

! WARNING!

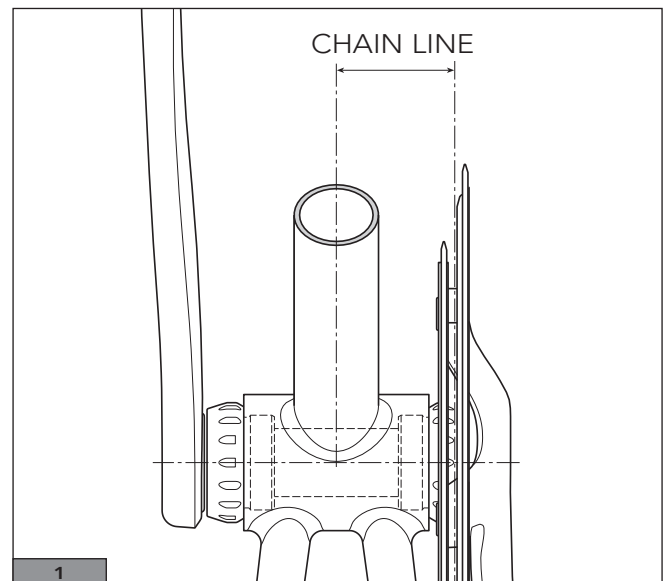
This technical manual is intended for use by professional mechanics.
Anyone who is not a qualified professional for bicycle assembly must not attempt to install and operate on the components independently due to the risk of carrying out incorrect operations which could cause the components to malfunction, 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

CRANKSET	BOLT CIRCLE DIAMETER	CHAIN LINE	MINIMUM CHAINSTAY LENGHT	AXLE THREADS
50/34 52/36 53/39	112 mm (min. chainring Ø) 145 mm (max. chainring Ø)	43,5 mm	405 mm	9/16x20 TPI

1.1 - CHAIN LINE SIZE

- Chain line for double crankset (Fig. 1)



2 - COMPATIBILITY

CRANKSET	CHAIN	CONTROLS	REAR DERAILLEUR	FRONT DERAILLEUR
POWER - TORQUE+ (POTENZA 11™)	11s	Ergopower Power-Shift 11s (POTENZA 11™ - MARKED WITH THE LETTER B)	11s	11s
		Ergopower Ultra-Shift 11s		
		Bar-End 11s		

CRANKSET	AXLE	CENTRAL BOLT
POWER-TORQUE+ (POTENZA 11™)	STEEL	STEEL
		Screw in a clockwise direction

2.1 - PEDAL AXLE COMPATIBILITY

⚠ WARNING!

Do not insert washers between the pedal axle and the crank as they would generate abnormal stresses in the interface area. These stresses could lead to premature failure, resulting in an accident, personal injury or death.

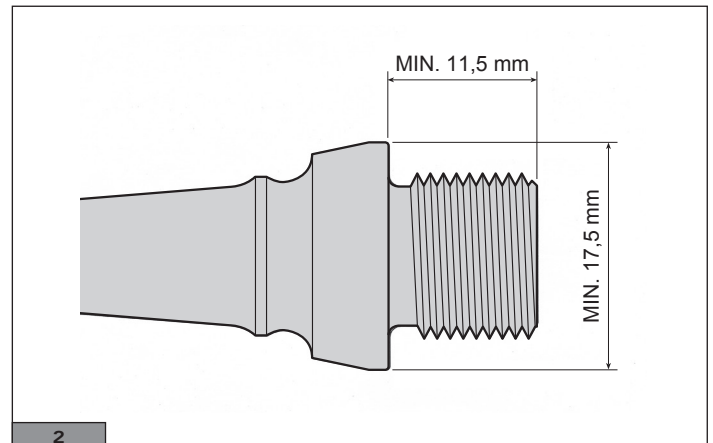
⚠ WARNING!

The contact face of the pedal axle must correspond with the data of Fig. 2.

The above characteristics are necessary to minimize abnormal stresses in the cranks. Such stresses could lead to premature failure, resulting in accidents, personal injury or death

NOTE

Q-factor: 145,5 mm (nominal value).

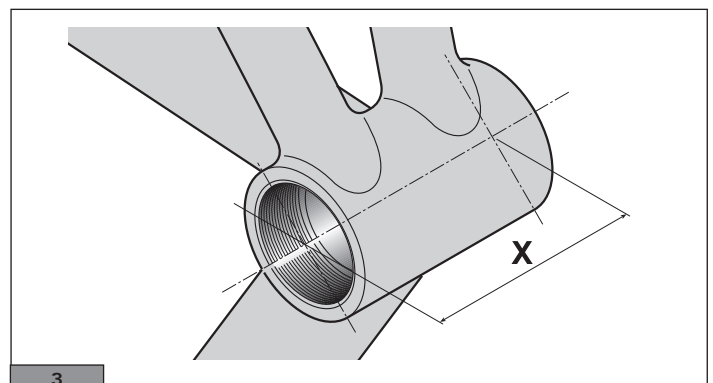


3 - INTERFACE WITH THE FRAME

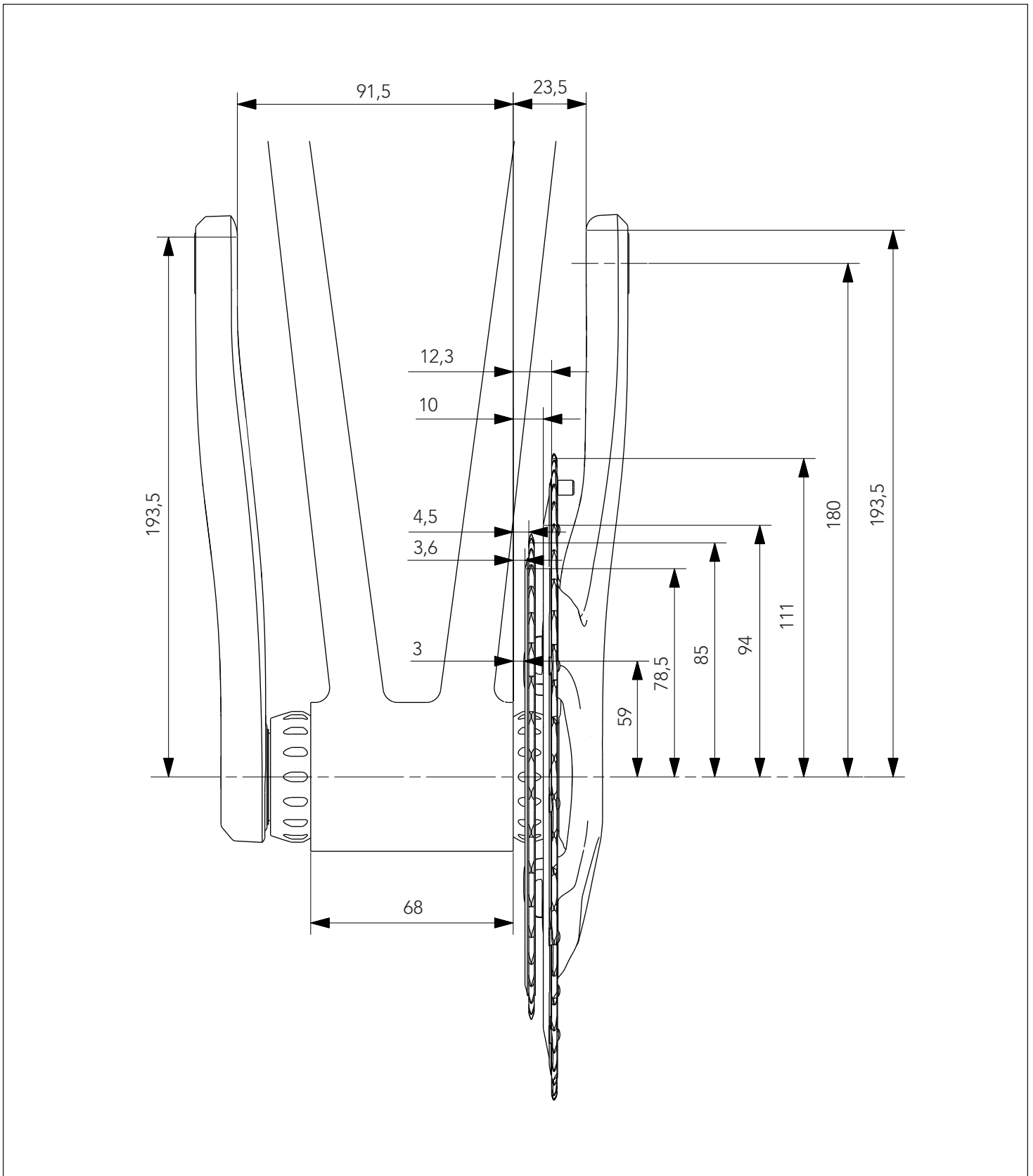
3.1 - COMPATIBILITY WITH BOTTOM BRACKET SHELLS

- The Campagnolo® Power Torque™ System+ crankset is compatible with shells having the following widths:

TYPE	X (Fig. 3)
Italian thread	69.2 mm - 70.8 mm
English thread	67.2 mm - 68.8 mm



3.2 - DIMENSIONS FOR POWER - TORQUE SYSTEM+ CRANKSET (POTENZA 11™)



Note

The compatibility between the bottom bracket shells and the relative bottom bracket cups can be found in the "Bottom bracket cups" section of the technical manual.

4 - ASSEMBLY

When a bike frame is manufactured, the bottom bracket shell is often deformed. In addition, paint residue is often left on the edge of the shell and on its threads. Therefore, in order to prevent the bottom bracket (bb) cups from being twisted off their ideal working axis, it is necessary to face and tap the bb shell (unless this operation has been performed by the frame manufacturer).

4.1 - FRAME PREPARATION AND INSTALLING THE CRANKSET

- Make sure that the threads (A - Fig. 1) of the bb shell are compatible with the threads of the bb cups:

- **Italian thread:** 36x24 tpi

- **English thread:** 1.370x24 tpi

- True the thread (A - fig.1) of the cassette using a suitable tool.

- Face the bottom bracket shell (B - Fig. 2) respecting the measures X (Fig. 3 - chapter "INTERFACE WITH THE FRAME"), using a suitable tool.

- Make sure that there is a water draining hole on the bottom of the bb shell. If there is no such hole, do not simply drill one. You must contact the frame manufacturer for further information and clarification in this regard.

- Clean and degrease the threads of the bb shell (Fig. 3).

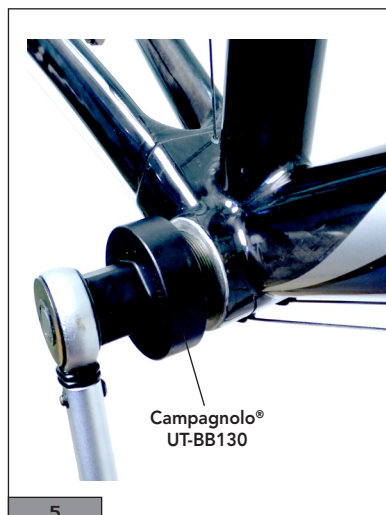
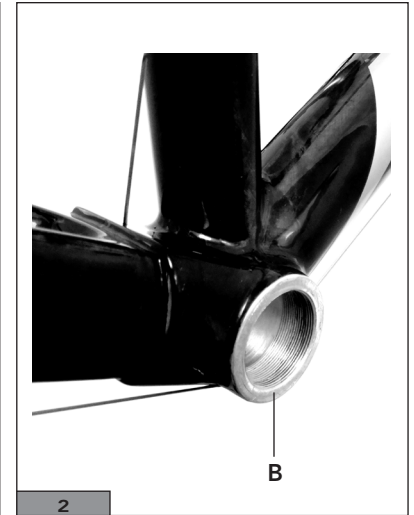
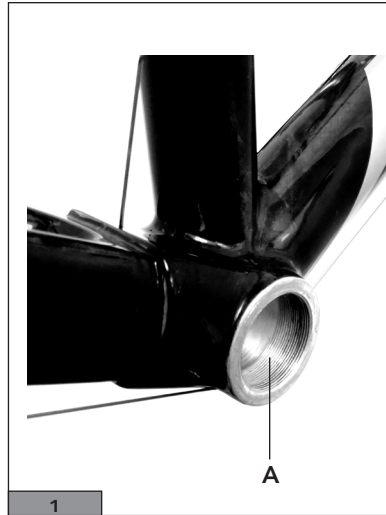
CAUTION

Use **exclusively** the cups for Power Torque system crankset.

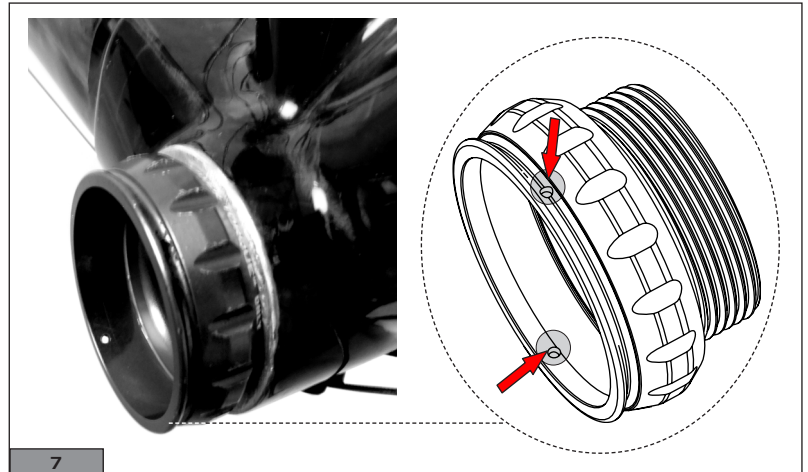
- Take the bb right cup, screw it in fully (Fig. 4) and tighten at **35 Nm (310 in.lbs)** with the Campagnolo UT-BB130 tool and the torque wrench (Fig. 5).

- Repeat the previous step with the left cup.

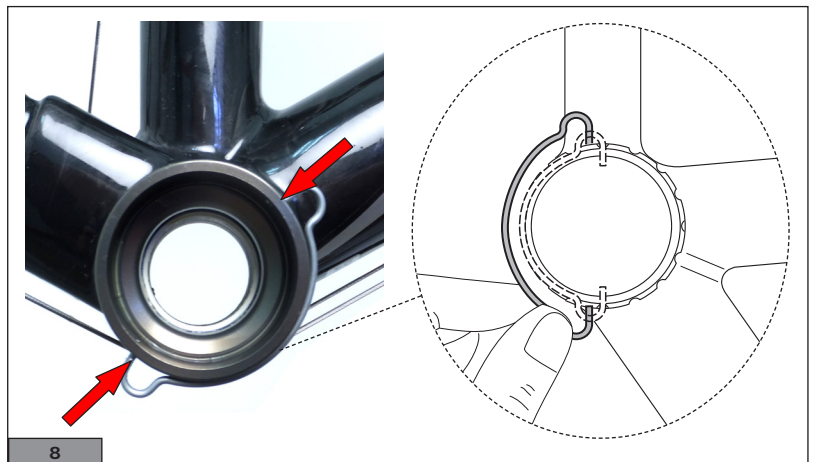
- Apply a thin layer of grease on the internal surface of the bearing installed in the left bottom bracket cup (Fig. 6).



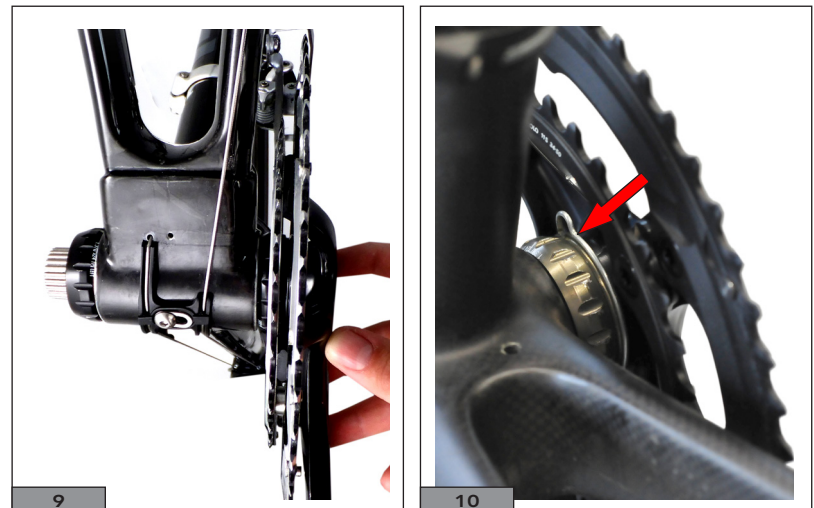
- Identify the two small holes on the right cover (Fig. 7).



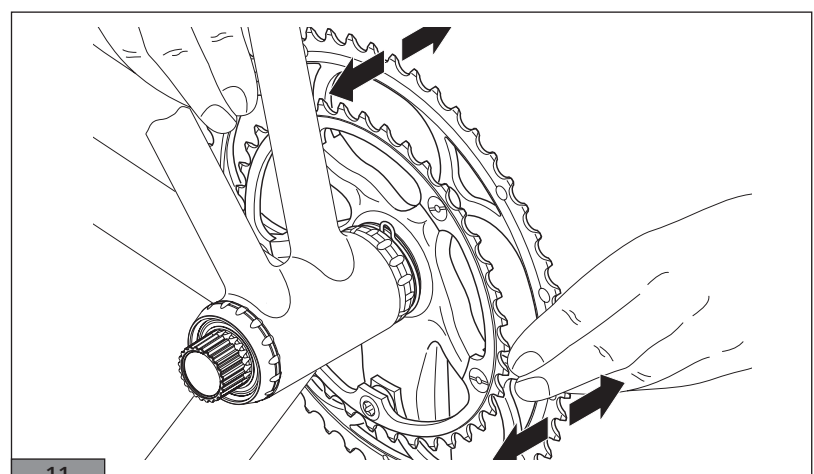
- Position the holding clip with its two ends near the holes (fig. 8). Do not insert the clip into the holes.



- Insert the right crank fully into the bottom bracket (fig. 9) letting the pivot protrude from the left cover.



- Press the clip so that the two ends are pushed into the holes (fig. 10).



- Move the right crank sideways as if to take it out of the bottom bracket and check the clip is positioned correctly and holds the crank (fig. 11).

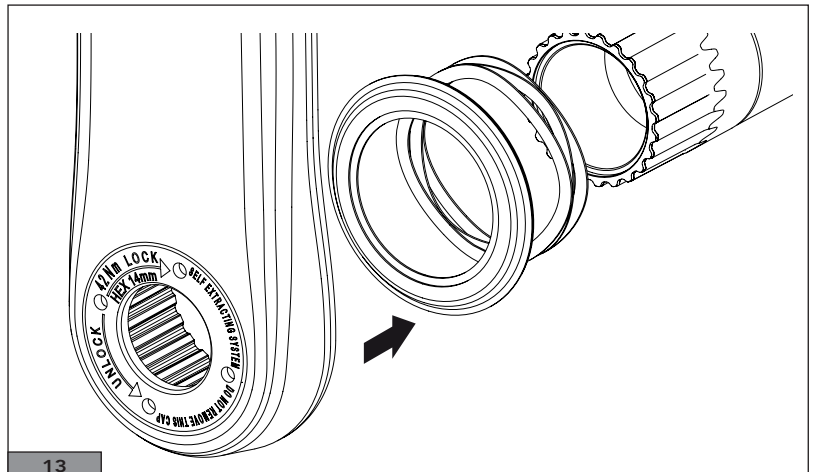
⚠ WARNING!

Before ANY installation, grease the splines of the spindle, splines of the crank and the threads of the crank bolt with the appropriate synthetic grease (fig.12).

An incorrect assembly might lead to the sudden break of the component as well as accidents, injuries and even death.



- Insert the spring and gasket into the spindle (fig. 13).
- Insert the left crank into the spindle (fig. 13).



- Check the cranks are correctly aligned (fig. 14).

- tighten the screw to a tightening torque of **42 Nm (372 in.lbs)** (Fig. 15), using a 14 mm hex insert.



⚠ WARNING!

To disassemble the left hand crank, undo the screw with a 14 mm hex insert.

Do not attempt to remove the self-extracting system in order to prevent irreparably damaging the hand crank.

A damaged hand crank could break, even suddenly and unexpectedly, and be the cause of accidents, physical injury or death.



5 - MAINTENANCE

• Maintenance intervals are purely indicative and may be significantly different in relation to conditions of use and the intensity of your activity (for example: racing, rain, salted Winter roads, weight of the rider etc.). Check with your mechanic to select a schedule that is best for you.

• Check regularly that the crank's locking screw and the gears' screws are tightened to the correct torque:

- Crank locking screw: 42 Nm (372 in.lbs)

- chainring fixing bolt: 8 Nm (71 in.lbs)

WARNING!

Remember, EACH TIME you change the chainrings, to also replace the chainring fixing screws.

• Contact a Campagnolo Service Centre to replace the bearings.

• Only clean the crankset and the cups using specific products for cleaning bikes. Never use solvents and non-neutral detergents.

• Clean and lubricate the bearings and the pivot and lubricate the bearing seat in the bottom bracket cups with specific synthetic grease for bearings (approximately every 4000 km).

• Do not expose the carbon crankset to high temperatures. Do not store bike parts in vehicles parked in the sun, and do not store near radiators or other heat sources. Do not store carbon fiber products in direct sunlight.

• 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.

WARNING!

Saline conditions (such as roads in winter and in coastal areas) may cause galvanic corrosion in the majority of the exposed components of the bicycle. To prevent damage, malfunction and the consequent risk of accident, rinse, clean, dry and re-lubricate all components subject to corrosion.

6 - PERIODIC MAINTENANCE TABLE

PROCEDURE	KM INDICATION (MAX)	TIME INDICATION (MAX)	INDICATIONS
check screws are tightened to the correct torque	2000	2 months	torque wrench
check chainring wear	4000		
Check that the bearings operate smoothly and if not, replace them lubrication bearings housing lubrication end of axle	4000	6 months	