WHEELSET USER MANUAL

PHI

The Golden Ratio of Performance.

WEBSITE

PHI_CYCLING

INSTAGRAM

PHi Wheelset User Manual

1. Scope and Safety

READ BEFORE INSTALLATION AND RIDING

THANK YOU FOR CHOOSING PHI CYCLING

This user manual includes information on safety, performance maintenance and service. Before installing the wheel or riding for the first time, read this manual and keep it as a reference. For further installation information, visit www.phicycling.com.

SCOPE AND INTENDED USE

- PHi wheelsets are designed and intended for use on a bicycle only. Do not use the wheel or its components as a tool, toy or for any other application.
- PHi wheelsets are designed exclusively for disc-brake systems. Do not use with rim brakes.
- D-Series road wheelsets comply with ASTM F2043 Condition 1: paved surfaces where tires are intended to maintain ground contact.
- G-Series gravel wheelsets comply with ASTM F2043 Conditions 1 and 2: paved/unpaved roads and moderate trails. Drops are limited to 15 cm (6 in) or less.
- PHi wheels are not intended for trainers or rollers that secure the bicycle by the front rim or tire while the rear remains unsecured.

RIDER SAFETY

- Follow all instructions for correct operation and safe use. Failure to do so may result in safety hazards, personal injury or fatal accidents.
- Before every ride, ensure the wheelset is free from damage and functions normally.
- Understand the basic procedures for wheel installation, maintenance and related bicycle components before use.
- Do not exceed the maximum tire pressure, maximum system weight or intended-use limit of the wheel.
- Ensure compatibility with the bicycle, tire, axle, brake rotor and accessories.
- Do not modify the wheel. Wheel truing, spoke adjustment and hub service must be performed by a qualified technician.
- Inspect wheels for damage before every ride. Stop riding if any crack, delamination, loose/broken spoke, pressure loss, bearing play or unusual noise is found.

WARNING - TUBELESS TAPE

Worn or damaged tubeless tape may cause sudden pressure loss and a crash. Inspect tape at least every three months. Do not use the wheelset if tape shows damage or potential failure.

WARNING - HOT BRAKES

Brake rotors, callipers and nearby hardware can be hot after riding. Allow them to cool before touching or servicing the wheel.

2. Tire Compatibility

MINI-HOOK RIM SYSTEM AND APPROVED COMPONENTS

MINI-HOOK RIM SYSTEM COMPATIBILITY

All PHi wheelsets covered by this manual use a mini-hook rim profile. They are compatible with tubeless-ready tires and with clincher tires used with a compatible inner tube. Tubular tires are not compatible.

- Use only tires approved by their manufacturer for hooked / mini-hook rims and for the relevant ETRTO rim size.
- Use only rim tape, tubeless valves and inner tubes that match the specified wheel dimensions.
- Use smooth-edged reinforced nylon or composite tire levers only. Metal tire levers can damage the rim, tire, inner tube or tubeless tape.
- Use a Presta valve of the correct diameter and sufficient length. Do not modify the valve hole.

CAUTION - SEALANT

Use sealant without corrosive ingredients. Check the rim bed regularly for corrosion. Stop using the rim if corrosion is visible. Damage caused by unsuitable sealant is not covered by warranty.

WARNING - VEHICLE TRANSPORT

On a rear vehicle carrier, keep wheels clear of exhaust heat. Some vehicles require an exhaust extension or heat shield.

INTERFACE CHECKS

The wheelset, tire, inner tube (if used), tubeless tape, valve, brake rotor, frame/fork and axle must all be compatible. The product label and PHi technical specification for the exact model take precedence over general statements in this manual.

- If a tire cannot be mounted without excessive force, if a valve does not seat correctly, or if the rim/tape/tire combination cannot hold pressure, stop and consult a qualified bicycle mechanic.

COMPONENT PROTECTION

- Do not use high-pressure cleaners, aggressive cleaning agents, petroleum-based solvents or abrasive pads on the rim, hub, tape or graphics.
- Keep oil, grease, cleaner and sealant away from brake rotors and pads.
- Replace rim tape that is punctured, wrinkled, loose, bulged at spoke holes or has exposed carrier material.

3. Approved Pressure and Tire Size

MODEL-SPECIFIC TIRE RANGE AND MAXIMUM INFLATION PRESSURE

APPROVED TIRE RANGE

Use a tire within the size range and maximum inflation pressure listed for the exact PHi rim model. The rim label and current PHi technical specification take precedence if revised after this manual.

Series	Model	ETRTO	Tire	Max bar / psi
Master	D5008TLZ	622x23TC	28-40	6.8 / 100
Master	D6207TLZ	622x23TC	28-40	6.8 / 100
Elite	D4505TLZ	622x22TC	25-40	7.5 / 109
Elite	D6202TLZ	622x23TC	28-40	6.8 / 100
Elite	D3502TLZ	622x22TC	25-40	7.5 / 109
Core	D5030TLZ	622x23TC	28-40	6.8 / 100
Gravel	M5031TLZ	622x25TC	32-47	5.8 / 85
Gravel	M3231TLZ	622x25TC	32-47	5.8 / 85

PRESSURE RULE

Never exceed the lowest maximum among: (1) the PHi rim value in the table or on the rim label, (2) the tire manufacturer maximum, and (3) the inner-tube manufacturer maximum when a tube is used. Check pressure before every ride.

If the tire bead does not seat evenly before the applicable maximum pressure is reached, stop inflation, deflate the tire and have the assembly checked by a qualified mechanic.

SELECTING WORKING PRESSURE

Recommended working pressure depends on tire width, rider/system weight, road or trail surface, weather and riding style. It must always remain below the pressure rule above.

- For tubeless use, verify that the tire manufacturer approves the selected tire for a hooked / mini-hook rim. For inner-tube use, verify that the tube is specified for the selected tire size and valve length.

BEFORE EVERY RIDE

- Check tire pressure using an accurate bicycle pressure gauge.
- Confirm the tire control line is even around both sides of the rim.
- Confirm the valve exits the rim straight and there is no air leak.
- Check that the tire, rim and tape are free from visible damage.

4. Tire Installation

TUBELESS-READY AND INNER-TUBE PROCEDURES

PREPARATION

- Confirm that rim model, tire type and tire size are approved in Section 3.
- Inspect the rim bed, tire bead, tape and valve hole. Do not install a tire on a cracked, delaminated, dented or deeply scratched rim.
- Fit rim tape of the correct width so that it fully covers spoke holes without riding up the rim wall.

TUBELESS-READY INSTALLATION

- Install correctly sized tubeless tape and a tubeless Presta valve. Press the valve base against the rim bed and tighten the external nut by hand only; do not use pliers or a wrench.
- Mount the tubeless-ready tire according to tire manufacturer instructions. If permitted, use a small amount of soapy water or approved mounting fluid on the bead only.
- Inflate gradually to seat both beads. Do not exceed the pressure rule. Check the tire control line is even around both sides of the rim.
- Add sealant in the manufacturer-specified quantity. Refit the valve core finger-tight, rotate the wheel to distribute sealant and set final riding pressure.

INNER-TUBE INSTALLATION

- Use an inner tube compatible with the tire size and a Presta valve long enough for the rim depth.
- Lightly inflate the tube before installation. Ensure it is not trapped between the tire bead and rim at any point.
- Inflate slowly while checking both tire control lines. The valve must exit the rim straight.
- Set pressure within the pressure rule. Tighten any external valve retaining nut by hand only.

STOP INFLATION

If the bead is not evenly seated, the tire control line is irregular, or the pressure rises unexpectedly, stop inflation immediately and have the installation checked by a qualified mechanic.

FINAL CHECKS

- Spin the wheel and inspect for tire wobble or leak.
- Recheck pressure after the first ride and after any temperature change.
- For tubeless setups, inspect sealant and tape regularly; replace either if leakage or deterioration occurs.

5. Wheel and Rotor Installation

WHEEL SECURITY, BRAKE ROTOR AND INTENDED USE LIMITS

INSTALL THE WHEEL

- Confirm that the wheel, rotor interface, axle dimensions and cassette/freehub body are compatible with the exact PHi wheel model.
- Secure the wheel using the frame/fork and axle or quick-release manufacturer instructions. Before every ride, confirm both wheels are fully seated and locked.
- Spin the wheel to confirm the rotor enters the calliper correctly and does not rub excessively. Apply the brake firmly before riding.

INSTALL THE BRAKE ROTOR

The rotor interface is model-specific. Install the rotor, lockring/bolts and any approved adapter only according to the rotor and hub manufacturer instructions for tools and torque. Do not use a generic torque value where the exact interface is not confirmed.

USE LIMITS

- Maximum system weight is 130 kg, including rider, bicycle, luggage and accessories, unless a lower limit is marked on the wheel or product specification.
- PHi wheels are not intended for tandem bicycles.
- E-bike, trainer and roller compatibility is model-specific. Do not use unless the PHi product specification expressly permits it.
- Do not use outside the intended road or gravel category, including downhill, freeride, jumping or impacts beyond that category.

DISC-BRAKE SAFETY

New brake rotors and pads require bedding-in before full braking performance is achieved. Follow the brake manufacturer bedding-in procedure in a traffic-free area. Avoid prolonged brake dragging and allow brake components to cool between heavy braking events.

NOTICE

For disc-brake PHi wheels, braking performance is determined by the rotor, pads, calliper and setup - not by carbon rim braking surfaces.

6. Inspection, Care and Service

PRE-RIDE INSPECTION, SERVICE INTERVALS AND REPAIR RESPONSIBILITY

PRE-RIDE INSPECTION

- Confirm the wheel is correctly seated and the axle/quick-release is secure.
- Check tire pressure, tire condition, bead seating, valve alignment and visible air leaks.
- Inspect rim, spokes and hub for cracks, impact marks, looseness, corrosion or other damage.
- Spin each wheel. It must rotate freely without excessive lateral movement, bearing play or rubbing.
- Check the brake rotor and its retaining hardware for damage or looseness.

STOP RIDING

Immediately discontinue use if you find a crack, delamination, deep impact damage, loose/broken spoke, damaged tape causing pressure loss, wheel misalignment, bearing play, rotor damage or unusual noise.

SERVICE SCHEDULE

Interval	Action
Before each ride	Wheel/axle secure; tire pressure and seating; valve; rim, spokes, hub and rotor for damage.
After each ride	Clean with a soft cloth and suitable mild cleaner. No pressure washer or aggressive cleaner.
Every 3 months	Inspect tubeless tape; replace if material is exposed, tape wrinkles/bulges at spoke holes, or adhesion fails.
Every 3-12 months	Qualified mechanic: inspect tape, sealant, bearings, freehub, rotor interface, dish and spoke condition.
After crash / impact	Stop riding and have the wheel inspected before further use.

QUALIFIED SERVICE ONLY

Factory lateral and radial runout targets are within 0.2 mm. If you observe new runout, rubbing, spoke looseness or changed wheel behaviour, stop riding and consult a qualified bicycle mechanic or PHi dealer.

- PHi technical service data is model-specific. Do not use generic front/rear spoke-tension values to adjust a wheel. Drive-side / non-drive-side requirements and spoke specifications vary by model.

7. Storage, Warranty, and Support

TRANSPORT, LONG-TERM STORAGE, WARRANTY COVERAGE AND CLAIMS

TRANSPORT AND STORAGE

- Do not put carbon wheels under pressure or place objects on them. Cushion rims before fitting lashing straps or ratchet systems.
- When transporting wheels in a vehicle, shield them from direct sunlight. In high temperatures, check and reduce tire pressure before transport.
- For storage longer than one month: do not hang wheels from hooks that concentrate load on one point; reduce tire pressure; clean salt residue; inspect sealant and tape before returning to service.
- Dispose of carbon fibre, packaging, lubricants, cleaners, sealant and other fluids according to local environmental regulations.

WARRANTY COVERAGE

PHi Cycling provides the original purchaser with a 2-year limited warranty from the date of purchase against defects in materials and workmanship, subject to applicable country terms.

Online registration may qualify the purchaser for an extended 5-year courtesy warranty programme. Registration deadline, eligibility, scope, territory and procedure are subject to the official PHi policy in the country of purchase.

WARRANTY LIMITATIONS

- Normal wear and consumable components, including tires, inner tubes, tubeless tape, valves, sealant, brake pads and bearings.
- Damage caused by incompatible components, crash, impact, abuse, use outside the intended category or forces beyond the design limit.
- Products modified from original condition, or serviced/repaired with unauthorised parts or procedures.
- Damage caused by failure to follow this manual or applicable PHi technical instructions.
- Labour costs associated with parts replacement or exchange, unless required by applicable law.

SUPPORT AND CLAIMS

Warranty periods and details may vary by country. This warranty does not affect statutory consumer rights. Any limitation of liability applies only to the extent permitted by law.

Submit claims through an authorised PHi dealer or www.phicycling.com. For service, warranty and technical support contact www.phicycling.com or phi@phicycling.com. Provide product model, wheel serial number, proof of purchase, photographs and a description of the issue.