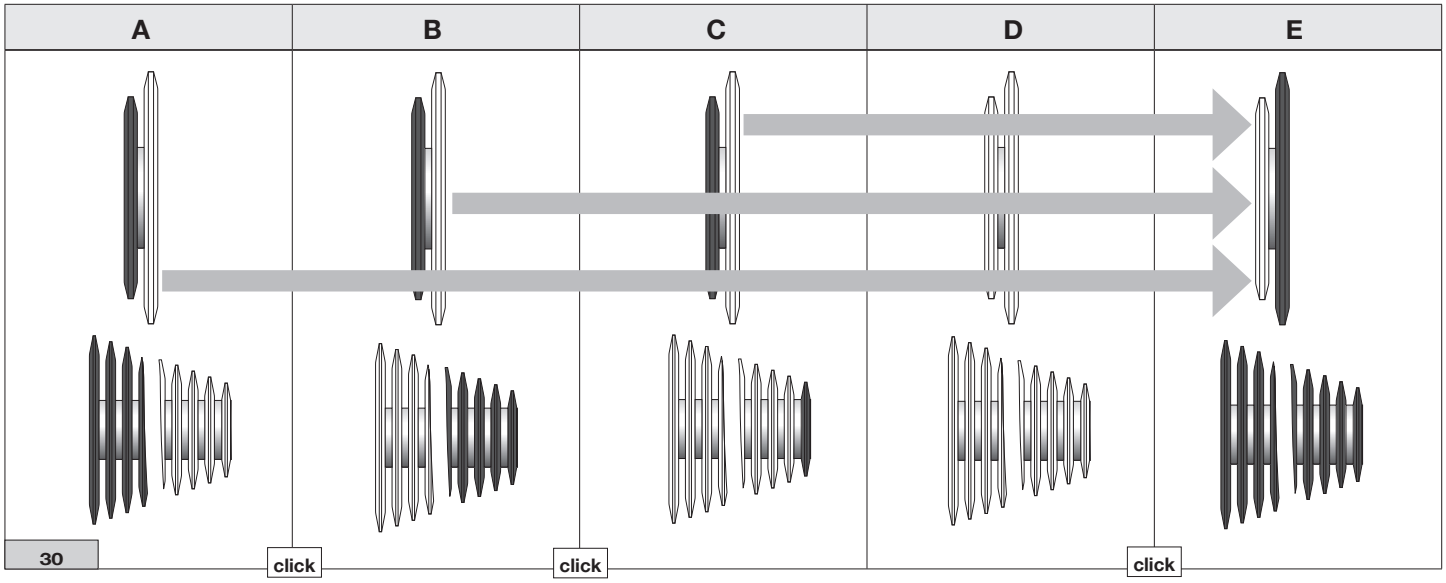
More rarely, the chain may rub against the outer side of the cage when the rear derailleur is on a smaller sprocket. To eliminate the noise, once the chain is on the smaller chainring, push the lever again (1 click) (2nd push / Pos. C - Fig. 28).



When moving the rear derailleur onto smaller sprockets from Pos. A, to prevent the chain from rubbing against the cage, press the front derailleur lever once or twice to move into position B or C (1st push, 2nd push - Fig. 29).



The front derailleur may be moved from the smaller chainring to the larger with a single lever push of 1, 2 or 3 clicks, depending on the initial position of the front derailleur (Pos. C, B or A respectively - Fig.30).
Changing up to the larger chainring always takes place in position E.



5 - MAINTENANCE

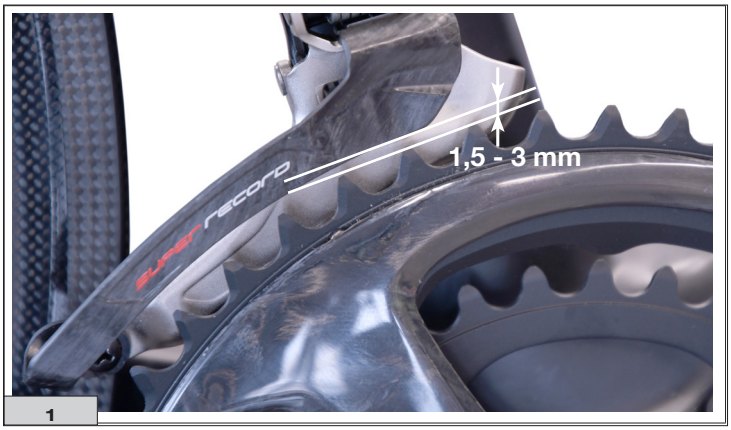
• The duration of the components is variable based on the conditions of use, frequency and quality of maintenance. For proper component maintenance, it is necessary to frequently perform the cleaning and lubrication operations, especially under conditions of heavy use (e.g. each time after washing the bicycle, after use in wet conditions, on dusty or muddy roads etc.).

• Never remove the spring of the front derailleur from its position.
If this operation had been performed, contact a Campagnolo Service Centre to restore the functionality of the front derailleur.

• Lubricate the joints in the front derailleur mechanism regularely with oil; check that the rod movement is always free.

• Check that the front derailleur is oriented correctly:

- the derailleur cage must have a distance of 1.5-3 mm to the largest chainring (Fig. 1).



1

- the external side of the derailleur cage must be parallel to the largest chainring (Fig. 2).


2

• Dirt seriously damages the bicycle and its components. Wash, clean and dry your bicycle carefully after use.

IMPORTANT: for cleaning the bicycle only use environmentally-friendly and neutral products without caustic substances and safe to use for you and for the environment.

• Never wash your bicycle using pressurised water. Pressurised water - even from a normal garden hose - may infiltrate through the seals and into your Campagnolo® components, causing irreparable damage. Wash your bicycle and its Campagnolo® components cleaning delicately with water and neutral soap. Dry with a soft cloth: Never use abrasive or metallic sponges.

⚠ **WARNING!**

Salty environments (such as winter roads or roads near the sea) may lead to galvanic corrosion of most of the bicycle's exposed components. To prevent damage, malfunctions and accidents, rinse, dry and carefully re-lubricate all components which are subject to this phenomenon.

6 - PERIODIC MAINTENANCE

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	KM INDICATION (MAX)	TIME INDICATION (MAX)	CALCULATION METHOD
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	
Check for any deformation of the fork and plate (where present)	1000	1 month	