



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 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 and 11s 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.



BEFORE EVERY RIDE

DO NOT RIDE YOUR BICYCLE IF IT DOES NOT PASS THIS PRE-RIDE TEST CORRECT ANY CONDITION BEFORE YOUR RIDE.

- Be sure that all of the components of your bicycle, including but not limited to your brakes, pedals, handgrips, handlebars, frame and seating system, are in optimum condition and suitable for use.
- Be sure that none of the components of bicycle are bent, damaged or out of alignment.
- Check to be sure that all quick release fasteners, nuts and bolts are properly adjusted. Bounce the bicycle on the ground and listen and look for anything which may be loose.
- Be sure that your wheels are perfectly centred. Spin the wheels to be sure that they do not wobble up and down or from side to side, and that they do not make contact with the fork legs or brake pads while rotating.
- Check all reflectors to make sure that they are clean, straight and securely mounted.
- Check you brake pads and cables to be sure they are in good condition.
- Test your brakes in the beginning of your ride to make sure that they are operating properly.
- Learn and follow the local bicycle laws and regulations, and obey **all** traffic signals, signs and laws while you ride.

If you ever any comments, questions or concerns, please contact your nearest Campagnolo Service Center. A list of service centers may be found on our website at www.campagnolo.com.

Campagnolo S.r.l. reserves to modify the content of this manual without notice.

The updated version will always be available www.campagnolo.com.

On our website you will also find information on the other Campagnolo products and the spare parts catalogue.

1. TECHNICAL SPECIFICATIONS

WHEEL TECHNICAL SPECIFICATIONS

Rim diameter: ETRTO 622x13C	Quick release types: front QF6-20 - rear QR6-20
Hub type: HPW Carbon	
O.L.D.: front: 100 mm - rear: 130 mm	Inflation pressure: see the inflation pressures listed in the table on Page 5.
Use: road racing on smooth road or track surfaces only .	

SPOKES TECHNICAL SPECIFICATIONS



WARNING!

Only use genuine Campagnolo® spokes for your specific type and model of wheel. Failure to use the correct spokes can lead to an accident, personal injury or death.

Front wheel:

- Spokes type: AERO 2/1.5/2
- Spokes number: 22
- Spokes length: 290 mm
- Recommended tension: 60÷80 Kg

Rear wheel - freewheel side:

- Spokes type: AERO 2/1.5/2
- Spokes number: 12
- Spokes length: 291 mm
- Recommended tension: 110÷130 Kg

Rear wheel - side opposite the freewheel:

- Spokes type: AERO 2/1.5/2
- Spokes number: 12
- Spokes length: 290 mm
- Recommended tension: 50÷70 Kg



2. TIRES

! WARNING! Rim-Tire Compatibility

All Campagnolo® rims are built in strict accordance with ETRTO (European Tire and Rim Technical Organization) specifications, and are very precise dimensionally.

If a tire is too easy to install on a Campagnolo® rim, that tire is most likely too big and will not seat properly on the rim. If a tire is too difficult to install, that tire is most likely too small. Use only high quality tires that require the use of tire levers and a reasonable installation effort. Using talcum powder on the tire will make installation easier. Using a tire that does not fit properly on the rim can cause unexpected tire failure, resulting in an accident, personal injury or death.

- The wheel you have purchased is designed to use clincher tires.
- Before fitting the tires, install the protective rim tape on the rim. **Use only the rim tape provided** (which is also available as spare part WH-RT02).
- Before fitting the tires, check that the diameter indicated on the tire is 622 and cross-section is between 18 and 25 mm, to insure that the tire and wheel are compatible in accordance with ETRTO (European Tire and Rim Technical Organization) standards.

! WARNING!

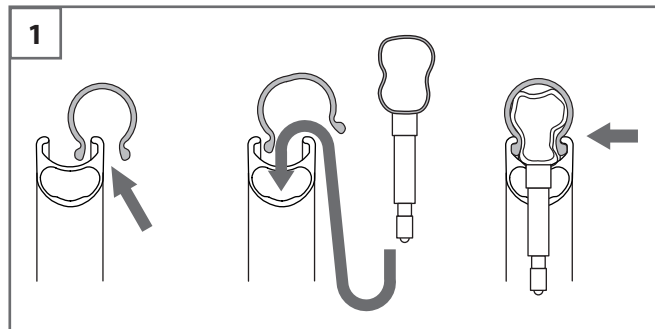
Never use Latex inner tubes with this rim. The heat generated when braking will cause the inner tube to suddenly fail, resulting in an accident, personal injury or death.

- The use of clincher tyres having a minimum diameter of 22 mm is recommended so as to better protect the sides of the rim.
- Failure to properly install the tire can cause sudden and unexpected loss of tire pressure, resulting in an accident, personal injury or death.

INSTALLING CLINCHER TIRES

Be sure that you do not bend or otherwise damage any portion of the rim when installing the tire.

- Insert one side of the clincher into the seat provided on the rim (Fig. 1).



- Slightly inflate the inner tube to facilitate assembly.
- Insert the valve through the hole in the rim, and then position the remainder of the inner tube between the rim and the clincher tire.
- Insert the second side of the clincher tire into its seat in the rim.

In order to properly set the tube and tire on the rim, you should first inflate the tube to between 2 and 3 atmospheres. You should then manually set the tube and tire on the rim, making sure that the tube is positioned correctly within the tire and that the tire is positioned correctly on the rim. You may then fully inflate the tube to the correct working pressure. Please inflate the tube slowly, making sure that you maintain the correct positioning of the tube and tire on the rim.

2.1 - INFLATING AND DEFLATING THE TIRE

- To inflate the tire: remove the cap, unscrew the valve and inflate using a compressor or a pump with a pressure gauge to obtain the required pressure, then tighten the valve and re-fit the cap.
- To deflate the tire: remove the cap, slightly unscrew the valve, then press it until the required pressure is obtained; tighten the valve and re-fit the cap.

! WARNING!

Never exceed the maximum inflation pressure recommended by the tire manufacturer or for the cross section of the clincher tire you are using (see the “Operating Pressures” table).

Excessive tire pressure reduces the grip of the tire on the road and increases the risk that the tire will unexpectedly burst. Inflation pressure that is too low reduces tire performance and increases the probability of sudden and unexpected loss of tire pressure. In addition, premature wear and damage to the rim may occur.

! WARNING!

Incorrect tire pressure could cause tire failure or loss of control of the bicycle, resulting in an accident, personal injury or death.

Operating pressure		
Clincher cross-section (mm)	Pressure (bar)	Pressure (psi)
22	8,2	118
23	7,8	113
25	7,2	104



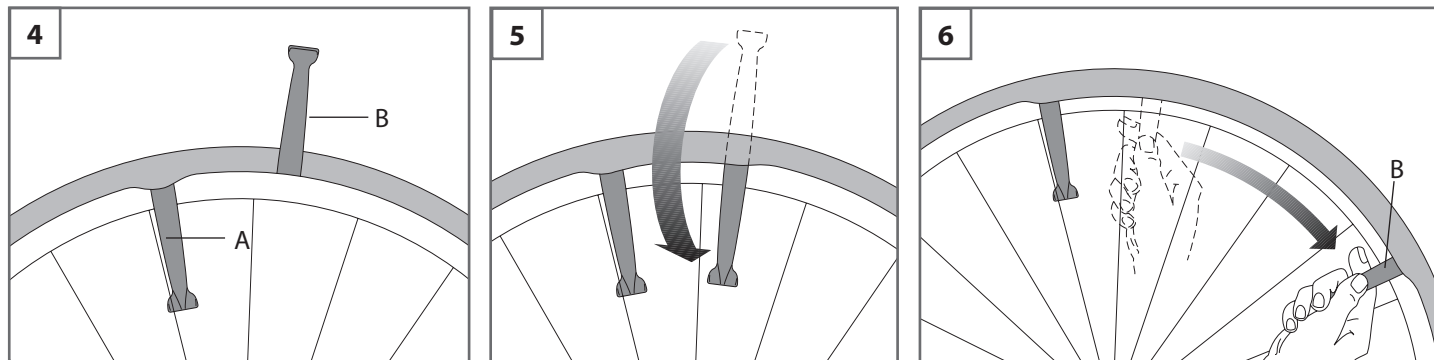
2.2 - REMOVING THE CLINCHER

- Deflate the tire.
- Insert one of the two levers (A) (supplied with the wheel) between the rim and the tire at a point opposite the valve hole (Fig. 2); press downward to pull out the edge of the clincher over the rim and fit the end of the lever (A) onto the nearest spoke (Fig. 3).
- To remove the clincher, insert lever (B) between the rim and the clincher near lever A (Fig. 4) and press downward to pull out the edge of the clincher over the rim (Fig. 5).
- To pull out the entire edge of the clincher from the rim, run the lever (B) right round the edge of the clincher (Fig. 6).



WARNING!

To remove the clincher, use only levers in composite material such as those provided. Levers in different material could damage the rim. A damaged rim may break unexpectedly resulting in accidents, personal injury or death.



3. SPROCKET ASSEMBLY AND REMOVAL



WARNING!

Always wear protective gloves and glasses while working on the sprockets.

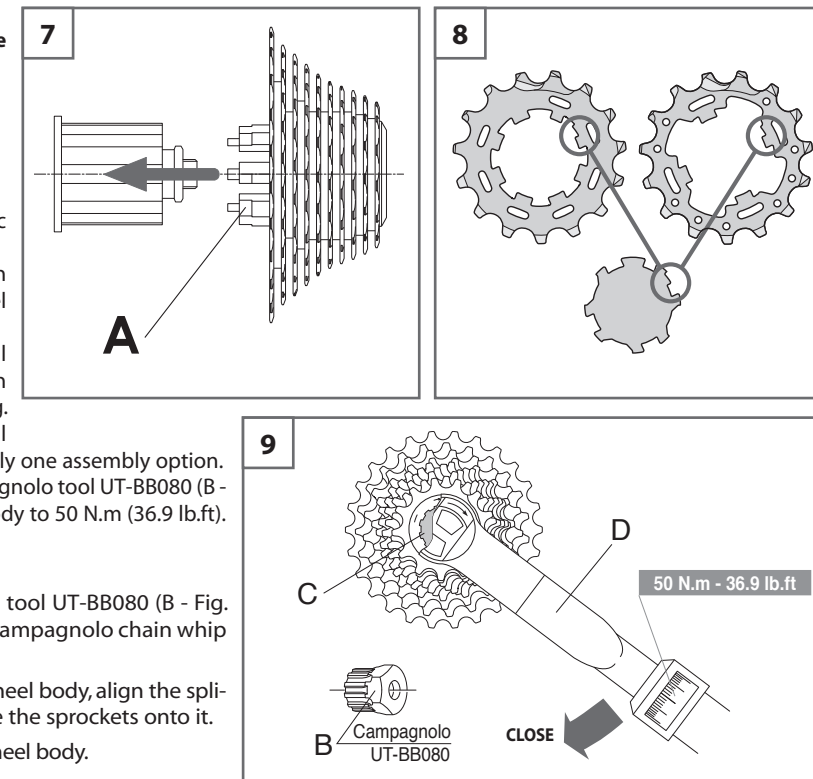
3.1 - CAMPAGNOLO® SPROCKETS (on Campagnolo® type FW body)

3.1.1 - ASSEMBLY

- The sprockets are pre-assembled and timed on the plastic support (A - Fig. 7).
- Insert the support on the side of the freewheel body, align the spline patterns, press the sprockets onto the freewheel and extract the support (A) from the hub (Fig. 7).
- If installing the sprockets without the plastic support, install the individual or preassembled sprockets and the spacers on the sprocket body of the hub aligning the spline patterns (Fig. 8). The profile of the freewheel body with two asymmetrical grooves ensures automatic sprocket timing since there is only one assembly option.
- Using a torque wrench (D - Fig. 9) equipped with the Campagnolo tool UT-BB080 (B - Fig. 9), tighten the locking (C - Fig. 9) on to the freewheel body to 50 N.m (36.9 lb.ft).

3.1.2 - DISASSEMBLY

- Remove the locking (A - Fig. 10) using the Campagnolo tool UT-BB080 (B - Fig. 10) with a 24 mm hexagonal wrench (C - Fig. 10) and the Campagnolo chain whip UT-CS060 (Fig. 10).
- Insert the plastic sprocket carrier on the side of the freewheel body, align the spline patterns on the body with those on the carrier and slide the sprockets onto it.
- Slide the sprocket carrier, with the sprockets, off the freewheel body.





3.2 - 11S SPROCKETS

• Refer to the instruction leaflet enclosed with the 11s sprockets for all the assembly, disassembly, use and maintenance operations.

3.3 - 10S SPROCKETS STARTING FROM 11 AND 12 OF SHIMANO INC. (ON FW BODY FOR 10S SPROCKETS STARTING FROM 11 AND 12 OF SHIMANO INC.)

3.3.1 - ASSEMBLY

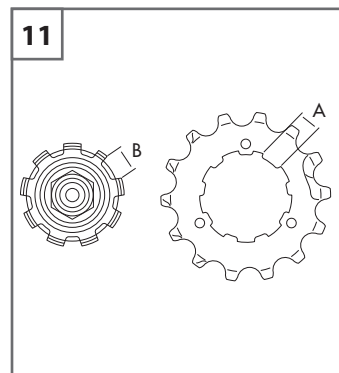
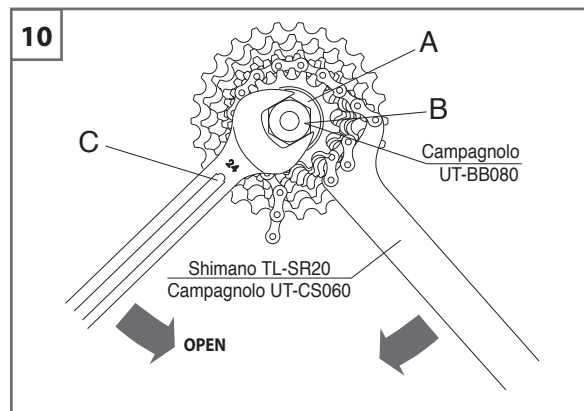
- Fit the sprockets on the FW body and check that:
 - the surface with the name of the groupset of each sprocket is facing the outside of the FW body.
 - the broadest grooving of the sprocket (A - Fig. 11) is aligned with the broadest of the FW body (B - Fig. 11).
- Using a torque wrench (D - Fig. 9) equipped with the Campagnolo tool UT-BB080 (B - Fig. 9), tighten the lockring (C - Fig. 9) on to the freewheel body to 50 N.m (36.9 lb.ft).

! WARNING!

Failure to insure compatibility between tools and components could result in improper operation or failure of the component, an accident, personal injury or death.

3.3.2 - DISASSEMBLY

- Remove the lockring (A - Fig. 10) using the Campagnolo tool (B - Fig. 10 - Campagnolo code UT-BB080) with a 24 mm hexagonal wrench (C - Fig. 10) and the Shimano chain whip TL-SR20 (Fig. 10).
- Take the sprockets off the FW body.



3.4 - 8S, 9S, 10S SPROCKETS FROM SHIMANO INC. and SPROCKETS FROM SRAM CORPORATION (on the Campagnolo® freewheel body for Shimano Inc. 8/9/10s sprockets and Sram OG 1070 - OG 1090 sprockets)

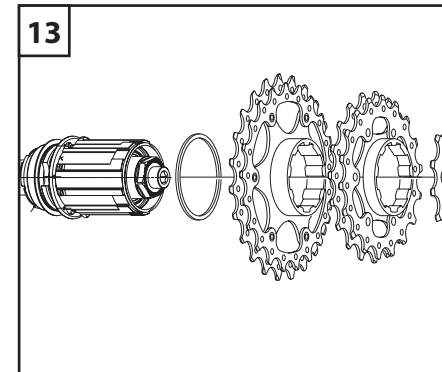
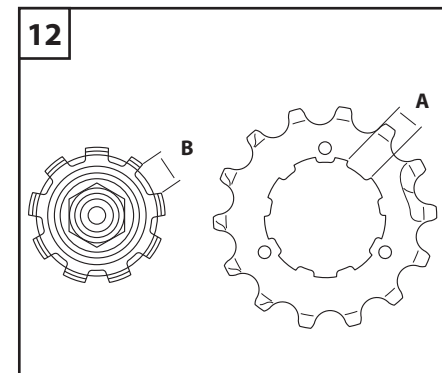
3.4.1 - ASSEMBLY

• Shimano Inc. Sprockets

1) Fit the sprockets on the freewheel body and check that:

- the surface with the name of the group of each sprocket is turned to the outside of the freewheel body.
- the broadest groove of the sprocket (A - Fig. 13) and the broadest of the freewheel body (B - Fig. 13) are aligned.

2) If you fit a 10s sprocket set, you must first put the adaptor spacer provided with the sprockets onto the freewheel body (Fig. 14). This spacer is not necessary for 8s and 9s sprocket sets.





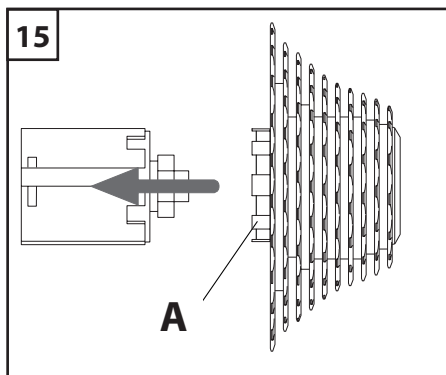
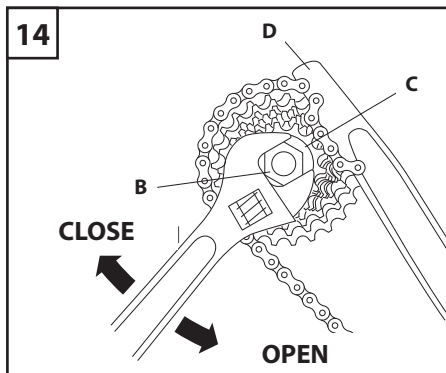
3) Using tool TL-LR15 from Shimano Inc. or FR-5 from Park Tool Co. (B - Fig. 14) tighten the lockring (C - Fig. 14) on the freewheel body to 30-50 N.m - 22.13-36.9 lb.ft.

• Sram Corporation sprockets

- 1) The sprockets are preassembled on a support (A - Fig. 51).
- 2) Insert the support on the side of the freewheel body, align the grooves, press the sprockets onto the freewheel body and extract the support (A) from the hub (Fig. 15).
- 3) Using tool TL-LR15 from Shimano Inc. or FR-5 from Park Tool Co. (B - Fig. 14) tighten the lockring (C - Fig. 14) on the freewheel body to 30-50 N.m - 22.13-36.9 lb.ft.

3.4.2 - DISASSEMBLY

- Remove the lockring (C - Fig. 14) using tool TL-LR15 from Shimano Inc. or FR-5 from Park Tool Co. (B - Fig. 14) and a chain whip (e.g. Shimano Inc. TL-SR20 - D - Fig. 14).
- Remove the sprockets from the freewheel body.



4. BRAKES



WARNING!

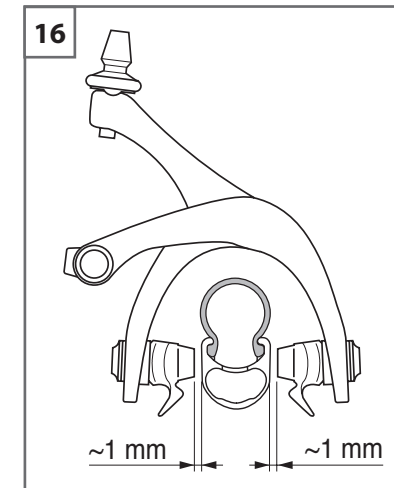
Use only the special brake pads part number BR-RE701/2 (for Campagnolo® brakes) and part number BR-701X/2 (for Dura-Ace brakes) with the composite HYPERON™ ULTRA™ TWO clincher rims. Use of these pads with any other type of rim could result in insufficient and/or irregular braking performance, thereby causing an accident, personal injury or death. Use of any other brake pads-rim combination could also seriously damage the rim. Always check that the brake pad is compatible with the rim by checking the specifications on the brake pad package.

4.1 - CAMPAGNOLO® BRAKES

Note

Also consult the section "Brakes" of the "Owner's Manual - Part 1.

- When replacing brake pads, cables and casings - only use original Campagnolo® spare parts.
- Slide out the brake pads from the pad holders and replace them with those supplied in the wheel package.
- Adjust the brake pads so that they are perfectly aligned with the wheel braking surface, about 1 mm from the surface of the rim (Fig. 16) so that they are positioned at about 1~2 mm from the top edge of the rim (Fig. 17) (refer to the brake pad instruction sheet).
- Before every ride:
 - make sure that the brakes function correctly.
 - make sure that the cables and brake pads are in good condition.



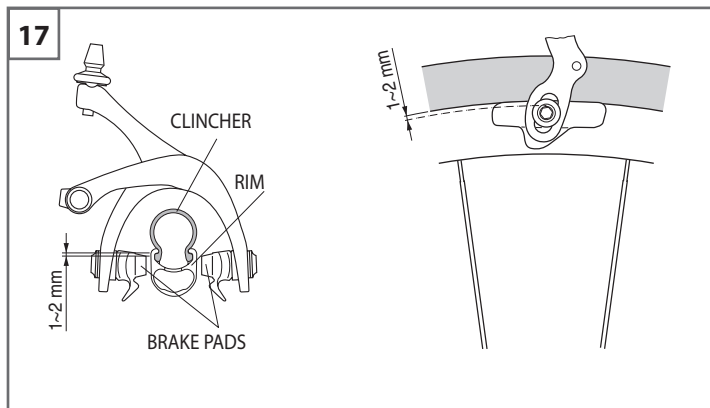
- make sure that the brake pads are perfectly aligned with the wheel braking surface, about 1 mm from the surface of the rim (Fig. 16) so that they are positioned at about 1~2 mm from the top edge of the rim (Fig. 17) (refer to the brake pad instruction sheet).

• To maintain the brake pads are in efficient working order and to avoid wear on the sides of the rims, you should remove with a file any residue of sand, debris or foreign objects which may become embedded in the brake pads, especially during use in the rain.

• When riding in wet conditions, remember that the stopping power of your brakes is greatly reduced and the adherence of the tires to the ground is considerably reduced. 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. An accident could result in severe personal injury or death.

4.2 - BRAKES OF OTHER MANUFACTURER

Please consult the instruction sheet supplied by the manufacturer.



5. PERIODIC WHEEL MAINTENANCE AND SAFETY RECOMMENDATIONS

ATTENTION! NOTE FOR SPECIALIZED MECHANICS

CONTACT YOUR CAMPAGNOLO® SERVICE CENTER FOR THE INSTRUCTIONS FOR ASSEMBLING, MAINTAINING AND REPLACING RIMS, SPOKES AND HUBS.

- Please be advised that if the maintenance and repair procedures provided in this manual are not properly performed, or if the other instructions in this manual are not followed, an accident could occur.
- Never make any modifications whatsoever to any component of any Campagnolo® product.
- 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.
- After using the wheel for the first time, check wheel trueness and circularity.

⚠ WARNING!

Using wheels that have not been centred properly or which have broken or damaged spokes may result in accidents, personal injury or death.

- Check the tyres and their pressure before every race.
- Periodically bring the bike to a specialized mechanic to lubricate the hub bearings and ball bearings with specific oil for bearings.

The most suitable frequency of checks for you should be agreed with the mechanic himself on the basis of your weight and the intensity of your activity (approximately every 3,000/5,000 km – 1,860/3,000 miles).

- Periodically bring the bike to a specialized mechanic to lubricate the fw gear.
- Every 10,000/20,000 km (6,000/12,000 miles) we recommend that you bring the bike to a specialized mechanic for lubrication, replacement, disassembly and inspection of the hubs.
- Campagnolo hub bearings are in Cronitect® (advanced solution by FAG) and the balls are ceramic.
- Periods and riding distances 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.
- 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 tail light.
- Never use a bicycle or bicycle component unless you are thoroughly familiar with its use and maintenance history. "Used" equipment may have been misused and abused, and can unexpectedly fail resulting in an accident.
- Always wear a properly fitted and fastened bicycle helmet that has been approved by ANSI or SNELL.

CLEANING THE WHEELS

When cleaning the wheels, only use non-aggressive, non-corrosive products such as water and neutral soap, or specific products specially designed for cleaning bicycles. Absolutely never use abrasive or metal sponges. Dry with a soft cloth.

NOTE

Never spray your bicycle with water under pressure. Pressurized water, even from the nozzle of a small garden hose, can pass under seals and enter your Campagnolo components, thereby affecting its operation. Wash your bicycle and Campagnolo components by wiping them down with water and neutral soap.



WARNING!

Salt water environments (as found on winter roads and near the seaside) can cause galvanic corrosion on most bike parts. Carefully rinse, clean, dry and re-lubricate all exposed parts to avoid damage, malfunctions and accidents.

TRANSPORT AND STORAGE

When transporting the wheel separately from the bike or if the wheel will not be used for a long period of time, store it in the wheelbag to protect it against impacts and dirt.