



Thank you for purchasing a Surface604

We welcome you to the exciting and revolutionary world of alternative transportation. Your high quality, power on demand Surface604 bicycle offers a new form of environmentally friendly transportation and recreation. Throughout this Manual you will find useful tips and important safety, performance and maintenance information to ensure that you enjoy all the features Surface604 bicycles have to offer for your riding enjoyment.

IMPORTANT: Please read this Manual before taking your first ride on your Surface604 bicycle. It is very important to familiarize yourself with the product to ensure you experience the bike's full performance potential, all the while ensuring your safety and riding pleasure. We also recommend that you keep the Manual on hand for future reference.

NOTE: It is important to understand that this is not a comprehensive use, repair or service Manual. Please contact your local Surface604 dealer for all service, repair and maintenance. Your local dealer will also be able to refer you to additional books, DVDs, websites or cycling clinics/classes available in your community to broaden your skills and knowledge in bicycle use, repair and maintenance.

ABOUT THIS MANUAL: The main purpose of producing this owner's Manual is to ensure your safety at all times while enjoying our product. Along with many others in the cycling community, we constantly strive to reduce possible risks associated with our products. We also recognize the importance of you, the rider, to clearly understand that with proper instruction of bicycle use and maintenance, the risk of cycling-related accidents can be reduced. It is within this context we created the following Manual and invite you to take responsibility to learn about how to reduce inherent risks while bicycling and enjoying



your Surface604 bicycle. We also wrote the Manual to ensure readability and ease in efficiently finding information. We strongly recommend that you read the entire Manual and look for the **WARNINGS** or **CAUTIONS** we have included throughout to alert you to potential risks of injury and/or damage.

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Like many forms of transportation and recreation, bicycling involves the potential risk of injury and/or damage. By choosing to cycle, you are assuming responsibility for these risks. In an attempt to reduce the risk, we believe you need to know and practice the rules of safe and responsible riding and of proper use and maintenance, which will help to reduce the risk of injury or damage. Consequently, you will find many “WARNINGS” and “CAUTIONS” throughout this Manual followed by discussions on the consequences in failing to inspect and maintain your bicycle and/or following safe cycling protocol. Again, we recommend you familiarize yourself with this information since we are highlighting it with your safety in mind.

It is impossible to anticipate or discuss all situations or conditions in this Manual, which may or may not lead to injury or damage while riding this bicycle. We have taken the utmost care and attention in manufacturing a safe and reliable product and in providing you with this informative Manual that will assist you in reducing risks associated while using your bicycle. However, there are risks that cannot be predicted or avoided, and consequently, are the sole responsibility of you, the rider. Our intention here is not to cast fear in riding a bicycle, but instead to recognize the potential dangers associated with traveling on two wheels and thereby ensuring a safe and enjoyable experience.

- The combination of the  alert symbol and the word **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in serious injury.
- The combination of the  alert symbol and the word **CAUTION** indicates a potentially hazardous situation which, if not avoided,

may result in minor or moderate injury, or is an alert against unsafe practices.

- The word **CAUTION** used without the safety alert symbol indicates a situation which, if not avoided, could result in serious damage to the bicycle or the voiding of your warranty.

1 BEFORE YOU RIDE

NOTE: STRONGLY RECOMMENDED, please read this Manual in its entirety. Here we explain the importance of fitting the bike, safety and general maintenance. Be sure you understand each point in this section before setting out on your first ride. Refer to specific sections of the Manual for detailed content to ensure you are prepared and ready for a safe and enjoyable ride.

BIKE FIT

- 1** The fit of your bicycle is extremely important. If the bicycle is too large or too small, this may pose a danger in causing you to lose control or fall. In addition, proper fit is essential for maximum performance and comfort. To determine the right size of bike that suits your body, go to Section THREE. Your dealer will also be able to assist you in finding the right size. When referring to size, bicycles are measured according to the frame size. This number signifies the size of the frame and the overall size of the bike.
- 2** With the right sized frame, you can now adjust accessories to maximize safety, comfort and performance. Start with determining whether your seat height is set correctly. To check this and/or make adjustments, go to THREE.
- 3** Now check to ensure the saddle is securely fastened to the post (see Section THREE) and the post clamp is secured (see Section FOUR). A securely fastened saddle does not move in any direction and a secure post clamp prevents the post from sliding up or down.
- 4** Check to see if the handlebars and stem are set at the right height for you and are secure.
- 5** Now check the brakes. Squeeze the brake levers. Can you operate them with ease? Do you see the front brake pads grasping the disc when you squeeze the brake levers? It is also a good idea to lift

your bicycle, spin each wheel, grasp the brake and ensure proper function. If the brake does not function with ease, then have your local dealer/mechanic adjust them.

- 6** Lastly, ensure that you fully understand how to operate your new Surface604 bicycle (see Section FOUR). Your new bicycle offers features unlike regular pedal operated bicycles. Contact your local dealer to have any features or functions explained to you before your first ride.

SAFETY FIRST!

- 1** ALWAYS WEAR AN APPROVED HELMET WHEN RIDING YOUR SURFACE604 BICYCLE.
Please refer to your helmet manufacturer's instructions for proper fit, use and care of the helmet. Helmets are available from your dealer.
- 2** Check to see that you have all required and recommended safety equipment for your first and future rides. Also, be sure that you know all laws pertaining to cycling in your region. The laws may include where you can cycle, the use of hand signals or the need for mandatory equipment while cycling.
- 3** Next, are your wheels securely fastened to the frame/forks? Wheels that are not safely secure can wobble and impede the bicycle performance or worse, dislodge while riding and cause injury. For your Surface604 bicycle, the front wheel has a quick release mounting mechanism and the rear wheel has a bolted mounted device. See Section FOUR for an explanation on how to properly secure both types of mounting devices.
- 4** Now look at your pedals. Check to see that they are securely fastened and the pedals spin freely.

5 Your Surface604 bicycle comes equipped with a suspension fork (except BOAR) and a suspension seat post is optional. It is very important that you understand how the suspension works, because it will influence the performance and handling of the bicycle. Either consult your local dealer to explain or read Section FOUR.


6 Check to see if you have “toe-overlap” – this can occur with smaller sized frames when your toe(s) make contact with the front wheel when the wheel is turned and the pedal is in a forward position. This can cause injury or harm to you and/or your bicycle. If you are rubbing the front wheel (or any other part of the bicycle while pedaling) see Section FOUR or contact your local dealer before you ride.


7 Check to see that the lighting system is operating at peak performance. To activate the lights, press the Mode button for three seconds and check the rear and front fixture for strong light output. It may be helpful to roll your bike up to a wall and turn the light on to see the output level and angle of the light. Please refer to the lighting system manufacturer’s Manual for more information about light output and adjusting the fixture angles for peak performance.

8 Check to see that the battery is fully charged and operating properly. Look for a full battery charge level on the command console. If this is not the case, refer to Section FIVE on charging your battery. Always make sure your battery container is well fastened to the frame and locked.

MECHANICAL SAFETY CHECK

Always do a complete check of the condition of your bike before every ride. We also recommend regular maintenance of your bicycle to prolong the life of the components and maximize safety.

 **Nuts, Bolts and Straps:** Ensure all are secure. An easy way to test for this is to lift the front wheel off the ground by two or three inches and then drop the wheel. Listen, watch and feel for anything loose. Do the same for the rear wheel. Next, do a quick visual and tactile inspection of the entire bicycle. If you find something loose, tighten it before your ride. This is a good habit to develop before each ride. Lastly, if you do discover something you are not sure about, please consult your local dealer to ensure all is safe.

 **Tires and Wheels:** Make sure your tires have the correct amount of air pressure. Tires with too little or too much air pressure can impede performance and be unsafe while riding your bike. To ensure your tires are at the necessary air pressure (or psi), there are two steps you can follow. First, if you have a tire gauge, apply it to the tire valve and check the psi. Much like a tire on a car, the recommended psi is stamped on the sidewall of the bicycle tire. When you are sure the tire is set to the correct psi, squeeze the tire to familiarize yourself with how the tire should feel to your hand. With your tires ready to roll, slowly spin each wheel and watch for any cuts in the tread and sidewall, or road debris lodged in the tire such as wood, glass or nails. Remove any debris and **ALWAYS** replace any tires with cuts or visual damage before you ride. Lastly, check to ensure your wheel (or rim) spins straight or “true” – this means that when you spin the wheel, it does not wobble side to side or rub against your brake pads. If you find your wheel wobbles side to side or rubs against the brake pad even slightly, take your bicycle to your local bicycle mechanic to have the wheel trued.

⚠ CAUTION: For your brakes to work effectively, the wheel (or rim) must be “true.” Do not attempt to true a wheel unless you have the knowledge, tools and experience. Truing the wheel is better left to your local bicycle mechanic to ensure your wheel performs properly and safely.

✓ **Brakes:** Check to see the brakes are working correctly (see Section 4.3). Squeeze the brake levers for both front and rear brakes and look to see if the front wheel quick-release lever is closed, all control cables are seated and securely engaged, and that the brake discs are intact. Also, check that the brake levers, when fully squeezed, do not touch the handle-bar. If you find a problem, **DO NOT RIDE THE BICYCLE** and take the bicycle to your local dealer for service.

✓ **Quick Release:** Check to see the front wheel and seat post quick-release mounts are properly adjusted and securely fastened. (see Sections **THREE** and **FOUR**, respectively)

✓ **Handlebar and Saddle Adjustment:** Check to see the handlebar stem and suspension seat post are properly aligned and securely fastened. Make sure the handlebar stem and suspension seat post are parallel with the bicycle’s “center line” (imagine a straight line that runs from the rear tire to the front tire). Also, ensure the stem and post are clamped securely so that neither can be twisted or moved.

✓ **Handlebar Ends:** Check to see the handlebar grips are secure and in good condition.

✓ **Battery Container:** Ensure the battery container is locked in place and connected; check by depressing the mode button on the command console to confirm digital control activation.

⚠ WARNING: Loose or damaged handlebar grips can cause you to lose control of the bicycle and fall. Unplugged handlebar ends can cut your body (handlebar ends are often cut when the bicycle is assembled and may not be filed to remove sharp edges or spurs) and can cause serious injury in an otherwise minor accident.

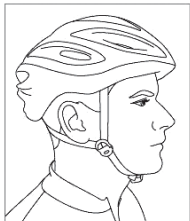
✓ **Bicycle Suspension:** For your seat post suspension, check the rail clamp plate screw for proper torque and that the seat post quick-release is properly tightened (see Section **FOUR** for more details). For the front suspension fork, ensure that it is set correctly for the terrain you have chosen for your ride.

⚠ WARNING: Failure to confirm compatibility or to properly install and maintain any component or accessory can result in serious injury or damage to your bicycle.

⚠ WARNING: Changing components or accessories on your bicycle may void the warranty. Please refer to your warranty and check with your local dealer before making any changes to your bicycle.

2 SAFETY

THE BASICS



- 1** Always wear a bicycling helmet that meets the latest certification standards and follow the helmet manufacturer's instructions for proper fit, use and care of your helmet. Most serious bicycle injuries involve head injuries, which may have been avoided if the rider had worn a helmet.

! WARNING: Failure to wear your helmet when riding a bicycle may result in serious injury.

- 2** Always do the Mechanical Safety Check before you get on your bike (Section ONE).
- 3** Be competent in operating the controls on your bicycle: brakes (Section FOUR); pedals (Section FOUR), shifting (Section FOUR) and power assist drive system (Section FOUR).
- 4** Be careful to keep body parts, clothing and other objects clear from the sharp teeth of the chainrings, the moving chain, the turning pedals and cranks, and the spinning wheels of your bicycle.
- 5** Always wear:
 - Shoes that fit your feet properly and grip the pedal securely. Do not ride your bicycle barefoot or with loose fitting shoes such as sandals.
 - Appropriate cycling clothing that is bright, visible and fit snugly to your body. Loose clothing can tangle in your drivetrain or wheel or be snagged by objects at the side of the road or trail.

- Protective eyewear to protect against airborne dirt, dust and bugs.

- 6** Do not jump with your Surface604 bike. Jumping a bike can be fun, but it puts you and your bike at risk of serious harm. Jumping causes stress on everything from the spokes to your pedals, and if you lose control, you can cause serious injury. If you insist on jumping your bicycle, understand that you are doing this at your own risk.

- 7** Ride your bicycle at a speed that is appropriate for the conditions in which you are riding.

RIDING SAFETY

- 1** Observe all local bicycle laws and regulations. Pertinent laws include, but are not limited to, helmet laws, child carrier laws and special bicycle traffic laws. Important regulations include, but are not limited to, licensing of bicycles, riding on sidewalks, and regulations concerning bike path and trail use. It is your responsibility to learn and obey all laws and all regulations that pertain to cycling in your area.

- 2** Always respect the rights of other road or path users such as motorists, pedestrians and other cyclists.

- 3** Ride defensively. Always assume that others do not see you. Never underestimate the unpredictability and risks associated with road riding.

CHANGING COMPONENTS OR ADDING ACCESSORIES

There are a range of components and accessories available on the market to enhance the comfort, performance and appearance of your Surface604 bicycle. Please know that if you choose to change components or add accessories on your bicycle, you are doing so at your own risk. We are unable to test that all components or accessories available on the market are compatible, reliable or safe on your Surface604 bicycle. Before installing any component or accessory, please consult your local dealer to ensure that it is compatible with your bike.

3 FIT

NOTE: Correct fit and properly adjusted components are essential for maximum performance, safety and comfort while riding your Surface604 bicycle. Your dealer can assist in ensuring you have the right sized frame.

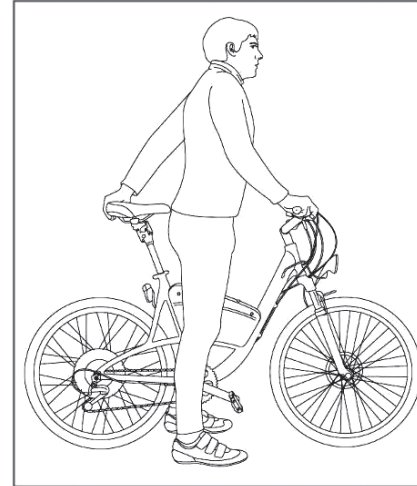
Making adjustments to your bicycle to ensure the correct fit for your body and riding conditions requires appropriate skills, special tools and experience. Always have your dealer make the adjustments on your bicycle. If you have the necessary skills, tools and experience and prefer to make the adjustments yourself, have your dealer check your work before riding. to specific sections of the Manual for detailed content to ensure you are prepared and ready for a safe and enjoyable ride.

Ensure you have a Surface604 bicycle that 'fits' you properly. This means that the frame is the right size and the components & parts are adjusted to your preference. A bike that is too big, too small and/or not set up properly is harder to control and can make for an uncomfortable ride.

STANDOVER HEIGHT

Standover height is the basic element of the bike fit. For most bikes, it is the distance from the ground to the top of the bicycle's frame at that point where your crotch would be if you were straddling the bike and standing half way between the saddle and the handlebars. However, your Surface604 frame does not have a top tube. Instead, you can follow the same protocol as with other bikes but use the top of the battery container as your guide.

⚠ WARNING: If your bicycle does not fit properly you may lose control and fall.



Therefore, to check for correct standover height, straddle the bike while wearing the kind of shoes in which you'll be riding and bounce vigorously on your heels. If your crotch touches the top of the battery container, the frame is too big for you.

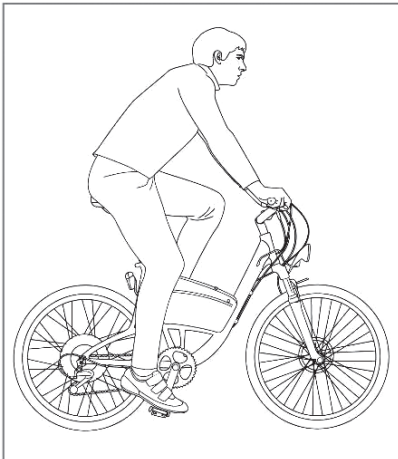
A bike which you ride on paved surfaces and never take off-road should give you a minimum standover height clearance of 7 centimeters (2.8 inches). A bike that you'll ride on unpaved surfaces should give you a minimum of 10 Centimeters (4 inches) of standover clearance.

NOTE: If in doubt, have your dealer assist you in finding the ideal frame for your size and riding style.

SURFACE604 FRAME FIT

As your Surface604 bicycle does not have a top tube you may also use the seat tube measurement to determine proper fit. The seat tube length designation is measured as the length from the middle of the bottom bracket to the top of the seat tube. For example, if you rode a 19" bicycle in the past, you may also consider a 19" Surface604 frame.

NOTE: Have your dealer assist you in finding the ideal frame for your size, riding style and experience



SADDLE POSITION

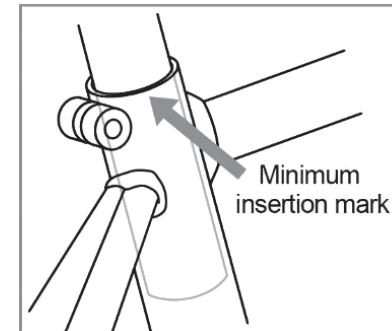
It is very important that your saddle position is set according to your personal preference to ensure maximum performance and comfort while riding your bike. If you find that the saddle is not comfortable, ask your dealer to assist you in making any adjustments. He/she will have the necessary tools and skills required for the adjustment. The saddle can be adjusted in three directions:

2 Up and down adjustments. Check correct saddle height:

- Sit on the saddle;
- Place one heel on a pedal;
- Rotate the crank until the pedal with your heel on it is in the down position and the crank arm is parallel to the seat tube.

Evaluation:

If your leg is not completely straight (but not locked) and just touching the center of the pedal, your saddle needs to be adjusted. If your hips have to rock for the heel to reach the pedal, the saddle is too high. If your knees are obviously bent with your heel on the pedal, your saddle is too low. There will be a line or marking on the seat post indicating the point at which you cannot extend the post before it is unsafe.



⚠ WARNING: A mounted seat post that exceeds the allowable Minimum Insertion or Maximum Extension mark can cause injury and/or for you to lose control of your bike and/or damage your bicycle.

SADDLE ADJUSTMENTS

Front and back adjustments. The saddle can be adjusted forward or back to ensure you get optimal position for performance and comfort. Ask your dealer to set the saddle for your optimal riding position and to show you how to make any adjustments.

Saddle angle adjustments. The saddle angle can be adjusted either up or down. Most riders prefer a horizontal saddle, but some also like the saddle angle adjusted slightly up or down. Your dealer can make any adjustments for you and/or teach you to do it yourself. If you do make adjustments, remember that small changes to the saddle angle can have a substantial effect on the bicycle's performance and your comfort. Therefore, make small adjustments to the saddle for one direction at a time. Go for a test ride to find optimal position.

! WARNING: Be sure to double check that you have securely tightened the saddle adjusting mechanism after each adjustment before riding. A loose saddle clamp can cause damage to your bicycle and/or cause you to lose control of the bicycle and fall. When the saddle is securely tightened, there is no saddle movement in any direction. It is a good habit to periodically check the saddle for movement before riding the bicycle. This is done easily and quickly by grabbing the saddle and trying to move it in different directions.

HANDLEBAR HEIGHT AND ANGLE

Your Surface604 bicycle comes equipped with an adjustable stem. We recommend that you contact your local dealer for assistance in making any adjustments to the stem. Your Surface604 dealer can help you with any adjustments to the handlebar height and angle.

! WARNING: The stem's Minimum Insertion Mark must not be visible above the top of the headset. If you see that the Minimum Insertion Mark is visible, have your local dealer make the necessary adjustments. A stem that exceeds the Minimum Insertion Mark may break or damage the fork's steering tube, which can cause you to lose control and fall.

! WARNING: If the stem binder bolt, handlebar binder bolt or bar and extension clamping bolt are not securely tightened, you could lose control of your bicycle and fall and/or damage your bicycle. To quickly check to ensure bolts are secure, place the front wheel between your legs and attempt to twist the handlebar/assembly. If you can twist the stem in relation to the front wheel, turn the handlebars in relation to the stem, or turn the bar and extensions in relation to the handlebar, the bolts are not fastened properly. Either fasten them yourself or see your dealer for help. Do not ride your bicycle until you are sure all bolts are securely fastened.

BRAKE REACH

The brake levers can be adjusted for optimal reach; however, we do not recommend that you attempt to adjust them yourself because your hydraulic disc braking system is fluid filled. If you have small hands or find it difficult to squeeze your brake levers, ask your local dealer to assist you in making an adjustment or replace the levers with ones that suit your needs or preferences.

! WARNING: The shorter the brake lever reach, the more critical it is to have correctly adjusted brakes, so that full braking power can be applied within available brake lever travel. Insufficient brake lever travel can result in serious injury.

4 TECHNICAL INFO

Understanding how your Surface604 bicycle works will contribute greatly to your safety, performance and overall riding enjoyment. We strongly recommend that you become knowledgeable of the basic technical information as explained in the following pages and if required, contact your local dealer for clarification.

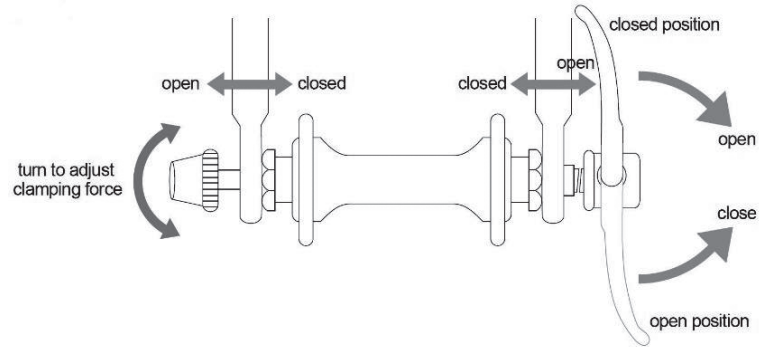
WHEELS

FRONT WHEEL QUICK RELEASE

⚠ WARNING: Riding with an improperly mounted or adjusted wheel quick release can cause the wheel to wobble or disengage from the fork, causing injury or to the rider. Therefore, it is essential that you:

- Ask your dealer to help ensure that you know how to remove and install the wheel properly.
- Understand and apply the correct technique for mounting your wheel with the quick release device.
- Check to see that the wheel is correctly mounted before every ride.

The wheel quick release uses a cam action to clamp the bike's wheel in place. Because of its adjustable nature, it is critical that you understand how it works, how to use it properly, and how much force you need to apply to secure the wheel.



⚠ WARNING: Holding the nut with one hand and turning the lever like a wing nut with the other hand until everything is as tight as you can get it will not clamp the wheel safely in the dropouts. Full force of the cam action is needed to clamp the wheel securely. [ery ride.](#)

ADJUSTING THE QUICK RELEASE MECHANISM

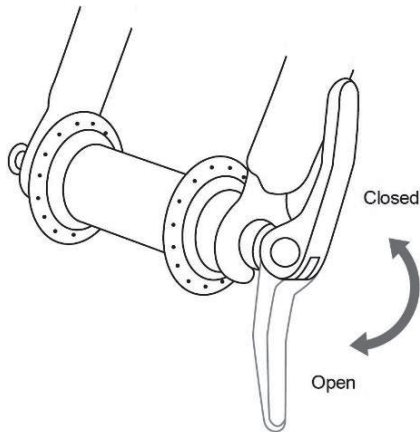
The wheel hub is clamped in place by the force of the quick release cam pushing against one dropout and pulling the tension-adjusting nut, by way of the skewer, against the other dropout. The tension-adjusting nut controls the amount of clamping force. Turning the tension-adjusting nut clockwise while keeping the cam lever from rotating increases clamping force; turning it counterclockwise while keeping the cam lever from rotating reduces clamping force. Less than half a turn of the tension-adjusting nut can make the difference between safe clamping force and unsafe clamping force.

FRONT WHEEL SECONDARY RETENTION DEVICES

Your Surface604 bicycle has a secondary wheel retention device to keep the wheel from disengaging from the front forks, if the quick release is incorrectly mounted. However, the secondary mounting device is not a substitute for correct quick release adjustments.

For more information, contact your Surface604 dealer.

⚠ WARNING: Removing or disabling the retention device is extremely dangerous and may lead to serious injury or death. It may also void the warranty.



REMOVING AND INSTALLING A QUICK RELEASE FRONT WHEEL

REMOVING THE QUICK RELEASE WHEEL

- Move the wheel's quick release lever from the locked or CLOSED position to the OPEN position.
- To disengage the secondary quick release, loosen the tension-adjusting nut enough to allow removing the wheel.
- Now raise the front wheel a few inches off the ground and bang the top of the wheel with the palm of your hand to knock the wheel out of the front fork.

INSTALLING A QUICK RELEASE FRONT WHEEL

⚠ CAUTION: Your Surface604 bicycle is equipped with disc brakes. Be very careful not to damage the disc, caliper or brake pads when re-inserting the disc into the caliper. Never activate a disc brakes control lever unless the disc is correctly inserted in the caliper.

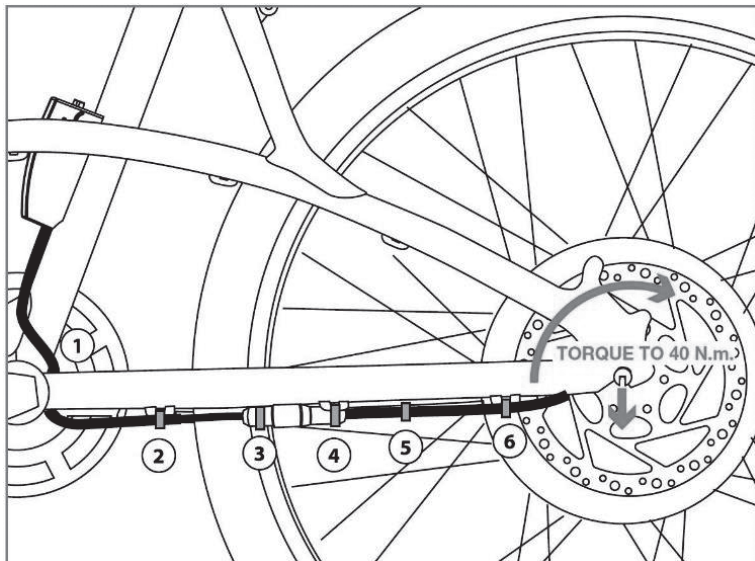
- Move the quick release lever, so that it curves away from the wheel. This is the OPEN position.
- With the steering fork facing forward, insert the wheel between the fork blades so that the axle seats firmly at the tip of the slots, which are at the tips of the fork blades – the fork dropouts. The quick release lever should be on the left side of the bicycle.
- Holding the quick release lever in the OPEN position with your right hand, tighten the tension adjusting nut with your left hand until finger tight against the fork dropout.
- While pushing the wheel firmly to the top of the slots in the fork dropouts, and at the same time centering the wheel rim in the fork, move the quick release lever upwards and swing it into the CLOSED position. The lever should now be parallel to the fork blade and curved toward the wheel.

⚠ CAUTION: Securely clamping the wheel takes considerable force. If you can fully close the quick release without wrapping your fingers around the fork blade for leverage, and the lever does not leave a clear imprint in the palm of your hand, the tension is insufficient. Open the lever, turn the tension-adjusting nut clockwise a quarter turn, then try again. If the lever cannot be pushed all the way to a position parallel to the fork blade, return the lever to the OPEN position; then turn the tension-adjusting nut counter-clockwise one-quarter turn and try tightening the lever again.

- Re-engage the brake quick release mechanism to restore correct brake pad to disc clearance; spin the wheel to make sure that it is centered in the frame and clears the disc, then squeeze the brake lever and make sure that the brakes are operating correctly.

REMOVING AND INSTALLING BOLT-ON REAR WHEEL

- ✓ **TO INSTALL** - Shift the rear derailleur to its outermost position and pull the derailleur back with your right hand.
- ✓ Put the chain on the smallest sprocket. Then, insert the wheel into the frame dropouts and pull it all the way in to the dropouts. The axle nut washers should be on the outside, between the frame and the axle nut.
- ✓ Make sure that the axle groove is pointing directly toward the floor (6 o'clock).
- ✓ Using the correct size wrench (15mm), tighten the axle nuts as tightly as you can. Torque to 40 N.m. (30 ft/lbs)
- ✓ Push the rear derailleur back into position.
- ✓ Re-engage the brake quick release mechanism to restore correct brake pad to disc clearance; spin the wheel to make sure it is center in the frame and clears the brake pads; then squeeze the brake lever and make sure that the brakes are operating correctly.
- ✓ Reconnect the electric motor cables and fasten with zap- straps in the required locations.



⚠ WARNING: The motor acts as a rear hub and should not be adjusted once the rear wheel is properly mounted.

REMOVING AND INSTALLING BOLT-ON REAR WHEEL

- ✓ **TO REMOVE** - Disconnect the electric motor cables and zap- straps (located on the bottom left hand chain stay).
- ✓ Shift the rear derailleur to high gear (the smallest rear sprocket) and pull the derailleur body back with your right hand.
- ✓ Using the correct size wrench, loosen the two axle nuts.
- ✓ Lift the rear wheel off the ground a few inches and, with the derailleur still pulled back, push the wheel forward and down until it comes out of the rear dropouts.

SEATPOST QUICK RELEASE

The seat post quick release clamp works exactly like the front wheel quick release. While a quick release looks like a long bolt with a lever on one end and a nut on the other, the quick release uses a cam action to firmly clamp the seat post.

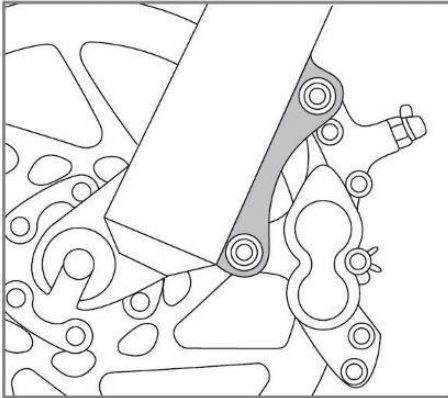
⚠ WARNING: Riding with an improperly tightened seat post can allow the seat to turn or move and cause you to lose control and fall.

The quick release cam squeezes the seat collar around the seat post to hold the seat post securely in place. The tension- adjusting nut controls the amount of clamping force. Turning the tension-adjusting nut clockwise while keeping the cam lever from rotating increases the clamping force; turning it counterclockwise while keeping the cam lever from rotating reduces clamping force. Less than half a turn of the tension-adjusting nut can make the difference between safe and unsafe clamping force.

⚠ CAUTION: Your Surface604 bicycle is equipped with disc brakes. Be very careful not to damage the disc, caliper or brake pads when re-inserting the disc into the caliper. Never activate a disc brakes control lever unless the disc is correctly inserted in the caliper.

BRAKES

Your Surface604 comes equipped with a front and rear hydraulic disc brake system. Braking systems today are very effective in providing responsive braking power.



- Applying brakes too hard or too suddenly can lock up a wheel, which can cause you to lose control and fall. Sudden or excessive application of the front brake may pitch the rider over the handlebars, which may result in serious injury.
- Your hydraulic disc braking system, when properly set up and maintained, is extremely powerful. Take extra care in becoming familiar with these brakes and exercise particular care when using them.
- Always apply your rear brake (RH lever) first.
- Disc brakes can get extremely hot with extended use. Be careful not to touch a disc brake until it has had time to cool.
- It is very important for your safety that you learn how the brake system works and which brake levers engage the front and back brakes on your bike.

! WARNING: Riding with an improperly adjusted brakes or worn brake pads is dangerous and can result in serious injury. Check to ensure your brakes are working properly before every ride.

The braking action on your bicycle is a function of the friction between the brake surface – the disc – and the brake pad. To ensure you have maximum friction available, keep the disc and caliper clean and free of lubricants, waxes or polishes.

Make sure the brake levers are positioned correctly by testing to see that your hands can reach and squeeze the brake levers comfortably. The lever reach can be adjusted to suit your hand.

When you apply one or both brakes, the bike begins to slow, but your body wants to continue at the speed at which it was going. This causes a transfer of weight to the front wheel (or, under heavy braking, around the front wheel hub, which could send you flying over the handlebars). A wheel with more weight on it will accept greater brake pressure before lockup; a wheel with less weight will lock up with less brake pressure. So, as you apply brakes and your weight is transferred forward, you need to shift your body toward the rear of the bike, to transfer weight back on to the rear wheel and at the same time, you need to both decrease rear braking and increase front braking force.

This is even more important on descents, because descents shift weight forward. Two keys to effective speed control and safe stopping are controlling wheel lockup and weight transfer. This weight transfer is even more pronounced with having a front suspension fork on your Surface604 bicycle.

Front suspension “dips” or “travels” under braking, increasing the weight transfer. Everything changes when you ride on loose surfaces or in wet weather. Tire adhesion is reduced, so the wheels have less cornering and braking traction and can lock up with less brake force. Moisture or dirt on the brake discs reduces their ability to grip. To maintain control on loose or wet surfaces it is wise to go more slowly.

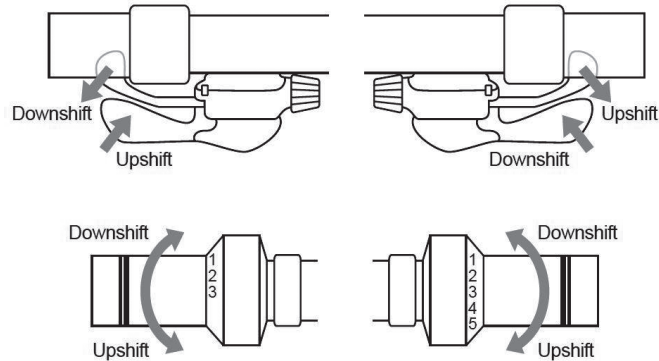
! WARNING: The motor in the rear wheel also becomes a generator when using the rear brake. Please note that the generative mode does not replace the existing brakes, but increases considerably the braking quality and will help you slow down when needed. It activates as soon as the rear brake lever is activated.

SHIFTING GEARS

Your bicycle has a combination of a derailleur drive train and a variable power assist drive system.

The gear-changing mechanism on your Surface604 bicycle includes:

- Shifters on the handlebar
- Rear derailleur
- Rear freewheel sprocket cluster
- One chain ring
- Drivetrain



Surface604 bicycles come equipped with lever style shifters. A downshift is a shift to a “slower” gear, one which is easier to pedal. An up shift is a shift to a “faster”, harder to pedal gear.

For example, you can select a gear which will make pedaling easier on a hill (make a downshift) in one of two ways: shift the chain down the gear “steps” to a smaller gear at the front, or up the gear “steps” to a larger gear at the rear. So, at the rear gear cluster, what is called a downshift actually looks like an up shift. The way to keep things straight in your head is to remember that shifting the chain in towards the center line of the bike is for accelerating and climbing and is called downshifting. Moving the chain out or away from the bike’s centerline is for speed and is called up shifting.

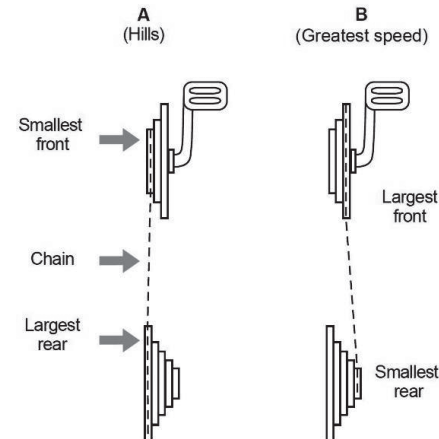
⚠ CAUTION: Never move the shifter while pedaling backward, nor pedal backwards after having moved the shifter. This could jam the chain and cause serious damage to the bicycle.

SHIFTING THE REAR DERAILLEUR

The rear derailleur is controlled by the right lever on the handlebar. The function of the rear derailleur is to move the drive chain from one gear sprocket to another. The smaller sprockets on the gear cluster produce higher gear ratios. Pedaling in the higher gears requires greater pedaling effort, but takes you a greater distance with each revolution of the pedal cranks. The larger sprockets produce lower gear ratios. Using them requires less pedaling effort, but takes you a shorter distance with each pedal crank revolution. Moving the chain from a smaller sprocket of the gear cluster to a larger sprocket results in what we are calling a downshift. Moving the chain to a larger sprocket results in an up shift. In order for the derailleur to move the chain from one sprocket to another, the rider must be pedaling forward.

SHIFTING THE FRONT DERAILLEUR

Shifting the chain onto a smaller chain ring makes pedaling easier (a downshift). Shifting to a larger chain ring makes pedaling harder (an up shift).



GREAR COMBINATION

The combination of largest rear and smallest front gears is for the steepest hills. The smallest rear and largest front combination is for the greatest speed. It is not necessary to shift gears in sequence. Instead, find the “starting gear” which is right for your level of ability – a gear which is hard enough for quick acceleration but easy enough to let you start from a stop without wobbling – and experiment with up shifting and downshifting to get a feel for the different gear combinations. If you have difficulties with shifting the problem could be mechanical adjustment. See your dealer for assistance.

PEDALS

Your Surface604 bicycle comes equipped with standard pedals. Be sure to check that when you are properly fitted and positioned on the bicycle you do not have ‘toe overlap’. Toe Overlap is when your toe can touch the front wheel when you turn the handlebars to steer, while a pedal is in the forward-most position. This is common on smaller framed bicycles, and is avoided by keeping the inside pedal up and the outside pedal down when turning.

⚠ WARNING: Toe Overlap could cause you to lose control and fall. If you have toe overlap, exercise extra care when turning.

BICYCLE SUSPENSION

Your Surface604 bicycle is equipped with a suspension system. Be sure to read and follow the suspension manufacturer’s set up and service instructions.

⚠ WARNING: Changing suspension adjustment can change the handling and braking characteristics of your bicycle. Never change suspension adjustment unless you are thoroughly familiar with the suspension system manufacturer’s instructions. Always check for changes in the handling and braking of the bicycle after a suspension adjustment.

SET UP NOTES FOR FRONT SUSPENSION

Your Surface604 bicycle is equipped with a front suspension system (except BOAR).

With front suspension, increased speed may also increase your risk of injury. When braking, the front of your bicycle will dip and may cause you to lose control and fall. Learn to handle your suspension system safely.

Suspension can increase control and comfort by allowing the wheels to better follow the terrain. This enhanced capability may allow you to ride faster, but you must not confuse the enhanced performance of the bicycle with your own capabilities as a rider. Proceed carefully until you have learned to handle the full potential of your bike.

SET UP NOTES FOR SEAT POST SUSPENSION

Seat post suspension can be purchased from Surface604, it can be tuned to your particular weight, riding style and terrain on which you ride - by adjusting the preload. The preload can be adjusted for riders from 144 to 220.5 lb. (65 to 100kg).

Before you make any adjustments, take a ride and feel the function of the seat post. If you feel too much “SAG” (the saddle moves down and back when you mount the saddle), you have to increase the preload of the seat post, in order to compensate the “SAG”.

A certain amount of “SAG” - between 0 - 10mm (4 inches) is allowed, but it depends on your weight and the terrain on which you are riding. Changing the preload alters the “SAG” and the firmness of the initial seat post movement. In order to increase the preload, you have to turn the adjuster plug at the bottom of seat post in a clockwise direction using a 6mm Allen key.

Do not turn the adjuster plug counterclockwise beyond the initial position at delivery, as this could result in failure of the preload adjuster plug and can strip the threads.

In this basic position, around 10mm (.4 inches) of the seat post thread should be visible.

⚠ WARNING: Failure to maintain, check and properly adjust the suspension system may result in suspension malfunction, which may cause you to lose control and fall.

TIRES AND TUBES

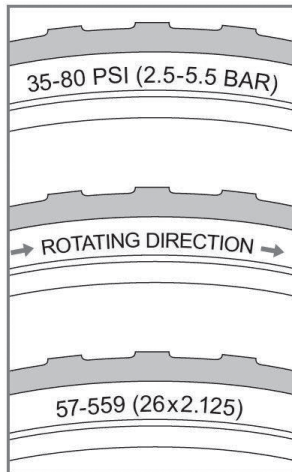
Bicycle tires are available in many designs and specifications, ranging from general purpose designs to tires designed to perform best under very specific weather or terrain conditions. If, once you have gained experience with your new Surface604 bike, you feel that a different tire might better suit your riding needs, your dealer can help you select the most appropriate design.

Changing to a tire which is a larger or smaller width will alter the handling characteristics of your bicycle and in some cases may make it unsafe to ride. With your dealer's help, be sure to select an inner tube that correctly corresponds with the size of the new tire.

In some cases, particularly when you select a larger diameter tire, you may find that the clearance between the tire and the bicycle frame is reduced. This may cause damage to other parts of the bicycle, in particular, the frame. Furthermore, this is potentially dangerous and may cause injury. It may also void your warranty.

The size, pressure rating, and on some high- performance tires, the specific recommended use, are marked on the sidewall of the tire. It is important to know the tire pressure for the tire you are using.

The best and safest way to inflate a bicycle tire to the correct pressure is with a bicycle pump, which has a built-in pressure gauge.



! WARNING: Never inflate a tire beyond maximum pressure marked on the tire's sidewall. Exceeding the recommended maximum pressure may blow the tire off the rim, which could cause damage to the bike and injury to the rider and bystanders.

! WARNING: There is a safety risk in using gas station air hoses or other air compressors. They are not made for bicycle tires. They move a large volume of air very rapidly and can quickly raise the pressure in your tire, which can cause the tube to explode.

Tire pressure is given either as maximum pressure or as a pressure range. How a tire performs under different terrain or weather conditions depends largely on tire pressure. Inflating the tire slightly near its maximum recommended pressure gives the lowest rolling resistance, but also produces the bumpiest or most sensitive ride depending on the type of terrain you ride.

Tire pressure that is too low for your weight and the riding conditions can cause a puncture of the tube by allowing the tire to deform enough to pinch the inner tube between the rim and the riding surface.

High pressures work best on smooth, dry pavement. Very low pressures, at the bottom of the recommended pressure range, give the best performance on smooth, slick terrain such as hard- packed clay, and on deep, loose surfaces such as deep, dry sand.

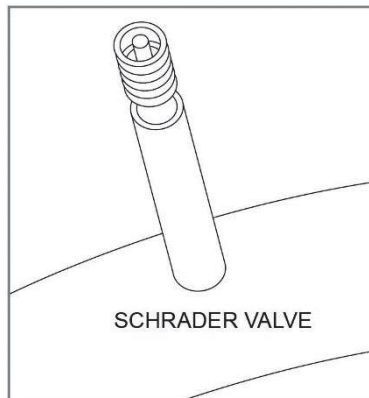
Ask your dealer to recommend the best tire pressure for the kind of riding you will most often do and have the dealer inflate your tires to that pressure. Some tires may need to be brought up to pressure every week or two.

! CAUTION: Pencil type automotive tire gauges can be inaccurate and should not be relied upon for consistent, accurate pressure readings. Instead, use a high-quality dial gauge obtained from your local bike dealer.

TIRE VALVES

Surface604 bicycles use Schrader tire valves:

The Schrader valve (see Fig 4.7b) is like the valve on a car tire. To inflate a Schrader valve tube, remove the valve cap and clamp the pump fitting onto the end of the valve stem. To let air out of a Schrader valve, depress the pin in the end of the valve stem with the end of a key or other appropriate object. The bicycle pump you use must have the fitting appropriate to the valve stem on the bicycle.



POWER ASSIST DRIVE SYSTEM

The power assist drive system, consisting of a motor, battery pack, and digital command console, is what makes your Surface604 unique from other bicycles on the market. This intelligent energy management system allows you to travel long distances without exhausting yourself. It is therefore very important that you know how to operate the system with confidence and ease. Please refer to the supplementary User Manual for information about operating the Power-assist Drive System installed on your Surface604 E-Bike

5 SERVICE

If you want to learn more about proper maintenance and service on your bicycle, consider the following options:

! WARNING: Please note that bicycle technology is continuously changing to improve performance and use, but this has also made components mechanically more complex. It is therefore very important that you minimize the chance of an accident or potential injury by having any repair or maintenance, not discussed in this Manual, be performed by your local Surface604 bicycle dealer. In addition, your individual maintenance requirements will be determined by a number of factors from your riding style to your geographic location. Your dealer can assist you in identifying maintenance requirements for your specific riding needs.

! WARNING: Many bicycle service and repair tasks require specific knowledge, tools and skills. Do not attempt to perform any adjustment or service to your Surface604 bicycle that you are unfamiliar with or are ill equipped to perform properly. Improper adjustments or service can result in damage to your bicycle (and its components) or result in an accident while riding, which can damage your bicycle and/or cause you serious injury or death.

Regardless of the option you choose, we strongly recommend that you have your local dealer check to ensure the quality of your adjustment or service the first time you perform the work. This will ensure you have completed the work properly. This will likely mean that your dealer's mechanic will need to take the time to evaluate your work and result in modest charge for his/her time. This small investment in ensuring your adjustment or service is correct will contribute greatly in reducing the possibility of damage or harm to you or your bicycle, and will assist you in developing your skills in bicycle maintenance.

SERVICE INTERVALS

Regular maintenance and service will help ensure the bicycle operates at an optimal performance level, will help promote the life and dependency of your components and will reduce the risk of injury and/or death inherently associated with bicycling.

1 BREAK-IN PERIOD: Much like a new automobile, your bike needs time to break in before riding it for extended distances. It is very important to have your bicycle serviced soon after 10-15 hours of riding to have any adjustments made. Refer to your **Mechanical Safety Check** Section to help guide you through some things that may need readjustment. However, even if you feel you have completed all adjustments properly, we strongly recommend that you have your local dealer evaluate your bicycle at this time.

Dealers often recommend that you return the bicycle in 30 days for a checkup. Overall, if you think at any time there is something wrong with your bicycle, always visit your local dealer before riding the bicycle.

2 BEFORE EVERY RIDE: See the **Mechanical Safety Check** in Section.

3 AFTER EVERY LONG OR HARD RIDE: If the bike has been exposed to water or grit (or after at least every 150 kms, 95 miles or 5 hours), clean the bike and lightly oil the chain. This is important to prevent rust or avoidable wear on your components. Be sure to wipe off any excess oil or lubricant when finished. As for how much lubrication is appropriate and the frequency of application, consult your local dealer. Different climatic conditions will determine which type and frequency of lubricant is best suited for your riding environment. It is not recommended to use pressured water to wash your bicycle to avoid unwanted damage to components.

CHECK-LIST

- Squeeze both brake levers so that the brakes are fully engaged and rock the bicycle from front to back. Does everything feel solid? Are there any clunking or strange sounds when you rock the bike front to back? If there is a clunking sound, you may have a loose headset – have your dealer check it.
- Lift the front wheel and swing it from side to side to reenact steering when riding. Does it swing smoothly? If you feel any resistance, binding or roughness in the steering, your headset may be too tight – have your dealer check it.
- Grab one pedal and rock it toward and away from the centerline of the bike; then do the same with the other pedal. Anything feel loose? If so, have your dealer check it.
- Take a look at the front brake disc. Starting to look worn or not hitting the disc squarely? Time to have the dealer adjust or replace them.
- Carefully check the control cables and cable housings. Any rust? Kinks? Fraying? If so, have your dealer replace them.
- Squeeze each adjoining pair of spokes on either side of each wheel between your thumb and index finger. Do they all feel about the same? If any feel loose, have your dealer check the wheel for tension and trueness.
- Check the frame, particularly in the area around all tube joints, the handlebars, the stem, and the seat post for any deep scratches, cracks or discoloration. These are all signs of stress-caused fatigue and indicate that a part is at the end of its useful life and needs to be replaced.
- Check to make sure that all parts and accessories are still secure, and tighten any that require adjustment.
- Recharge battery after it has cooled to room temperature.

6 BATTERY

PRECAUTIONS

- If any liquid leaking from the battery gets into your eyes, immediately wash the affected area thoroughly with clean water such as tap water without rubbing your eyes, and seek medical advice immediately. If this is not done, the battery liquid may damage your eyes.
- Do not recharge the battery in places with high humidity or outdoors. Doing so may result in electric shock.
- Do not insert or remove the plug while it is wet.

If this is not observed, electric shocks may result. If there is water leaking out of the plug, dry it thoroughly before inserting it.

- If the battery does not become fully charged after 6 hours of charging, immediately unplug
- the battery from the outlet to stop charging, and contact the place of purchase. Not doing so may cause overheating, bursting, or ignition of the battery.
- Do not use the battery if it has any noticeable scratches or other external damage. Doing so
- may cause bursting, overheating or problems with operation.
- The operating temperature ranges for the battery are given below. Do not use the battery in temperatures outside these ranges. If the battery is used or stored in temperatures outside these ranges, fire, injury or problems with operation may occur.
- Temperature for discharge: -10 °C - 50 °C
- Temperature for charging: 0 °C - 40 °C

DANGER

- Do not deform, modify, disassemble or apply solder directly to the battery. Doing so may cause leakage, overheating, bursting, or ignition of the battery.
- Do not leave the battery near sources of heat such as heaters. Do not heat the battery or throw it into a fire. Doing so may cause bursting or ignition of the battery.
- Do not subject the battery to strong shocks or throw it. If this is not observed, overheating,
- Bursting, or fire may occur.
- Do not place the battery into fresh water or sea water, and do not allow the battery terminals to get wet. Doing so may cause overheating, bursting, or ignition of the battery.

Use the specified charger and observe the specified charging conditions when charging the battery. Not doing so may cause overheating, bursting, or ignition of the battery.

- Do not short-circuit the discharge port with a metal part, or else it may cause overheating,
- Bursting, or ignition of the battery
- Do not leave the battery in a place exposed to direct sunlight, inside a vehicle on a hot day, or other hot places. Doing so may result in battery leakage.
- If any leaked fluid gets on your skin or clothes, wash it off immediately with clean water.
- The leaked fluid may damage your skin.
- Store the battery in a safe place out of the reach of infants and pets

USE THE BATTERY PROPERLY

PRECAUTIONS

The battery can always be charged at any time no matter how much power is left. However, in the following cases, you should have the battery fully charged. Make sure to use the specified charger to charge the battery.

- The battery is usually not fully charged for the convenience of transport. Make sure the battery is fully charged before using the battery.
- If the battery is not intended for use in a long time, make sure the e-bike battery is charged before storage and is afterwards charged at least once every twelve months. Do not leave the battery completely discharged.
- Once you have begun to use the battery, please have it charged at least once every two weeks.
- Note: If the battery is completely discharged, charge it as soon as possible. If you do not charge the battery, it will be damaged.

CHARGE THE BATTERY

- When using the battery for the first time, check whether the battery has not run low due to transportation or storage.
- When the battery is not intended for use in a long time, charge the battery regularly to avoid excessive battery discharge.
- Please charge the battery as soon as possible before it runs out; over-discharge can cause permanent damage to the battery.
- No matter how much power is left, the battery can be charged at any time. However, the specified charger must be used to avoid overcharge of the battery.
- To maintain the proper use of the battery, do not subject the battery to heavy shocks or a heat source, or disfigure the battery or short circuit its terminals.

! WARNING: As with any mechanical device, your bicycle and its components are subject to wear and stress. Your bicycle is made up of a range of different materials and mechanisms which wear or fatigue from use at different rates and have different life cycles. If a component's life cycle is exceeded, the component can suddenly fail, causing serious injury or death to the rider. While the materials and workmanship of your bicycle or of individual components may be covered by a warranty for a specified period of time by the manufacturer, this is no guarantee that the product will last the term of the warranty. Product life is often related to the kind of riding you do and the treatment to which you submit your bicycle. The bicycle's warranty is not meant to suggest that the bicycle cannot be broken or will last forever. It only means that the bicycle is covered subject to the terms of the warranty.

ACCESSORIES

If you are looking to upgrade your battery or purchase an adjustable stem, suspension seat post, fenders, torque sensor, chain guard, headlight, replacement motor and others.

Your dealer offers many accessories that can increase your riding enjoyment. List of available dealers is on the Surface604.com.

Once you determine the correct bike fit, the comfort of the bicycle will depend on how the saddle fits to your body shape. Ask your dealer to assist you in making any adjustments.

Skin tight Lycra or loose fitting cycling shorts and jerseys are designed to reduce friction and chafing. Cycling shorts and jerseys are made from special lightweight materials for extra comfort and performance. A bicycle tool kit can help you make simple repairs or adjustments during your ride.

A water bottle is an essential accessory for any ride. It's important to replenish fluids before, during and after your ride.

If you have further questions:

contact us at support@Surface604.com or visit the at Surface604 WEBSITE <http://www.surface604.com>
