

## **PRODUCT MANUAL – PROFILE DESIGN 1/FIFTY WHEELSET**

*Note to Dealers: If you install this product for the consumer, please provide him/her with this owner's manual after installation.*

*This product is not intended for use by children age 12 and under.*

Thank you for purchasing a Profile Design 1/FIFTY Wheelset. Please read these instructions thoroughly before attempting to install and use this wheelset. For the most up to date version of this manual visit [www.profile-design.com](http://www.profile-design.com). Proper installation is required for compliance with Profile Design's warranty policy. If you are not familiar with wheelsets please seek the assistance of your Local Profile Design dealer by logging on to [www.profile-design.com](http://www.profile-design.com) and using "dealer search" or by calling Profile Design's customer service number.

**IMPORTANT NOTE:** This user's manual for this specific component on your bicycle is not a substitute for all the safety and use information contained in the owner's manual that was supplied with your bicycle. If you do not have such an owner's manual, contact the bicycle's manufacturer or retailer for a copy. To the extent that your bicycle user's manual and this component part user's manual conflict as to the use of this specific Profile Design component, this user's manual should be followed. If you are unsure about the resolution of a conflict between this manual and any other manual or set of instructions, please consult your local bicycle retailer.

Your Profile Design Wheel purchase includes:

- Front and/or rear wheel skewers
- Profile Design carbon rim specific brake pads (does not include pad holder or mounting hardware.)
- 10 Speed Cassette spacer

Please check at the time of purchase that you have received all the listed items and inform your retailer if any item is missing.

### **IMPORTANT SAFETY INFORMATION AND WARNINGS**

**BEFORE EACH RIDE** check to ensure:

- Each quick release is properly adjusted, closed and the wheel is properly seated in each dropout so that brakes and shifting work properly
- Brakes are properly functioning and adjusted properly along the brake track
- Wheel is "true" (does not wobble from side to side or "hop" up and down when rotated on the bike) and rotates freely
- Spokes/nipples are not damaged, bent or of improper tension (check by applying finger tension to all spokes and comparing tension between them)
- There is no visible damage to the carbon surfaces of the rim
- Tires are properly inflated and mounted and have no surface cuts, abrasions, cracking or other irregularities.
- Check the carbon rim surface to make sure there are no cracks, deformities, scratches, gouges or chips in the carbon brake surface.

If any of the foregoing is not correct DO NOT use the wheel. The following instructions provide more detail on each of the points above. If you have any questions regarding these contact your authorized PFD dealer where you bought the wheels or Profile-Design.com.

### **⚠️ WARNING** GENERAL WARNINGS

- Profile Design Carbon wheels may require a valve extender in order to inflate the tire. Install the valve extender on the valve stem of the tire before installing the tire onto the rim, making sure the extender is firmly attached and properly sealed to avoid losing air. Do NOT use any other valve extender other than the one supplied.
- Profile Design Carbon wheels should be used with 700c diameter tires only. The clincher rims can accommodate 25mm-28mm tire widths using the ISO or ETRTO measurement system Do NOT use wider or narrower tires as rim/tire damage or a crash may occur. **Profile Design Carbon wheels should not be used for cyclocross (or off paved surfaces) or tandems.**
- The rider weight limit is 220 lbs (100kg).
- A creaking component can be a sign of potential problems. Make sure all contact surfaces between components are clean, all bolt threads are greased or are treated with proper thread lock and tightened to Profile Design's (or the bike manufacturer's) specifications and all components are properly sized to fit together. If you continue to experience creaking stop using the Profile Design component and call Profile Design customer service.
- Periodically, closely examine all surfaces of this Profile Design component (after cleaning) in bright sunlight to check for any small hairline cracks or fatigue at "stress points" (such as welds, seams, holes, points of contact with other parts etc.). If you see any cracks, no matter how small, stop using the part immediately and call Profile Design customer service.
- Whenever you install any new component on your bike make sure you thoroughly test ride close to home (with your helmet) where there are no obstacles or traffic. Make sure everything is working properly before going off on a ride or to a race.
- Racing (road, mountain or multi-sport) places extreme stress on bicycles and their components (like it does riders) and significantly shortens their usable life. If you participate in these types of events, the lifetime of the product may be significantly shortened depending upon the level and amount of racing. The "normal wear" of a component may differ greatly between competitive and non-competitive uses, which is why professional level riders often use new bikes and components each season as well as having their bikes serviced by professional mechanics. Particular care should be placed in the regular examination of your bicycle and it's components to insure your safety.
- A number of factors can reduce the life of this component to less than its warranty period. Rider size and/or strength and riding style, high mileage, rough terrain, abuse, improper installation, sweat, adverse environmental conditions (such as salt air or corrosive rain), travel damage (especially if bike and components are repeatedly disassembled and then reassembled) and crashes or accidents can all contribute to the shortening of the life of this component. The more factors that are present, the more the life of the component is reduced.
- All of the warnings and care instructions that pertain to the metal parts apply doubly to carbon fiber parts (except for corrosion) as they are very delicate and

can be easily damaged during use. The use of a torque wrench is highly recommended as it is very easy to over or under tighten any carbon part resulting in a cracked (ruined) part or worse, a part that breaks during usage. On a routine basis you must thoroughly check for cracks, wear marks, surface deterioration, delaminating, chipping of the finish or carbon splintering especially where a carbon component contacts or is mated to a non-carbon component. Once the surface of a carbon part is compromised it can break. Do not apply any lubricant to any carbon surface where they come in contact with another carbon or metal part. After a crash carbon parts may be scraped but will not likely be bent like a metal part. However they can still be weakened and must be replaced. Call Profile Design customer service and ask about our "Crash Replacement Policy".

**⚠WARNING CLINCHER WHEEL WARNINGS**

- Do not use tires narrower than 25c on Profile Design clincher rims.
- Correct tire mounting is essential for your safety and compliance with the Profile Design warranty.
- Before mounting your tires ensure that the rim bead and sidewall is clean and free of gouges, dents or scratches and that the tires and tubes are new, free of dirt, cuts, cracks and abrasions.
- Do not use brake pads that were previously used on wheels with an aluminum brake surface.
- Read directions from tire and inner tube manufacturer.
- Do not use any tools other than plastic tire levers to install or remove clincher tires from your wheels.
- Please observe the maximum/minimum stated pressure rating on your tires when inflating them (using a tire gauge). **DO NOT EXCEED 125 PSI UNDER ANY CIRCUMSTANCES** regardless of the pressure listed on the tire.
- Under-inflating your tires (under 95psi) can not only lead to flats it may also cause damage to the rim and/or tire especially during riding on rough road surfaces.
- **DO NOT** use air compressors or gas station pumps to inflate tires as there is a chance they could over-inflate the tires.

**INTENDED USE**

This chart shows the Type and Common Category of Rim, Caliper or Disc Brake, Intended Use, and the ASTM Intended Use Classification Guidelines are integrated below.

Wheel Model Name	Category Name for Intended Use	ASTM Intended Use Classification	Tire Section width recommended by ISO/ETRTO for use with rims of this inner rim width	ISO / ETRTO Rim Size Designation (Dia mm x inner rim width mm)	ISO Rim Bead Seat Diameter	PSI range (min-max)
1/Fifty Full Carbon Clincher	Tri / Road	Condition 1	25-28mm	622x17.5C	622mm (aka 700c)	95-125

Where possible, in addition to industry standard descriptions, this PROFILE DESIGN User Manual references American Society for Testing and Materials (“ASTM”) Standard

Classifications for Bicycle Usage to describe Intended Use, along with Common Terms. See ASTM Designation F 2043-09 at [www.astm.org](http://www.astm.org)

For clarification, PROFILE DESIGN defines “Tri/ Road ASTM Condition 1” as a set of conditions for the operation of a bicycle on a regular paved surface where the tires may unintentionally lose ground contact. This style of riding does not include riding off paved surfaces and there is no jumping. Condition 1 bicycles have no suspension.

### **MOUNTING / REMOVING THE CASSETTE**

Profile Design wheels are designed specifically for SRAM, Shimano or Campagnolo 11 or 10 speed cassettes. Make sure you have the correct cassette for your free hub, speed and manufacturer. These Profile Design wheels include a spacer to adapt a 10 speed cassette to the Profile Design rear hub. Profile Design hubs have interchangeable free hub bodies and your wheels can be retrofitted by your Profile Design retailer to an alternative free hub style at a later date if needed.

### **REMOVING THE CASSETTE**

ALWAYS use the chain whip on the smallest gear to loosen the cassette lock ring, or the aluminum spline may be damaged. Follow the directions of the cassette manufacturer (SRAM, Shimano or Campagnolo) for specifics on mounting and removal.

### **QUICK RELEASE SKEWERS**

Your Profile Design wheels come equipped with quick release hardware (a camming device). If you are not familiar with quick release skewers or have never seen a proper demonstration as to how they work, ask your retailer to help you make sure you know how to install and remove your wheels safely or you can follow the owners manual that came with your bicycle (which typically explains the procedure for the front and rear wheel removal in more detail). Failure to close the quick release properly can result in a serious accident leading to injury or death. Always check to ensure that your wheel quick releases are securely clamped before you ride your bicycle.

**⚠️ WARNING** The quick release uses an internal cam and “camming” action to clamp the bike’s wheels in place. Holding the nut with one hand and turning the quick release lever with the other hand until the lever is seemingly tight (like tightening a regular nut and bolt) but **WILL NOT** clamp the wheel safely in the dropouts. Using this improper method may result in the wheel becoming disengaged from the bike while riding leading to a crash and serious injury or death.

### **ADJUSTING THE QUICK RELEASE**

The wheel hub is clamped in place by the force of the quick release cam pushing against one dropout and pulling the tension-adjusting nut (on the opposite side of the wheel from the cam lever), by way of the skewer, against the other dropout. The tension-adjusting nut can control the amount of clamping force. Turning the tension adjusting nut clockwise while keeping the cam lever from rotating increases clamping force; while turning it counter clockwise while keeping the cam lever from rotating reduces the clamping force. Less than half a turn of the tension-adjusting nut can make the difference between safe clamping force and unsafe clamping force. The lever should leave an imprint in the palm of your hand as you close the lever. If the lever is too tight

and does not close completely (or if it is too easy to close and doesn't leave an imprint) you may need to open the lever, re-adjust the tension on the cam lever with the tension-adjusting nut and then close it again. The quick release levers should always be on the non drive side (left side) of the bike.

### **BRAKE PAD ADJUSTMENT**

ALL REPAIRS SHOULD BE PERFORMED BY A PROFESSIONAL BICYCLE MECHANIC. Rim brake pads should be centered on the braking surface of the rim both left and right rim/pad gap, vertically and horizontally (the direction of rotation). Consult your bicycle owner's manual and/or brake owner's manual for the relative information. Position the brake pads so the top of the brake pad is no furthermore down than 1mm from the top edge of the rim. Make sure your brake pads **DO NOT TOUCH** the tire under braking, as this can result in tire side wall failure and tire blowout or the tire coming off the rim, potentially causing an accident and/or injury to the rider. This adjustment may need to be made on each bike on which the rims are used.

Adjust your brake calipers to accommodate the Profile Design rim width. They should be adjusted so that the brake pads come into contact with the rim when the brake lever is halfway depressed. Profile Design carbon wheels require **CARBON RIM SPECIFIC BRAKE PADS** such as those supplied with your purchase. **DO NOT USE ANY PADS THAT ARE INTENDED FOR OR PREVIOUSLY USED ON ALLOY RIMS WITH THESE CARBON WHEELS. USE OF NON-APPROVED PADS CAN LEAD TO RIM FAILURE CAUSING INJURY AND/OR DEATH.**

When riding on wet roads your braking distance can be a number of times longer than under ideal dry conditions. This is especially true with carbon braking surfaces and carbon rim brake pads. The wet roads can also cause grit and grime to accumulate in your brake pad surfaces, damaging the carbon braking surface. Take extra precautions when riding in these conditions.

### **TIRE CLEARANCE**

Make sure that any tires you choose not only properly fit the rim diameter and width but also fit within the bike frame and fork in both side to side dimensions and vertical dimensions. Pay careful attention to this issue when using the wheels on multiple bikes. The tire frame / fork clearance should never be less than 5mm in all directions.

### **TRUING YOUR WHEELS**

ALL REPAIRS OR TRUING SHOULD BE PERFORMED BY A PROFESSIONAL BICYCLE WHEEL MECHANIC. The technique and skill required to properly true a wheel is well beyond the scope of these instructions and beyond the ability of most riders. Your wheels have been carefully pre-stressed, tensioned and trued before shipping and should remain true and round under normal riding conditions. Ensure that your wheels do not have a vertical "hop" or side to side "wobble" once you remove them from the box (by spinning them in your dropouts without tires). They may have been damaged in shipping. Over time or under abnormal riding conditions you may need to re-true and re-tension your wheels for optimal performance. (Typically wheel truing needs to be done after 1000-2000 miles of riding) If you are not sure how to properly perform this service or do not have a spoke tensiometer or wheel truing stand with run out gauges, please take your wheel to a professional bicycle mechanic, or contact Profile Design at [www.Profile-Design.com](http://www.Profile-Design.com) for more details.

## **CLEANING YOUR WHEELS**

Remove and clean the wheel quick releases regularly and check the tightness of the tension nut and cam lever. Clean your wheel using mild soap and water only. DO NOT pressure wash or spray with water. Pressure washers can force the grease out the hub bearings which causes rapid deterioration of the bearings and the longevity of the hubs. Be sure to remove any dirt, grime, grit, grease or lubricant that might get onto the brake surface of the wheel. Make sure your brake pads are clean and free from aluminum shavings, small rocks and other debris accumulated from riding. Clean your brake pads with fine sandpaper or a small file. Proper care and cleaning of your new Profile Design wheels and brake pads will extend the life of the wheels and help to protect the braking surface.

**Do not use harsh chemical cleaners on the rims or braking surfaces.**

## **INSPECTING YOUR WHEELS**

Cleaning or mounting a tire is a good time to inspect your wheels closely under good lighting conditions. Look for any abnormal bumps or bulges, areas where the clearcoat is worn, any sign of frayed carbon fibers, cracks, deformities, or holes. This inspection needs to be carried out on a regular basis but especially (1) after any crash or after you have hit road debris or potholes, (2) when tires are removed, (3) before a race (4) after shipping or flying with the bike (5) when the tires have gone flat while riding (6) when the wheels make any unusual noises such as clicking, squeaking, cracking or snapping noises.

## **TRAVELING WITH YOUR WHEELS**

If you ship (or fly with) your bike and or wheels, the wheels should be transported in their own carrying cases to prevent damage. We suggest a heavily padded single wheel bag [s](#) or a hard case. Also, after shipping or flying, the wheels must be inspected (see "Inspecting your wheels") and possibly re-trued (see "Truing your wheels") as flying or shipping wheels often will damage them or cause them to go out of true.

## **INSTALLING RIM STRIP AND CLINCHER TIRES**

All new Profile Design clincher wheelsets come with rim strips. You must use rim strips with all clincher rims.

**⚠ WARNING** Failure to use the correct width rim strip or tape on your wheel, or improper installation of any rim strip or tape can result in improper seating of the tire bead in the rim, which may lead to the tire coming off the rim while riding and or to sudden tire deflation while riding. Failure to make sure that the rim strip or tape covers all spoke holes completely and that it stays in place during use may also lead to the tire coming off the rim while riding and or sudden tire deflation. Sudden tire deflation (or tire coming off while riding) can cause loss of control, resulting in serious injury or death. If you have any questions about the correct size, material or fitting of the rim strip or rim tape, check with your Profile Design dealer or contact Profile Design.

Begin rim strip installation by aligning the valve hole of the strip with the valve hole of the rim. Stretch the rim strip around the rim making sure that the strip is centered on the rim and is covering the spoke holes. Finally, check again to make sure the rim valve hole is

visible through the valve hole of the rim strip and is not obscured or partially covered by the rim tape.

## INSTALLING CLINCHER TIRES

**⚠WARNING** Tires that fit too tightly often irritate riders. If you are having a difficult time mounting a tire on a Profile Design wheel, make sure that you are using the correct Rim Strip. In some cases users can damage the bead of the tire (or the tube) in attempting to mount a “tight” tire. Likewise, *if your tire goes on and off your rim with very little hand mounting effort do not ride it.* That is the sign of a possible mismatch between that particular rim and tire. If you have another brand or model of rim that is compatible with that tire’s size designation, try mounting the tire on that rim to see if it is looser or tighter. If sufficiently tight then use that rim and tire together or contact Profile Design for assistance. A tire that fits too loose can come off the rim while riding (causing serious injuries or death) especially at air pressure approaching the minimum posted on the tire or under hard riding and cornering conditions.

Tires and Rims should be compatible, because they should be made to the same basic international standards; but Profile Design cannot guarantee that all manufacturers make their products in compliance with international standards. While everyone in the bicycle industry tries to work to industry accepted standards, there is no guarantee of 100% compatibility of wheels and tires.

**⚠WARNING** These Profile Design wheels are NOT designed to work with tubeless systems, including with conversion kits with sealants, or otherwise. DO NOT use any Profile Design rims with tubeless tires, either with sealants OR any other add-on that requires putting rim tape or rim strips between the tire bead and the rim bead seat. Doing so may cause the bead to seat incorrectly, which could result in the tire coming off the rim while riding and or sudden tire deflation, which can cause you to lose control and fall.

Place the wheel, valve hole up, with the wheel resting against your legs and mount one side of the tire bead onto the rim using your hands. Take note if your tire has directional arrows and also install the tire with the manufacturer’s label/PSI rating at the valve hole – this will assist with finding flats and will make for easier inflation reference later. Work the tire onto the rim by moving your hands away from the valve hole on each side of the wheel as you seat the tire bead. If the last section of tire bead will not seat by hand VERY CAREFULLY use a PLASTIC tire lever to seat the last section of tire onto the wheel.

Inflate the inner tube enough that it will hold its shape. Insert the valve of the tube through the valve hole of the rim making sure the valve is straight. Then install the rest of the tube between the rim and tire. Make sure that the tube is not folded, twisted or creased once placed inside the tire. Tubes are also sold in different diameters and widths. Make sure the tub size is closely matched with the tires size you are using. Use of the wrong size tube could lead to bunching or stretching of the tube and a blow out resulting in a crash and injuries.

Install the second bead of the tire onto the rim working the tire onto the rim by moving your hands away from the valve hole on each side of the wheel as you seat the tire bead. If the last section of tire bead will not seat by hand VERY CAREFULLY use a PLASTIC

tire lever to seat the last section of tire onto the wheel. Be careful that you do not pinch the inner tube with the tire lever or tire bead as you seat this last section. Make sure the tube is not under the bead of the tire anywhere on either side as this will burst the tube once you inflate it.

Inflate the tire to 40-60 PSI and check to make sure the tire is seated correctly and that the inner tube is not pinched between the tire and the rim. Deflate the tube and re-install the tire should there be any problems.

Inflate the tire to full pressure and check the tire as its rotating to make sure the tire is seated straight on the rim. Also check the bead line of the tire to insure that the bead is seated evenly and uniformly all the way around the rim on both sides. **DO NOT EXCEED 125 PSI for ANY clincher rims regardless of the pressure listed on the tire.**

### **WARRANTY**

Profile Design warrants all its products for two years from original purchase. For further details on the Profile Design warranty and Crash Replacement policy please visit [www.profile-design.com/warranty](http://www.profile-design.com/warranty)

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