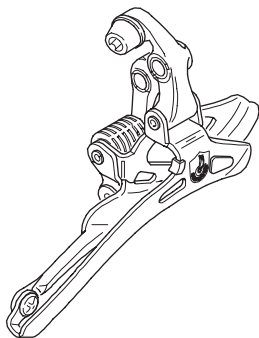


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FRONT DERAILLEUR



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WARNING!

Carefully read, follow and understand the instructions given in this manual. It is an essential part of the product, and you should keep it in a safe place for future reference.

MECHANIC QUALIFICATION - Please be advised that many bicycle service and repair tasks require specialized knowledge, tools and experience. General mechanical aptitude may not be sufficient to properly service or repair your bicycle. If you have any doubt whatsoever regarding your service/repair ability, please take your bicycle to a qualified repair shop.

INTENDED USE - This Campagnolo® product is designed and manufactured for use only on road racing style bicycles that are ridden **only** on smooth road or track surfaces. Any other use of this product, such as off-road or on trails **is forbidden**.

"AN ACCIDENT" - Please note that throughout this manual, reference is made that "an accident" could occur. Any accident could result in damage to your bicycle, its components and, more importantly, could cause you or a bystander to sustain severe personal injury or even death.

LIFESPAN - WEAR - INSPECTION REQUIREMENT - The lifespan of Campagnolo® components depends on many factors, such as rider size and riding conditions. Impacts, falls, improper use or harsh use in general may compromise the structural integrity of the components and significantly reduce their lifespan. Some components are also subject to wear over time. Please have your bicycle and its components regularly inspected by a qualified mechanic for any cracks, deformation, signs of fatigue or wear (use of penetrating fluid or other visual enhancers to locate cracks on parts is recommended). Disassembly your bicycle components and especially the pedals, is required during these inspections. If the inspection reveals any deformation, cracks, impact marks or stress marks, no matter how slight, **immediately** replace the component; components that have experienced excessive wear also need **immediate** replacement. The frequency of inspection depends on many factors; check with your authorized representative of

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Campagnolo S.r.l. to select a schedule that is best for you. If you weigh 82 kg/180 lbs or more, you must be especially vigilant and have your bicycle inspected more frequently (than someone weighting less than 82 kg/180 lbs) for any evidence of cracks, deformation, or other signs of fatigue or stress. Check with your mechanic to discuss whether the components you selected are suitable for your use, and to determine the frequency of inspections.

Important PERFORMANCE, SAFETY and WARRANTY Notice - The parts and components of Campagnolo® 9s, 10s drivetrains, braking systems, rims, pedals and all other Campagnolo® products, are designed as a single integrated system. To avoid compromises in terms of safety, performance, durability, function, and to prevent voiding the WARRANTY, use only the parts and components supplied or specified by Campagnolo S.r.l., without interfacing them with or substituting them with products, parts or components manufactured by other companies.

Note: Tools supplied by other manufacturers for components similar to Campagnolo® components may not be compatible with Campagnolo® components. Likewise, tools supplied by Campagnolo S.r.l. may not be compatible with components supplied by other manufacturers. Always check with your mechanic or the tool manufacturer to insure compatibility before using tools supplied by one manufacturer on components supplied by another.

The user of this Campagnolo® product expressly recognizes that there are risks inherent in bicycle riding, including but not limited to the risk that a component of the bicycle can fail, resulting in an accident, personal injury or death. By his purchase and use of this Campagnolo® product, the user expressly, voluntarily and knowingly accepts and/or assumes these risks and agrees to hold Campagnolo S.r.l. harmless against any resulting damages.

If you ever have any questions, please contact your mechanic or your nearest Campagnolo® dealer for additional information.



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WARNING!

Always wear protective gloves and glasses while working on the front derailleur.

1. TOOLS

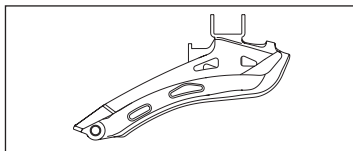
All assembly, adjustment and maintenance operations for the front derailleur can be performed with the following tools not included in the package:

- Torque wrench
- Phillips cross-head screwdriver
- 5 mm Allen wrenches

2. TECHNICAL SPECIFICATIONS

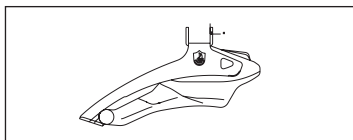
• **Front derailleurs for double crankset (CT™ + Standard):**

- Capacity (teeth): 16
- Maximum chainring (teeth): 54



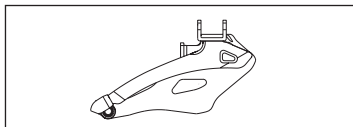
• **Front derailleurs for triple crankset:**

- Capacity (teeth): 23
- Maximum chainring (teeth): 53



• **Front derailleurs for CT™ double crankset (only for Xenon):**

- Capacity (teeth): 16
- Maximum chainring (teeth): 50



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Note

The CT™ front derailleurs are compatible **exclusively** with and are to be used **only** with the Campagnolo CT™ cranksets.

	Technical Specifications		Compatibility	
	Capacity	Max. chainring	Crankset	Control lever
Front derailleur for double	16	54	CT™ + Standard	Ergopower™
Front derailleur for triple	23	53	Triple	Ergopower™
Front derailleur for CT™	16	50	CT™	Ergopower™



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.

NOTE

The new QS™ Ergopower™ controls provide for faster operation and a lower shifting force if used with the new QS™ front derailleurs.

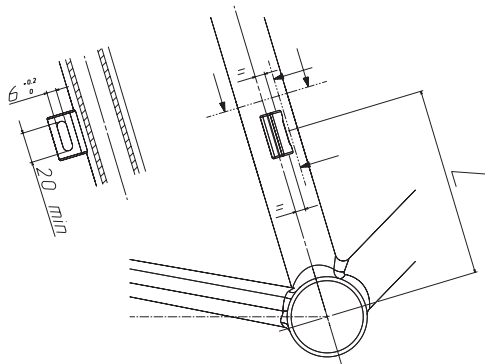
The QS™ Ergopower™ controls and the QS™ front derailleurs can also be used with non-QS™ Ergopower™ controls and front derailleurs. However, in this case please note that:

- QS™ Ergopower™ controls with non-QS™ front derailleurs could require a higher force to effect shifting.
- Non-QS™ Ergopower™ controls with QS™ front derailleurs will require at least two lever movements to effect shifting.

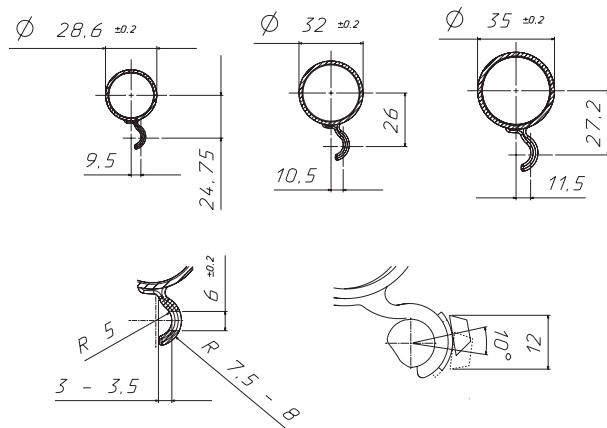


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1



ATTENTION
The contact surface of the braze-on mounting boss must be parallel to the axis of the tube.



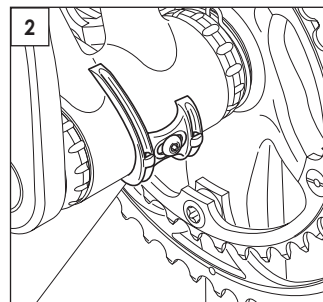
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Dimension L	Centering of the mounting boss	Compatible chainrings
140 mm	48	45,46,47,48,49,50,51
142 mm	49	46,47,48,49,50,51,52
144 mm	50	47,48,49,50,51,52,53
146 mm	51	48,49,50,51,52,53,54
148 mm	52	49,50,51,52,53,54,55
150 mm	53	50,51,52,53,54,55,56
152 mm	54	51,52,53,54,55,56,57

3. PREPARING FOR INSTALLATION

- Make sure the plate (Fig. 2) is in position on the frame.
- **POSITION OF THE BRAZE-ON MOUNTING BOSS FOR THE DOUBLE AND TRIPLE FRONT DERAILLEUR**
The position of the braze-on mounting boss for the front derailleur is important in ensuring correct derailleur performance. Position the mounting boss as shown in figure 1 on page 22.
- Do not remove the crankset when installing the derailleur.
- Use either the clip-on or braze-on front derailleur body, as appropriate for your particular frame.





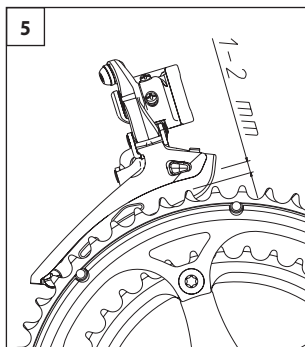
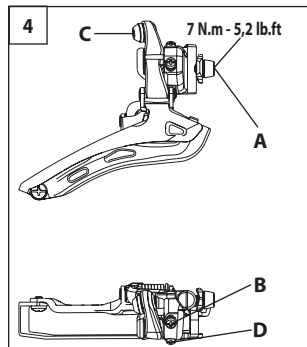
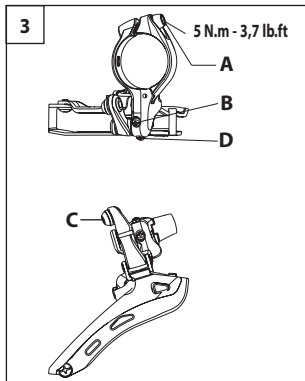
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4. FRONT DERAILLEUR INSTALLATION

• **To mount the clip-on derailleur on the frame:** loosen the screw using a 5 mm Allen wrench (A - Fig. 3), open the clip completely and clamp it onto the frame.

• **To mount the braze-on derailleur on the frame:** loosen the screw using a 5 mm Allen wrench (A - Fig. 4) 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 ± 2 mm from the larger chainring (Fig. 5).



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• Align the derailleur: the inner side of the derailleur cage must be parallel with the chainring (Fig. 6).

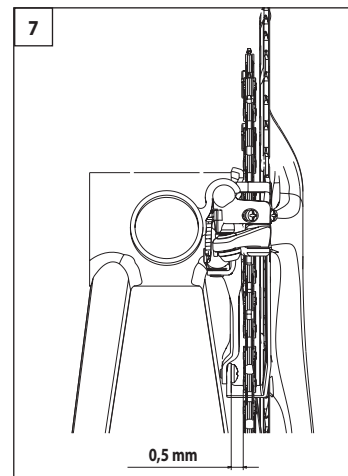
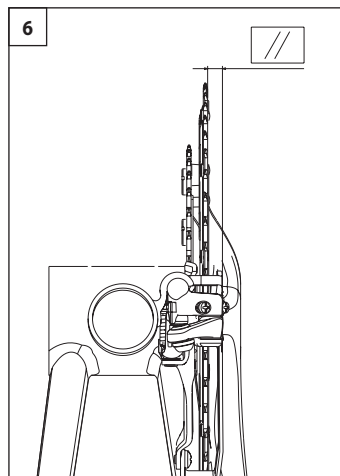
• Using a torque wrench, fasten the tightening bolt (pg. 24, Fig. 3/4 pos. A) to the frame, torquing to the following values:

- 7 Nm - 5.2 lbft for braze-on versions
- 5 Nm - 3.7 lbft for clamp-on versions.

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

• Adjust the internal end-of-stroke screw (B - Fig. 3/Fig. 4 - Page 24) so that the inner face of the derailleur cage is 0.5 mm from the inner side of the chain (Fig. 7).

• Install the cable, stretching it moderately. Secure it in the groove underneath the washer (C - Fig. 3/Fig. 4 - Page 24) using a 5 mm Allen wrench, and tighten to a torque of 5 N.m - 3,7 lb.ft using a torque wrench.





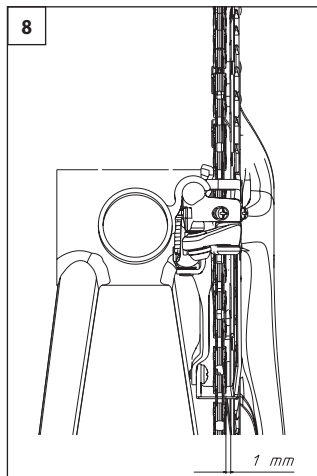
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- Position the chain on the larger chainring and smaller sprocket.

- Adjust the external end-of-stroke screw (D - Fig. 3/Fig. 4 - Page 24) so that the inner face on the outer side of the derailleur cage is approx. 1 mm from the outer side of the chain (Fig. 8).

NOTE!

After the derailleur has been properly adjusted, when the controls are actuated the chain must never drop either to the inside of the smaller chainring or to the outside of the larger chainring. See Section 5.2 for derailleur adjustments.

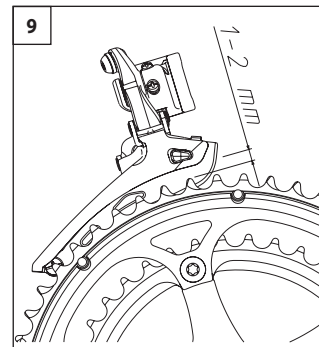


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5. FRONT DERAILLEUR MAINTENANCE

- 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 $1 \div 2$ mm from the larger chainring (Fig. 9).
 - the outside side of the derailleur cage must be parallel with the larger chainring (Fig. 7 - Page 25).





5.1 - Cable replacement

To carry out this operation position the chain on the smaller chainring, with the Ergopower™ control button set to zero. Secure the cable at 5 N.m - 3,7 lb.ft with the cable clamping bolt, using a 5 mm Allen wrench (Fig. 10).

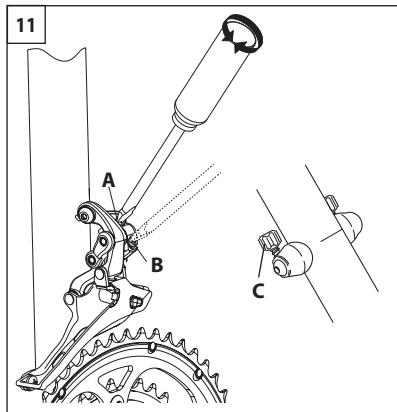
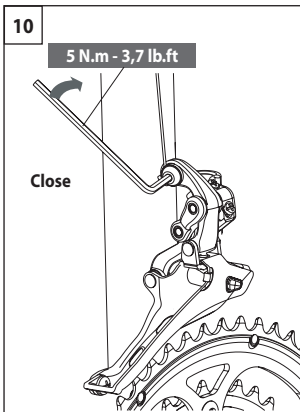
5.2 - Derailleur adjustments

If the chain does not drop from the large chainring to the small one:

- the cable is too tight: tighten the adjusting screw (C - Fig.11) on the casing fastening block attached to the coupling on the frame (1/4 of a turn at a time).
- the end-of-stroke adjustment is incorrect: loosen screw (A - Fig. 11) (1/4 of a turn at a time).

If the chain does not climb on the large chainring:

- the cable is too loose: loosen the adjusting screw (C - Fig. 11) on the casing fastening block.
- the end-of-stroke adjustment is incorrect: loosen screw (B - Fig. 11) (1/4 of a turn at a time).



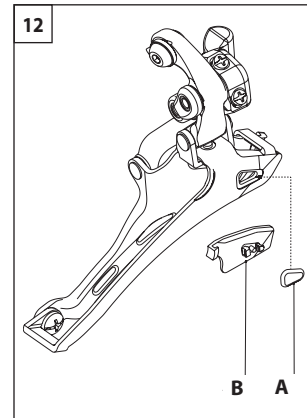
5.3 - Replacing the resin insert

- To remove the resin insert from the derailleur: place the tip of a screwdriver between the outer derailleur cage and the plastic plate (A - Fig. 12). Lift the plate and remove it.

- Extract the resin insert located on the inner side of the cage (B - Fig. 12) by pressing against the connecting points.

- To install a new resin insert, position it on the inner side of the cage and insert the connecting points properly (B - Fig. 12).

- Reposition the plastic plate (A - Fig. 12), snapping it onto the resin insert.



NOTE

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.

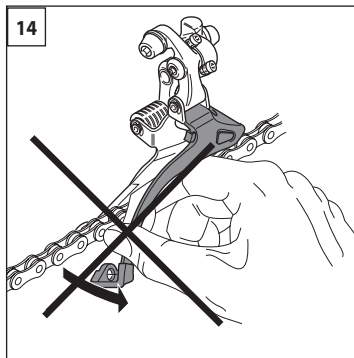
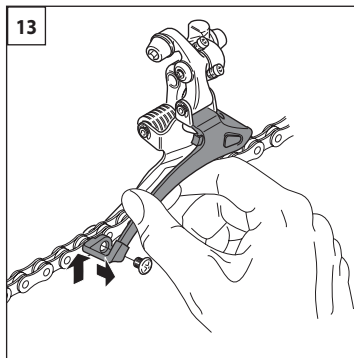


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INSTRUCTIONS FOR DERAILEUR WITH CARBON FIBER EXTERNAL CAGE

CAUTION!

When you slip the chain through the derailleur cage (Fig. 13), do not strain the external carbon fiber semi-cage (Fig. 14) since this could be irreversibly damaged.



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GENERAL SAFETY RECOMMENDATIONS

- Be sure that the periodic maintenance schedule is strictly followed.
- Always use original Campagnolo® spare parts.
- Never make any modifications whatsoever to the components.
- Parts which have been bent or otherwise damaged in an accident or as a result of any other impact must not be re-straightened. They must be replaced immediately with original Campagnolo® parts.
- Wear clothes which are snug-fitting and which make you visible to traffic, such as neon, fluorescent, or other bright colors.
- Avoid biking at night, because it is more difficult for you to be seen by traffic, and it is more difficult for you to see obstructions on the ground. If you do ride at night, you should equip your bicycle with and use a headlight and a taillight.
- When riding in wet conditions, remember that the stopping power of your brakes is greatly reduced and that the adherence of the tires on the ground is considerably reduced. Also bear in mind that because of the progressive drying of the braking surface during braking itself, braking power may vary sharply. This makes it harder to control and stop your bicycle. Extra care is required when riding your bicycle in wet conditions to avoid an accident.
- Campagnolo® reminds you to always wear a properly fitted and fastened bicycle helmet that has been approved by ANSI or SNELL.
- If you ever have any comments, questions, or concerns, please contact your nearest Campagnolo® Service Center.