



## USING YOUR NEW PINARELLO BIKE

Congratulations on your purchase!

Your new Pinarello bike is the synthesis of more than 50 years of passion for the bike and for the road racing world.

We work with the greatest champions to be able to offer a product that matches your needs, no matter how ambitious they are.

# INDEX

<b>AN IMPORTANT FOREWORD</b> . . . . .	p. 3	<b>SAFETY CHECKS BEFORE EVERY RIDE</b> . . . . .	p. 7
<b>NOT EVERYONE KNOWS THAT...</b> . . . . .	p. 3	– GENERAL CONSIDERATIONS	
– A BIKE DOES NOT LAST FOREVER		– WEAR, FATIGUE AND STRUCTURAL INTEGRITY CHECKS	
– THE LIFECYCLE OF A BIKE DEPENDS IN PART ON HOW IT IS USED...		– VISUAL ENHANCERS	
– ... IN PART ON MAINTENANCE...		– TIGHTENING TORQUES	
– ... AND IN PART ON MATERIALS AND TECHNOLOGIES USED.		– BRAKES	
– FATIGUE IS SNEAKY AND CAUSES MANY ACCIDENTS		– WHEELS	
– A FINITE LIFECYCLE FOR BIKES AND COMPONENTS IS ESTABLISHED BY LAW		– DRIVETRAIN	
– A REASONABLE LEVEL OF SAFETY CAN BE REACHED ONLY WITH THE ACTIVE ROLE OF THE USER		– HANDLEBAR AND STEM	
– SOMETIMES IT IS NECESSARY TO REPLACE PARTS THAT LOOK NEW		– SADDLE AND SEATPOST	
– NO MATTER THE PRECAUTIONS, ABSOLUTE SAFETY CANNOT BE REACHED		– CHECKS ON CARBON FIBER	
		– IN CASE OF WEAR, FATIGUE OR STRUCTURAL DAMAGES	
<b>READ CAREFULLY AND KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE</b> . . . . .	p. 5	<b>PERIODICAL SAFETY CHECKS AND MAINTENANCE</b> . . . . .	p. 11
<b>SAFETY: TERMINOLOGY AND ICONS</b> . . . . .	p. 5	<b>USING YOUR BIKE</b> . . . . .	p. 11
<b>WHAT'S YOUR WEIGHT?</b> . . . . .	p. 5	– GENERAL CONSIDERATIONS	
<b>REGISTER YOUR BIKE ON THE <a href="http://www.pinarello.com">www.pinarello.com</a>! WEBSITE</b> . . . . .	p. 6	– USE OF INTEGRATED BRAKE-SHIFTING LEVERS	
<b>BEFORE YOUR FIRST RIDE</b> . . . . .	p. 6	– CLIPLSS PEDALS	
<b>AFTER-MARKET ACCESSORIES</b> . . . . .	p. 7	<b>ON MAINTENANCE</b> . . . . .	p. 13
		– GENERAL CONSIDERATIONS	
		– THREADS, THREAD-LOCKERS, GREASE AND TIGHTENING TORQUES	
		<b>RE-PAINTING</b> . . . . .	p. 16
		<b>STORING YOUR BIKE</b> . . . . .	p. 16
		<b>CARRYING YOUR BIKE</b> . . . . .	p. 16

# AN IMPORTANT FOREWORD

## NOT EVERYONE KNOWS THAT...

### 1) A BIKE DOES NOT LAST FOREVER

Some think (or hope!) that a bike, especially when expensive, will last forever. This is not the case. The bike is made of many parts subject to various forms of wear. All bike parts have a limited useful life-cycle. A bike requires regular inspections and maintenance, to prevent any of its parts from reaching the end of their useful life during use. But how long will the bike last?

### 2) THE LIFECYCLE OF A BIKE DEPENDS IN PART ON HOW IT IS USED...

The way a bike is used is a very important factor to determine its useful lifecycle. An aggressive or intensive use, like using it in competition, increases the stress and reduces the life. The bike of a heavy user will last less than the bike of a lightweight user, all other factors being equal. Using the bike on rough roads, with wet conditions, on winter roads (treated with salt), even using cheap tires (harder than good quality tires) are all factors that shorten the useful life of the bike and its components. Moreover if the bike is subject to falls, impacts, strong forces, accidents, the structural integrity could be compromised, greatly shortening the lifecycle as a consequence.

### 3) ... IN PART ON MAINTENANCE...

Maintenance maximizes the longevity of the bike and of all the parts, because cleaning and lubricating reduce wear and damage of surface finish. A serious maintenance program, agreed upon with the authorized **PINARELLO**® dealer, will grant a flawlessly working bike offering the best in performance, lifecycle and safety.

### 4) ... AND IN PART ON MATERIALS AND TECHNOLOGY USED.

Certain materials are more subject to fatigue than others, while other materials, like carbon fiber, can be damaged without easily visible signs, and then can suddenly fail under mechanical stress. Technologies used for bicycles are more and more refined, sometimes to enhance performance durability is sacrificed, other times the useful lifecycle is sacrificed to make lighter components. It's not possible to make a very light bike that is very durable and economical; every design choice implies compromises, to obtain something, something else needs to be sacrificed.

### 5) FATIGUE IS SNEAKY AND CAUSES MANY ACCIDENTS

Material fatigue is a form of wear caused by repeated low intensity working cycles. In other words, a sufficiently great number of cycles causes the mechanical failure of a product, even if the mechanical stress was absolutely normal.

Fatigue progressively weakens a component to a point where, during normal use, it fails. Sometimes a weakened component fails after an impact that normally would not be strong enough to cause failure. Other times an impact, not strong enough to cause immediate failure, compromises the structural integrity of the component, greatly accelerating the progression of fatigue. Fatigue is sneaky because it can cause the failure of a component without clear anticipated signs that could alert the user. You can find more about fatigue on [www.wikipedia.org](http://www.wikipedia.org).

#### **6) A FINITE LIFECYCLE FOR BIKES AND COMPONENTS IS CONFIRMED BY THE LAW**

International quality standards and mandatory laws for bicycles do not require bikes and parts to last forever, they require that a minimum safety standard is reached for the parts and for the bikes to be sold. So the fact that a bicycle has a limited useful life beyond which it loses the minimum safety requirements it is acknowledged by the lawmakers.

#### **7) A REASONABLE LEVEL OF SAFETY CAN ONLY BE REACHED WITH THE ACTIVE ROLE OF THE USER**

A medical doctor needs your sincere cooperation to diagnose your illness and suggest the best cures, similarly the mechanic of your authorized **PINARELLO**® dealer needs you to report all signals that could be the symptoms of a problem, for the bike to be as safe as possible. As you pedal you can hear noises, you can feel friction, roughness, play or other signals or anomalies, then when cleaning the bike you can notice cracks, fading colors, play, delamination, soft spots, paint chipping and other signs of problems. You're the one that knows if the bike was subject to impacts, falls, abnormal stresses or else. Finally, because you have the bike in your hands for a much longer time than the mechanic, you have far more occasions to notice eventual problems.

#### **8) SOMETIMES IT IS NECESSARY TO REPLACE PARTS THAT LOOK LIKE NEW**

As a general rule it is always better to err on the side of caution. You cannot wait the actual failure to replace a component, you must replace it before the end of the useful lifecycle. On certain materials, like carbon fiber, structural damages are not easily seen, on other materials, like aluminum, it's not easy to see fatigue cracks. If the mechanic of the authorized **PINARELLO**® dealer suggests to replace something, don't think he's trying to sell something you don't think you need, he's probably just trying to keep you as a customer – in good health – for many years to come.

#### **9) NO MATTER THE PRECAUTIONS, ABSOLUTE SAFETY CANNOT BE REACHED**

Riding a bike carries some risks, like driving the car or Flying on a plane. Any part of the bike can suddenly fail despite all safety checks and maintenance programs. Streets are full of risks and even if the maximum caution is used, there is always a possibility that others cause an accident involving us. These risks must be accepted or the bike should not be used. You should make this marvelous sport as safe as possible, minimizing the risk factors.


## READ CAREFULLY AND KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE!


*Some think that reading instructions is a nuisance and a waste of time, this is not the case! The bike world is ever evolving and recently materials and technologies of the aerospace sector have appeared, even those that have been working in this field for many years must keep themselves updated; this is why these instructions are a precious help for your safety and will help you keeping the bike in optimal working conditions as long as it lasts. Keep these instructions together with the instructions of the components assembled on the bike that the dealer **PINARELLO**® has given to you, so that both you and the mechanic will be able to consult them in the future. Keep in mind that the most recent version is always available of the [www.pinarello.com](http://www.pinarello.com) website.*


*The instructions of the components are usually available on the websites of the respective manufacturers. These instructions cannot turn you into an expert mechanic, therefore it is necessary that you always deal with a qualified mechanic. If you have any question that is not answered by these instructions, please contact the authorized **PINARELLO**® dealer or **PINARELLO**® directly.*

## SAFETY: TERMINOLOGY AND ICONS

Safety warnings are standardized worldwide practice with three levels of risk and relevant wording and colors:

 **CAUTION!** In black on yellow background indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.

 **WARNING!** In black on orange background indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 **DANGER!** In white on red background indicates an immediate hazard that, if not avoided, could result in death or serious injuries.

**DEFINITION OF "ACCIDENT":** when in this booklet we talk about an "accident" we mean an event that can cause damage to the bike but more importantly can cause serious injuries or death for the cyclist or for the persons involved.

## WHAT'S YOUR WEIGHT?

It isn't an intrusion in your privacy but a safety issue. All bicycles, ours are no exception, are not designed to support any weight. First of all any component assembled on the bike might have a specific weight limit, therefore as well as the strength of a chain is given by its weakest link, the weight limit for the rider is given by the lower of all the weight limits of all the components. Everything else being equal, the heavier the rider the shorter the lifecycle of each component of the bike; beyond a certain threshold the components might have structural collapses even if brand new. The higher your weight the more vigilant you have to be, meaning you have to have the bike inspected

and maintained more often (more details will follow). Many factors contribute to the stress imposed on the frame, on the wheels and on the other components, the weight of the user being just one of them, however a reasonable indication could be to be particularly vigilant if your weight exceeds 90 kg/200 lb, while if you weight more than 110 kg/240 lb we recommend to get assistance in order to choose frame, wheelset and components that are suitable for your characteristics. There are safety precautions that can be taken to make parts last longer, even if you're not particularly heavy: use high quality tires at least 24 mm in diameter, use wheels with good damping characteristics, ride on smooth surface roads, use a saddle with good suspension properties, avoid ultra-light-frames, wheels and components, avoid standing on the pedals, never shift gear when pushing hard on the pedals..

## REGISTER YOUR FRAME ON THE [www.pinarello.com](http://www.pinarello.com) WEBSITE!


If you are the original buyer and register the frame within 10 days of retail purchase date on the [www.pinarello.com](http://www.pinarello.com) website you receive valuable benefits:

- three years of warranty instead of two;
- you will participate for free in the "crash replacement program" for the duration of the warranty;
- in case the frame is stolen, you can provide the authorities with the frame number and if it is found you will be able to prove you are the owner;
- we will be able to quickly contact you via e-mail in case of a safety notice.


The serial number is on the lower BB shell area; if partially covered by the cable guide plate, please move the plate a bit to read the number. Please note that if the number has been removed or effaced, the frame could be counterfeited, stolen or of illegal origin, there is no warranty and the frame cannot be registered.

## BEFORE YOUR FIRST RIDE

Your authorized **PINARELLO**® dealer, in addition to helping you choose the size of frame more suitable for you, should also help you verify that also the accessories installed are of the proper size, and are adjusted properly for your body and riding style and preference. Sometimes it is necessary to change the stem or the crankset, do it immediately while they are unused and make sure the new ones are perfectly compatible and do not invalidate the warranty.

 **WARNING!** The bike should dimensionally fit you and your needs, to prevent losing efficiency and performance, but mostly to reduce the risk of an accident.

Become familiar with the new bike by testing it at low speed in a confined space with no traffic nor obstacles, like an empty parking lot; you should test engaging and disengaging the pedals, shifting and braking. Never pedal backwards when shifting, to prevent damaging the drivetrain.

 **WARNING!** Sharp curves at low speed can be dangerous because your feet can interfere with the front wheel; to avoid accidents do some practice and learn to avoid this interference before riding on public roads.

It is important that you also practice on wet pavement, because grip and braking performance are very different.

 **WARNING!** It is very important for your safety to learn to properly modulate the brakes, especially in wet conditions; poorly performed braking can cause an accident.

You must make sure your bike complies to the laws and the unwritten rules of the place you'll be riding it in. Are you familiar with riding rules and laws of the street and of the cycling lanes you'll be riding in? Abiding the laws not only makes your biking safer, it also protects you in case of an accident. If, for any reason, the bike does not offer the necessary safety, and you do not feel completely in control, you must resolve the problem with the authorized **PINARELLO**® dealer before using the bike. If, in the end, you realize that you don't have the right feeling with this type of bicycle, it is better to give up rather than risking an accident.

## AFTER-MARKET ACCESSORIES


Many after-market accessories are available for road bikes. Some are made by serious companies that test them and honestly declare specifications and limits, others are made (or sold) by small companies with no structure that do not have the capability of seriously testing them and don't even know the functional limits, the resistance or the lifecycle. Given the difficulty in telling the few serious products from the rest, ask the seller to offer a written declaration that the product is safe because fully compatible with your bike and with the intended use; any functional or strength limitation has to be declared up front. Be careful that in case of an accident it will be next to impossible to get damage compensation from small companies or internet sellers with poor business ethics, that do not have proper insurance or sufficient capitals.

## SAFETY CHECKS BEFORE EVERY RIDE

### GENERAL CONSIDERATION


As mentioned your contribution is essential for riding safety. Making a routine inspection before using the bicycle will reduce the chances of an accident. These controls do not replace the periodic inspections of the authorized **PINARELLO**® dealer, they are paired with them in a proper accident prevention program. There are controls for functionality and for structural integrity, both are very important for safety! We know that it is boring to control the bike before every ride, but it is really essential to reduce the risk of an accident. The list that follows is not exhaustive, it is therefore imperative that you check with your authorized **PINARELLO**® dealer to identify the necessary additions, for instance based on changes made to the bike or accessories installed.

 **WARNING!** Do not use the bike until all problems are resolved, to reduce the risk of an accident.

 **WARNING!** This bike was conceived and designed for use on smooth surface roads or on tracks. A heavier duty will shorten the life-cycle and could cause structural damage. To reduce the likelihood of an accident, avoid any abuse or misuse.

### **WEAR, FATIGUE AND STRUCTURAL INTEGRITY CHECKS**

Make sure the frame, fork, wheels, the seatpost, the crankset, the steering parts and all other components are not excessively worn out, are not damaged and have no signs of fatigue. "Fatigue" is a form of wear caused by cyclical low intensity stress and acts with a gradual separation of the molecular structure, it is initially visible at a microscopic level as a fracture, but the fracture slowly grows weakening the affected component, eventually causing sudden failure when the crack becomes big enough (to learn more on "fatigue": [www.wikipedia.org](http://www.wikipedia.org)).


 **WARNING!** "Fatigue" is dangerous because it is initially difficult to recognize; to reduce the likelihood of having an accident, it is necessary to keep it under control recognizing any sign of fatigue before it is big enough to cause sudden failure.

Fatigue is more difficult to see than normal wear, therefore it requires more attention. Symptoms or indicators of fatigue could be: micro cracks, cracks, fissures, deformation, altered paint or surface finish, chipping, corrosion, strange noises. To verify the structural integrity of certain parts it is necessary to disassemble them (for example pedal spindles, bottom bracket spindle) but these operations require higher mechanical skills and special tools, so it is necessary to have your authorized **PINARELLO**® dealer perform them.

### **VISUAL ENHANCERS**

Visual enhancers such as penetrating fluids are very helpful to visualize early signs of "fatigue" (see more on: [www.wikipedia.org](http://www.wikipedia.org)). These products are often the only practical mean of discovering small cracks. One of the most commonly used is made of two spray cans, one with red penetrating fluid, the other with white contrast fluid. The red fluid is sprayed onto the surface to be checked, it is allowed to penetrate in any cracks, then is removed from the entire surface. Then the white contrast fluid is sprayed. If the surface has cracks, the red fluid penetrated in the cracks will emerge from the cracks and turn red the white fluid around, making the crack visible. Another technique uses a fluorescent penetrating fluid and a Hood lamp (black light) to make cracks visible.

### **TIGHTENING TORQUES**

 **WARNING!** Tightening torques that are either too high or too low (overtightening or undertightening) can lead to the failure of the frame, to the failure of the parts or to the failure of the screw/bolt, it can lead to malfunctioning or to the detachment of parts from the bike, so to reduce the likelihood of an accident, make sure the tightening values are always correct.


To identify proper tightening torques, please refer to the original instructions of the products assembled on the bike and to the information at the end of these pages. If the tightening torques refer to lubricated threads, it is necessary to lubricate the threads before assembly, avoiding lithium greases. To be able to use and check proper tightening torques, specific torque wrenches are needed (each torque wrench has a specific measuring interval).

## BRAKES

 **WARNING!** Brakes in less than optimal conditions cause longer stopping distances and can make you lose control of the bike, to reduce the risk of an accident make sure the brakes are always in perfect conditions.


Make sure the brake pads have enough thickness to last for the ride you intend to do, with a reasonable margin. If necessary bring along the replacement pads and the tools to replace them. Make sure the pads are adjusted at the proper distance from the rims, because if they're too far from the rim, the maximum stopping power is reduced and, especially in wet conditions, this can be dangerous. Make sure the pads are in the correct position and the fixing bolts properly tightened. Make sure the cable fixing bolts are properly tightened. Make sure cables and casing are in good conditions and cables move freely and frictionless. Finally make sure that overall function is impeccable.

## WHEELS


 **WARNING!** Wheels that are in less than perfect conditions can make you lose control of the bike and cause an accident, to reduce such risk follow the guidelines we provide below.

Make sure the quick release skewers are properly tightened. Make sure the wheels are centered, do not have lateral or radial play, do not have loose spokes. Truing the wheels is difficult and requires specific competence, do not attempt to true them yourself, bring them to your authorized **PINARELLO**® dealer. Make sure tire pressure is correct for your weight, riding conditions and type/diameter of tires; both rims and tires indicate max allowable pressure, use the lower of the two, to avoid the tire blowing or coming off the rim during use. If you ride tubulars, make sure they're perfectly glued to the rim. Make sure the tires are in good condition and do not have structural damages. Make sure the braking surfaces of the rims are clean, free from metal debris and degreased. Make sure the brake pads are free from debris or metal particles, eventually do not use sand-paper to clean them, use a clean metal file instead. Make sure that there is no interference between cycle computer sensors and wheels/spokes.

In particular the sensors must be positioned in such a way that if they move they do not cause an accident: for example the speed sensor on the fork should be ahead of the fork, so that if moving towards the spokes it would be pushed out of the spokes, instead of stopping or breaking the spokes. In any case please refer to the instructions of the cycle computer.


 **WARNING!** A cycle computer sensor that interferes with the spokes can cause an accident, it is very important that it is assembled correctly.

## DRIVETRAIN

 **WARNING!** Many accidents are caused by a rear derailleur cage interfering with the spokes, use a spoke protector and follow these instructions to reduce the risk.


Make sure that the rear derailleur limit screw, when the chain is on the biggest sprocket and the shifting lever is pushed as far as it goes, maintains the rear derailleur cage sufficiently distant from the spokes. Keep in mind that under effort/sprinting the deformations of the frame, of the wheels and of the tires can further reduce the clearance between spokes and RD cage. Make sure the RD hanger is straight and solid.


## HANDLEBAR AND STEM

 **WARNING!** A poorly fixed or cracked handlebar or stem can make you lose control of the bike and cause an accident, to reduce such risks, follow these instructions.

Make sure the handlebar is correctly fixed and there is no play with the fork, make sure the stem is properly fixed to both handlebar and fork (stand in front of the bike, hold the front wheel with your legs and try to move the handlebar); overtightening can cause structural damage to the parts, undertightening can cause play and failure of the bolts. Using the MOST SAFE™ assembly compound increases friction between stem and handlebar and between stem and fork. Make sure the shifters are properly fixed. Make sure the tubular extremities of the handlebar are covered with the proper plugs, to avoid harm caused by the sharp edge of the tube.


## SADDLE AND SEATPOST


 **WARNING!** Saddle and seatpost failure can cause an accident, follow these instructions to reduce such risk.

 **WARNING!** Certain saddles and certain position can cause, to certain persons, circulatory problems in the contact area. To avoid short and long term physical damage, perform the recommended checks and follow these instructions.

Make sure the seatpost is perfectly solid and properly fixed, in general - but even more so if it is carbon fiber - overtightening must be avoided, to prevent structural damage that may result in sudden failure. The MOST SAFE™ assembly compound increases surface friction allowing a reduction of tightening torques and avoiding, over time, the bonding of the seatpost to the frame (the assembly compound has to be re-applied every year). The saddle should be correctly clamped in the seatpost, paying attention to the positioning reference on the saddle rails. Wrong tightening torques can cause the failure of the seatpost and of the saddle rails. Choice and positioning of the saddle are paramount for performance, for comfort but also to prevent medical problems caused by circulatory problems that your weight on the saddle can cause; the saddle supports the weight of your body with a little surface, therefore with an elevated specific pressure, this is why choosing the right model and properly adjusting it is so important. If, during use, you notice numbness or lack of sensitivity or other symptoms of circulatory or functional problems, stop using the saddle and see if it is necessary to just change the position or change the saddle model.

## CHECKS ON CARBON FIBER

 **WARNING!** Carbon fiber is different from other materials, in case of pre-existing damage or excessive load, it does not bend, it fails suddenly. To reduce the risk of accident, perform the safety checks indicated.

 **WARNING!** If a carbon fiber part has been subject to impacts the structural integrity could have been compromised. Since it is not always possible to recognize structural damage, it's impossible to be completely sure that a carbon fiber part is totally safe. To reduce the risk of an accident, replace all carbon fiber parts that suffered impacts, even if they appear to be without damage.

Identifying structural damage on carbon fiber requires more attention and is not always possible; in addition to what we already indicated, other signs can be: a deformed shape, loss of rigidity, a soft area in the surface, any unusual noises, paint damage, delamination (the

detachment of the layers of carbon fiber). In general to identify micro-fractures we advise our dealers to use visual enhancers. The loss of rigidity can be checked, when not riding the bike, with the application of a force to verify if the part flexes abnormally. Delamination and structural damages should be recognized both visually and by tapping the surface of the part with a lightweight stiff object like a plastic pen, that cannot damage the surface: the sound helps telling a damaged part from a part that still has full structural integrity. A portion of the structure that has full structural integrity has a full sound, harmonic, a sound that indicates stiffness, solidity, while a damaged part has a duller, softer sound. The acoustic response, together with the visual inspection, help recognize a structural damage, but it is always possible that a structural damage remains unnoticed.

#### **IN CASE OF WEAR, FATIGUE OR STRUCTURAL DAMAGES**

 **WARNING!** Any product that could have lost the necessary safety requirements must be replaced immediately to reduce the risk of an accident. In case of doubt consult your authorized **PINARELLO**® dealer.

## **PERIODICAL SAFETY CHECKS AND MAINTENANCE**

It is not possible to outline a full maintenance schedule in this document, without knowing the riding environment, the riding style, the daily care, the climatic conditions, weight and power of the rider, the components and wheels installed, and all the other factors that affect the inspection and maintenance need of the bike. Each and every component or wheel installed has specific care and maintenance instructions, you must refer to their owners manuals. It is therefore necessary to establish, with your authorized **PINARELLO**® dealer, an inspection and maintenance schedule that fits your needs. With time you'll learn the correlation between use and required service. During these service interventions, it is necessary to have the dealer inspect also those parts that require to be disassembled. Parts like bottom bracket spindle, hub spindles, pedal spindles, quick release skewer spindles, rear derailleur fixing bolt are essential for your safety and cannot be inspected without disassembly.


## **USING YOUR BIKE**

#### **GENERAL CONSIDERATIONS**


There are many things you can do to reduce the risk of an accident or to mitigate the consequences of any accident. No one can replace you in taking all the necessary precautions. You need to protect your head with an approved helmet in perfect condition (that has never suffered impacts and that is sufficiently new), you must protect the eyes and preserve good sight with suitable prescription and/or protective glasses or sunglasses, it is important to be visible with a colored clothing and with reflective parts. The clothing must be tight not to be tangled in the bike or be snagged by other vehicles or objects. The bicycle must comply with the regulations in force in the place where it is used. The use with low


visibility involves many more risks, for this it is strongly discouraged. In any case, if you decide to ride in poor visibility conditions, reflectors are not sufficient, you need real lights, a headlight and a taillight. The helmet must be removed when not riding the bike, because it poses a strangling risk, for example in case it is hooked by a tree branch. Prudence and intelligence when riding are very important to increase safety. It is not enough to obey the local laws governing traffic and bikes, you must try to prevent accidents caused by others. The bike does not offer any protection in the event of an accident, therefore it does not matter whether the potential accident is not your fault, you should still try to avoid it by trying to foresee even the most unpredictable actions of other road users. To actively prevent accidents never use the bike if you're not in top psycho-physical conditions. Do not use the phone and not listen to music with earphones because they isolate from traffic and prevent you from carrying out effective preventive actions of the errors of others. You must avoid, where possible, traffic and roads where motorists drive fast. Wet or dirty asphalt (mud/gravel) greatly reduces the grip and make it difficult to curve and brake, lengthening the space of arrest. Cycling with snow and ice is extremely dangerous, do not use the bike when temperatures are close to or below freezing. Water makes brakes much less effective. The road has many other dangers that require great prudence and attention, we cannot list them all but to name a few: holes, manholes, uneven surfaces and objects on the road can make you fall off and damage the bike, oil stains, wet leaves, pedestrian crossings can be extremely slippery, tram tracks are very dangerous. It is very important to ride the bicycle in a predictable way, without zigzagging, and indicating your intentions sufficiently in advance, for example when turning or overtaking. You must make the others understand what you intend to do. Speed and risk go hand in hand, so reduce the speed every time that you think that there are less than optimal conditions. The particular position of the rider on "chrono" or "triathlon" bikes makes it much more difficult to control the bike, both steering and braking, and delays the response time, so you must be particularly careful and prudent when using these types of bikes. Always keep your hands on the handlebar. Carry a valid ID card and information on blood type and contact person, in the unlikely event of an accident they could save your life. Some parts of the bike can cause injuries: for example, the gears have sharp teeth, you can injure your fingers in the drivetrain or between the spokes of a revolving wheel, so be cautious in moving around or onto the bike. Make sure you read and understand the instructions on the various components mounted on the bicycle, because the notes that follow are simple generic indications.


### USE OF INTEGRATED BRAKE-SHIFTING LEVERS

 **WARNING!** Integrated brake-shifting levers perform two different functions therefore it is necessary to properly familiarize with them before riding to reduce the risk of an accident, they require some time to learn to properly master them. Same time is necessary when passing from integrated levers of one type or brand to levers of another type or brand. It is necessary to carefully read the manufacturer's instructions and practice a lot.

A bad practice that must be avoided is "crossing the chain", which is using the chain at the same time on the biggest cog and biggest chainring, or on the smallest cog and smallest chainring. This abuse wears out cogs, chainrings and chain and is not very efficient mechanically.


 **WARNING!** Shifting under effort (pushing hard or standing on the pedals) poses a risk of chain failure, which can cause an accident; moreover chain, cogs and chainrings are prematurely worn out. Avoid this practice to reduce the risk of accident.

 **WARNING!** A rear derailleur that is poorly adjusted or has play can interfere with the spokes; to reduce the risk of an accident do not use the first and last cog and take the bike immediately to your authorized **PINARELLO**® dealer.

 **WARNING!** The brakes are very powerful, both to offer sufficient braking performance in wet conditions, when water on the braking surface reduces the performance, and to offer acceptable braking performance when the brake pads are slightly worn out. However when using new pads in dry conditions the stopping power is abundant and you must learn to control it, to avoid accidents such as tumbling over. In wet conditions tires can easily skid causing an accident, therefore it is important to moderate speed and to modulate braking. When riding on surfaces with limited grip you must slow down and pay more attention when cornering and braking.

## CLIPLESS PEDALS

Using the so called “clipless” pedals requires a period of learning and familiarizing, because you must be sure you know how to engage them properly, and disengage from them when needed. Furthermore, you must accept the fact that this type of pedals can accidentally release the shoes, possibly at the worst time, as we've seen happening even to the greatest athletes. Dirt and wear are factors, among others, that influence the shoes retaining capability of the pedals. Make sure you carefully read the manufacturer's instructions.

 **WARNING.** Dirty or worn out cleats can cause accidental shoe release causing an accident, replace cleats before they're worn out with new ones and keep them clean.

# ON MAINTENANCE

## GENERAL CONSIDERATIONS

Maintaining a road racing bicycle requires specialized knowledge and skills, tools, spare parts and consumables. Keeping the bike clean allows the necessary safety checks and make it last longer. Clean the bike with bicycle specific products, following the instructions, or use delicate soap and water. Paint can be damaged by all solvents, thinners and petroleum spirits, which should not be used. Using diesel fuel to clean the bike is a bad habit that should be abandoned. Certain lubricants, as well as certain solvents used in lubricants, can damage paint and surface finish, therefore after the necessary lubrication of the parts, you should remove any residual lubricant from surfaces that do not need to be lubricated. In particular, you must clean and degrease the braking surface of the rims, and brake pads should not be contaminated with lubricants.

Never use pressure washers to clean the bike, they force water in the bearings damaging them, soak the inside of the shifters, raise the paint, wash out lubricants, detach decals etc. Do not be fooled by the fact that pro-team mechanics use pressure washers, because: **a)** teams have many bikes for each athlete and use them just one season, **b)** mechanics have very little time, **c)** they work on bicycles “heavily” used by others and **d)** right after cleaning they perform the necessary maintenance.

Make sure the bike is fixed to the working stand by clamping the seatpost.

Pinarello® and Most® seatposts, if assembled with the Most Safe™ assembly compound, must be removed, cleaned and re-assembled every 12 months. If instead they were dry assembled, they should be removed, cleaned and re-assembled every month, to avoid the seatpost bonding to the frame. Pinarello® and Most® integrated headsets are maintenance free, when the end of their useful lifecycle is reached, the bearings should be replaced by an authorized **PINARELLO**® dealer. For the care and maintenance of wheels and components, you should refer to their specific instruction sheets. It is not possible to address all the endless assembly and spec possibilities in this manual.

## THREADS, THREAD-LOCKERS, GREASE AND TIGHTENING TORQUES

One of the most debated issues is the coupling of threaded parts; in particular it is debated if threads should be **a)** degreased or **b)** lubricated or **c)** treated with thread-lockers, and what is the proper torque to be applied in each of these cases.

In line of principle, we expect threaded couplings to remain stable/tight over time with no loosening, we expect that they can be taken apart when necessary, we expect that they do not generate noises due to micro-movements of the parts, we expect them not to develop corrosion. Corrosion, that can be a big problem because it can seize or damage threads, it is frequent between different metals (titanium-aluminum, steel-aluminum). In the past there were no alternatives and grease was used in the threads, to fulfill all four needs. But grease facilitates loosening, does not last forever, migrates, changes characteristics, is washed away, does not always offer sufficient corrosion protection, and reduces noises only temporarily.

Thread-lockers have been used for many years in mechanics. What is a thread-locker?

It is a liquid that is applied on the threads during installation and solidifies in the following hours. It is available in many "strengths", but for the bike it is preferable to use the weak one, Loctite® 222 or Arexons® System 52A22. Thread-lockers offer numerous benefits when used on threaded couplings: **1)** prevent undesired loosening without the need to use high tightening torques, **2)** prevent corrosion in the interface, **3)** prevent any micro-movement with associated noises, **4)** they remain stable over time.

Thread-lockers solidify when air is absent, therefore the entire space between the threads must be filled with product, otherwise, if not enough product is used, it will remain liquid.

Using a thread-locker stronger than recommended can seize the threads, especially bigger diameter threads.

Using the proper tightening torques it's essential for correct function and to avoid loosening or structural damages. In certain cases tightening torques ensure mechanical couplings, in other cases they prevent loosening. You authorized **PINARELLO**® dealer will use, in certain applications, the thread-locker and eventually apply a lower torque. Tightening torques are different if the thread is lubricated, treated with thread-lockers or degreased. Most torques are specified by component manufacturers and appear in their instructions, but carbon frames require special care during assembly and maintenance. To lubricate threads never use lithium based greases.

Your **PINARELLO**® dealer has all the torque wrenches required to tighten bolts in the range from 1.5Nm to 50Nm. We recommend the following tightening torques:

**Rear Derailleur** fixing bolt – 12 Nm (lubricated thread) – Loctite® 222/Arexons® 52A22 can be used, torque reduced to 8 Nm.

**Front Derailleur** clamp bolt – on CARBON FRAMES: 1.5-2 Nm (lubricated thread) – Most Safe™ assembly compound can be used on internal clamp surface – on METAL FRAMES: see FD manufacturer's instructions.

**Front Brake** socket head nut – 7 Nm (lubricated thread) – Loctite® 222/Arexons® 52A22 can be used if the nut has a Torx® socket or if it is made of steel, torque reduced to 5 Nm.

**Rear Brake** socket head nut – 6 Nm (lubricated thread) – Loctite® 222/Arexons® 52A22 can be used if the nut has a Torx® socket or if it is made of steel, torque reduced to 5 Nm.

**Bottom Bracket** cups – EXTERNAL BEARING TYPE should be hand tight (as tight as you can using your bare hands) with Loctite® 222/Arexons® 52A22 (if thread-locker is not available, the cups should be tightened 35-40 Nm) – ISO SQUARE TYPE must be hand tight, using Loctite® 222/Arexons® 52A22.

**Seatpost** fixing clamp – Most Safe™ assembly compound should be always used – CARBON SEATPOSTS 3 Nm (Most Safe™, lubricated thread), 4 Nm (lubricated thread), 6 Nm (degreased thread) – ALUMINUM SEATPOST 6 Nm max.

**Seatpost Saddle Rail** clamping bolts – TAIL C-MAX™ 1K or 3K front bolt 4 Nm/rear bolt 8 Nm (lubricated threads) – TAIL C-ALU™ 12 Nm (lubricated threads).

**Stem:** fork tube fixing bolts – Most Safe™ assembly compound should be used – CARBON FORK TUBE 5 Nm (lubricated threads) – ALUMINUM FORK TUBE 10 Nm (lubricated threads).

**Stem:** handlebar fixing bolts – Most Safe™ assembly compound should be used – CARBON HANDLEBAR 4 Nm (lubricated threads) – ALUMINUM HANDLEBAR 8 Nm (lubricated threads).

**Anchor Plug** inside fork tube – 7 Nm (lubricated threads).

**Cap** on top of fork tube – 2 Nm (lubricated threads).

**Integrated Shift/brake levers** handlebar clamping bolt – CARBON HANDLEBAR 6 Nm (lubricated thread) – ALUMINUM HANDLEBAR see manufacturer's instructions.

**Bottle Cage** fixing screws – Loctite® 222/Arexons® 52A22 must be used – 2 Nm.

**Cable guide** plate under BB – Loctite® 222/Arexons® 52A22 must be used – 2 Nm.

**CAUTION!** If the manufacturer's recommended tightening torques are different from what we indicated, in case of carbon frames use the lower of the two. Please contact us or your authorized **PINARELLO**® dealer for clarification.

**CAUTION!** In carbon frames the bottom bracket aluminum insert is bonded to the carbon structure. If the bottom bracket has a cup with no shoulder, Loctite® 222/Arexons® 52A22 must be used on the thread and the cup should be tightened by hand, to avoid damaging the insert. Moreover, if an aluminum cup is seized inside the insert (this can happen when Loctite® 222/Arexons® 52A22 is not used), do not use more than 80 Nm of torque when trying to unscrew the cup, and make sure you're turning in the proper direction, to avoid de-bonding the insert which would destroy the frame.

## RE-PAINTING

Modern frames not only have very thin walls, but have thermal and surface treatments that could be damaged when removing the old paint and preparing the surface for the new paint; moreover carbon frames could be subject to structural damage due to the possible damage to the outer carbon layer. This is why re-painting is generally not recommended and is prohibited for carbon frames. In any case re-painting, even partial, voids the warranty and, if re-painting causes a structural failure, **PINARELLO**® would not be responsible.

## STORING YOUR BIKE

Dirt, rain, humidity, UV rays, salt and excessive heat cause structural and cosmetic damage to your bike and shorten its useful lifecycle. The bike should be kept clean, away from sunlight, in a dry and cold place, with low humidity. Never leave a wet bike in the storage area, especially if it was used in a high salinity environment or on winter salty roads, in a matter of days salt and water will make substantial damage. Cleaning and lubrication should be performed before the storage period, not after it. With time, light causes discoloration or alteration to the paint, to the decals and to the surface finish. Lubricants degrade over time, if the bike is stored long enough, re-lubrication should be performed before use. Please refer to the instructions of each component for specific advice on how to preserve it.

## CARRYING YOUR BIKE

When the bike is transported inside a vehicle, make sure it's properly protected and fixed to avoid damage that could compromise the structural integrity. If the bike is carried on the roof of the vehicle, use dedicated racks. When transported on the roof, wind caused by car speed could push water and humidity inside integrated shifters, bearings or other areas that should remain dry. Rigid bike containers are available for bike carriage. If you intend to use the original carton the bike was purchased in, make sure it's packed the exact same way, to avoid structural or cosmetic damage.