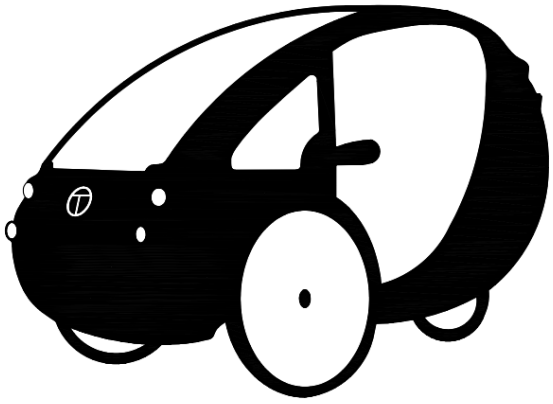
Rev. 010615-001

ORGANIC TRANSIT

ELF



Owner's Manual

We're glad to have you as a member of the Organic Transit family!

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Foreword

The ELF is built by Organic Transit, Inc. in Durham, North Carolina, USA. It is constructed with rugged, but ultra-light materials used in boats, aircraft, and bikes and should be ridden gently and with care to ensure a long and efficient life. This guide is constructed to help you get to know your ELF model smart-bike and enjoy it safely for years to come.

To meet other ELF owners and stay up to date with the latest in the ELF community, join the ELF owners Facebook page at https://www.facebook.com/groups/ot.elf.owners/

The Structure of This Manual

Before reading the manual, please understand the following:

This manual describes the vehicle equipment at the time of printing. Some equipment may not be available until a later date or may only be available in certain markets.

Because this is a general manual for the ELF, some of the equipment described in this manual may not be included in all variants of the vehicle. Figures and illustrations may be slightly different from your vehicle. Please use all figures and illustrations as a general guide for all configurations of the ELF.

On pages 1 and 2 you will find the ***Table of Contents*** listing all the topics found in this manual in the order in which they appear.

Directions and positions (left, right, front, and rear) will always refer to the orientation of the vehicle as seen from the rider's position.

⚠ WARNING

Any text with this symbol will indicate important information concerning safe operation of your vehicle and how to reduce the risk of personal injury.

ⓘ Note

This symbol will help to clarify some of the text in this manual as well as give more insight into the nature of the equipment installed in the ELF.

Safety

General Notes on Safe Driving

The ELF is an ultra-efficient transportation device unlike anything else you have ever ridden. It is essential that you take the time to get to know your ELF inside and out before attempting your first ride.

⚠ WARNING

Do not attempt to ride your ELF until you have read and understood all instructions and warnings in this manual. Operators must exercise good judgement and common sense to detect and avoid hazards and dangers.

⚠ WARNING

If you have health concerns please discuss with your doctor before driving the ELF. If they give you the go-ahead, work up your endurance with moderate goals until you are able to cover the distance you want.

To reduce the risk of serious injury or death, please adhere to the following guidelines:

- Never operate your ELF while under the influence of drugs or alcohol.
- When coasting down hills, use brakes to maintain a safe speed.
- Make sure sliding seat screws are tightened prior to riding.
- Familiarize yourself with the controls before operation.
- Maintain appropriate and safe speeds for the given conditions. See ***Adverse Conditions*** on page 6 for more information.
- Reduce speed when cornering and make gentle arcing turns to avoid loss of control. The ELF can roll if turned sharply, even at low speeds.
- Be aware that releasing the throttle may not slow the vehicle.
- Wear closed toed shoes with wraparound heel (no sandals or flip flops). Do not wear high heels.
- Make sure shoelaces are tied and cannot be caught in the chain.
- Use mirrors; be aware of pedestrians and other vehicles.
- Check that tires are inflated to designated tire pressure printed on tire wall.
- Always wear a protective helmet.
- Make sure nothing is on the roof and that all hatches and items are secured.
- Always obey the rules of the road and respect your fellow travelers.
- **Always keep feet on pedals while the vehicle is in motion. Placing feet on the ground while riding could result in serious injury.**

Adverse Conditions

We recommend that you avoid riding in the conditions listed below, but if necessary, use caution and pay attention to the possible dangers listed.

- High Winds: may cause swerving and loss of control
- Heavy Rain: may impede visibility and create hazardous conditions
- Snow and Ice: conditions may make road surfaces slippery and increase stopping time.
- Fog or humid conditions: can obscure visibility.

Avoiding Road Hazards

When encountering road hazards, steer the ELF so the hazard passes beneath either pedal (left or right). This will allow the rear wheel to avoid contact with the hazard and give you a more comfortable ride.

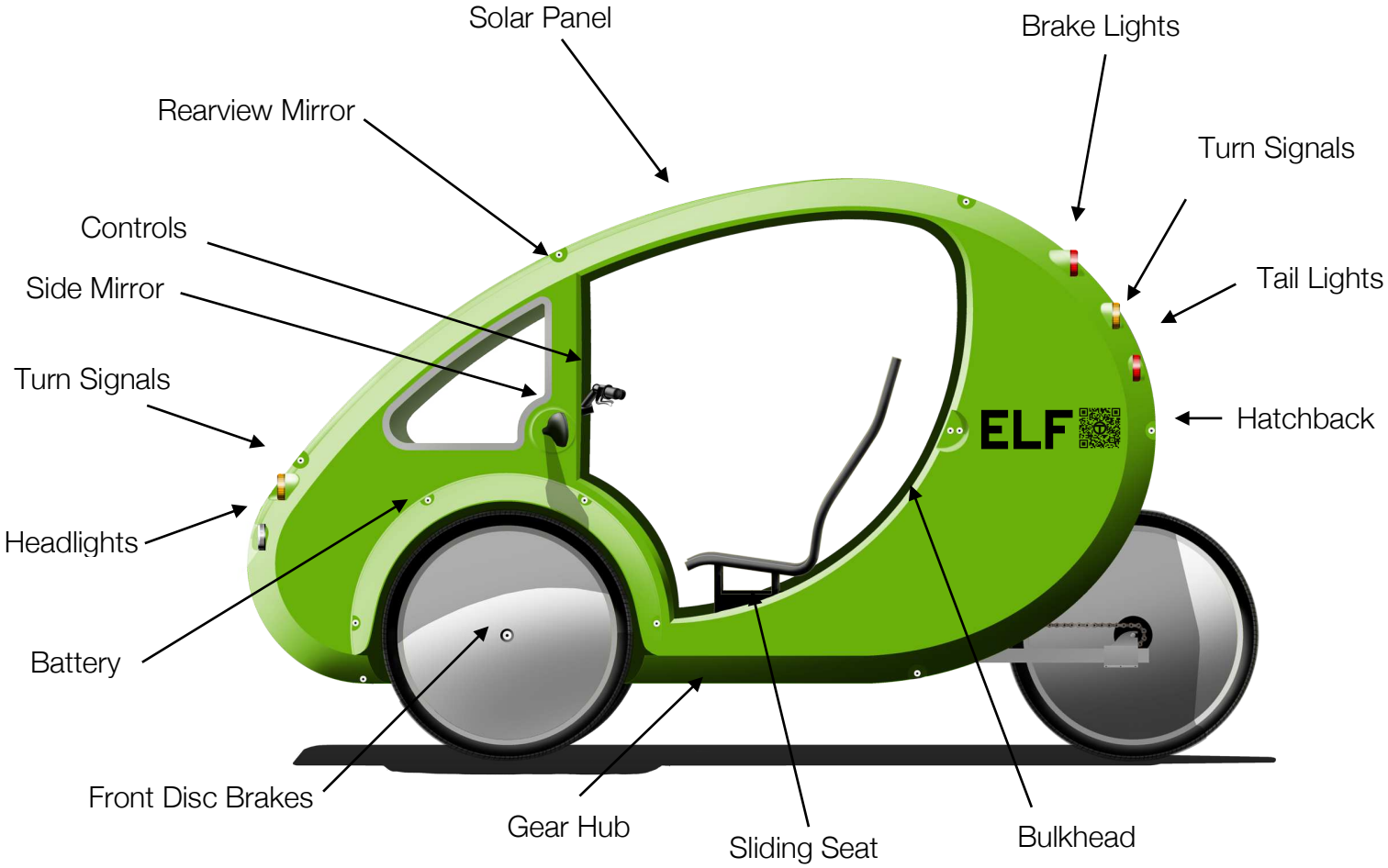
Avoid deep puddles and moving water. If riding in wet conditions, check to make sure the battery is dry when you complete your ride, wiping dry if necessary.

⚠ WARNING
This vehicle is not intended for use in off road conditions.

⚠ WARNING
It is not possible to list every potential hazard or circumstance you may encounter while riding your ELF. Exercise common sense and good judgement to avoid causing harm to yourself or others.

Equipment and Controls

The ELF: Overview



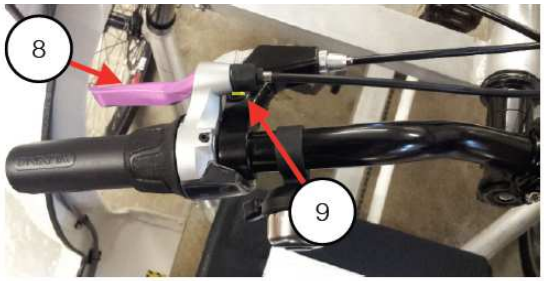
Bulkhead

Know Your Controls

The ELF uses only a few, easy to use controls, but it is important that you take the time to familiarize yourself with them before attempting your first ride. Use the diagrams below to identify and locate the following items:

#	Control	#	Control
1	Gear Shifter	6	Turn Signal Switch
2	Gear Indicator	7	Throttle
3	Bell	8	Rear Brake Lever
4	Light Switch	9	(N/A)
5	Horn	10	Front Brake Lever

Controls Front View



Controls Top View

> **Note**
>
> The front disc brake lever (right) provides most or all of your stopping power. The optional rear brake lever (left) provides additional stopping power.

Vehicle Operation

Before You Get In

Once you have your ELF and it fits you do a simple **ABCDEF** safety check:

1. **A**ir Pressure: Check tire pressure and inflate as needed to the recommended pressure listed on the tire wall.
2. **B**rakes: Make sure that squeezing the brake lever(s) about half way completely stops the ELF.
3. **C**hain: Make sure the chain moves smoothly, is well lubricated, and is free of rust.
4. **D**amage: Look for loose or damaged parts, foreign objects, or other potential hazards.
5. **E**lectricity: Make sure the battery is properly connected and secured in the vehicle.
6. **F**amiliarize: Familiarize yourself with the location of the horn, bell, lights, turn signals, throttle, and gear shifter (see ***Know Your Controls*** on Page 8).

If you have problems with any of the **ABCDEF** checks, take your ELF to a bike mechanic or Organic Transit technician.

Getting into the Vehicle

- Make sure the seat is far enough toward the rear to be out of the way but not so far that you cannot sit down easily. Refer to ***Adjusting the Seat*** on page 10.
- Step in with your foot nearest to the ELF and place your foot on the drop axle or ground, whichever is more comfortable. The axle can easily support the weight, but taller riders may find it more comfortable to use the ground. See location of drop axle in photo below.
- Sit down and bring other foot in.
- Place both feet securely on pedals.

⚠ WARNING
Do not step on plastic panel inside door (labeled “Do Not Step”)

Before Riding

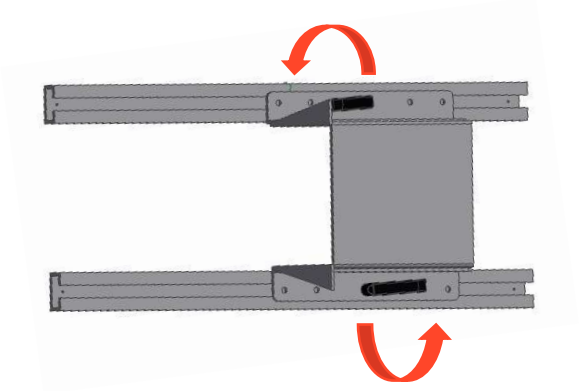
1. Remove all loose items from your pockets and stow securely.
2. Always wear a helmet.
3. Check side-view and rear-view mirrors for positioning.
4. Turn key to engage battery. (located to the left of control box on bulkhead behind seat)
5. Test horn and bell.
6. Disengage parking brake.
7. Check for hazards, obstacles, pedestrians, traffic, etc.

Taking Your First Ride

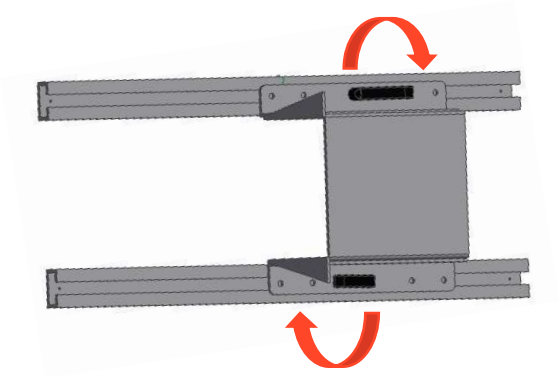
Adjusting the Seat

Sit in the vehicle and pedal backwards to check that your feet comfortably reach the pedals and that your knees do not bump the dash strut. Adjust the seat as needed until you find a secure and comfortable position for your.

- To adjust your seat position fore and aft, turn the two seat adjuster handles counterclockwise to loosen.
- Slide the seat forward or backward until it is in the desired position
- Turn the two handles clockwise to tighten.



Turn counterclockwise to loosen the seat



Turn clockwise to tighten the seat

Note: Seat adjuster handles should go from fully tight to fully loose in only one half rotation (a 180 degree turn). If an adjuster handle is too loose to fully tighten in one half turn, lift the spring-loaded handle straight upwards and rotate it slightly counterclockwise (while holding in lifted position) to allow additional tightening onto clamp bolt.

Riding Your ELF

1. Start out slowly, using the pedals and/or the throttle to move forward.
2. Make slow arcing turns to feel how the ELF handles and get comfortable with the steering.
3. Test the brakes at slow speed at first. While the ELF's dual disc brakes offer superior stopping power to calipers, sudden or excessive braking will make for an uneasy ride and can shorten the life of your brakes. Applying brakes too hard in wet conditions may cause the tires to skid.
4. Apply gentle and even pressure to the thumb throttle to accelerate using the motor. Releasing the throttle will stop the motor but may not slow the vehicle. Use caution and do not exceed a speed appropriate for the conditions and terrain. Always reduce speed for turns.

> **⚠ WARNING**
>
> Always keep feet on pedals while the vehicle is in motion. Placing feet on the ground while riding could result in serious injury.

Understanding the 3-Speed Hub

The standard ELF comes equipped with a 3-speed sealed gear hub which is controlled by the gear shifter on the left handlebar. Position 1 is the lowest, slowest, or easiest gear, and position 3 is the highest, fastest, or hardest gear.

The gear you are currently using is indicated by a red coloration of the number. As you change gears, the numbers will change from clear/grey to red. The gears can be changed while the ELF is at a full stop, or while moving, but it is recommended that you ease off the pedals while shifting. Do not remove your feet from the pedals, but do reduce pedaling pressure or momentarily pause pedaling.

On non-electric bikes, the gear shifter is usually located on the right handlebar grip. Because the ELF has a throttle on the right handlebar grip, the gear shifter is positioned on the left handlebar grip and the gear indicator display is upside down.

Shifting to Higher Gears

Shifting to a higher or faster gear increases the resistance and makes the ELF harder to pedal (good for cruising on flat ground or downhill). Shift to a higher gear by rotating the shifter grip away from you while pedaling. You may notice that it is harder to pedal at low speeds and on hills when in a higher gear.

Down Shifting

Shifting to a lower or slower gear makes the ELF easier to pedal, so it is great for starting out or climbing hills. Down shift by rotating the shifter grip toward you while pedaling. The display will indicate a red "1" showing that you are in the lowest gear.

Understanding the optional NuVinci 360 Continuously Variable Transmission

Changing gears with your N360 hub is as simple as rotating the shifter grip. The graphic display shows a hill for slower speeds and a flat line for faster speeds. Please note that the display is inverted on the ELF. For more detailed information on the NuVinci N360, visit: www.fallbrooktech.com/cycling/n360

⚠ WARNING
Do not over-rotate the shifter. If you feel a lot of friction, stop to avoid mechanical failure. It is always best to use shifter while pedaling.

Shifting to Higher Gears

Shifting to a higher or faster gear increases the resistance and makes the ELF harder to pedal (good for cruising on flat ground or downhill). Shift to a higher gear by rotating the shifter grip away from you while pedaling. You may notice that it is harder to pedal at low speeds and on hills when in a higher gear. The line on the shifter display will show a flatter line (like flat ground).

Down Shifting

Shifting to a lower or slower gear makes the ELF easier to pedal, so it is great for starting out or climbing hills. Down shift by rotating the shifter grip toward you while pedaling. The line on the shifter display will show a more curved line (like a hill).

Using the CycleAnalyst® (If Equipped)

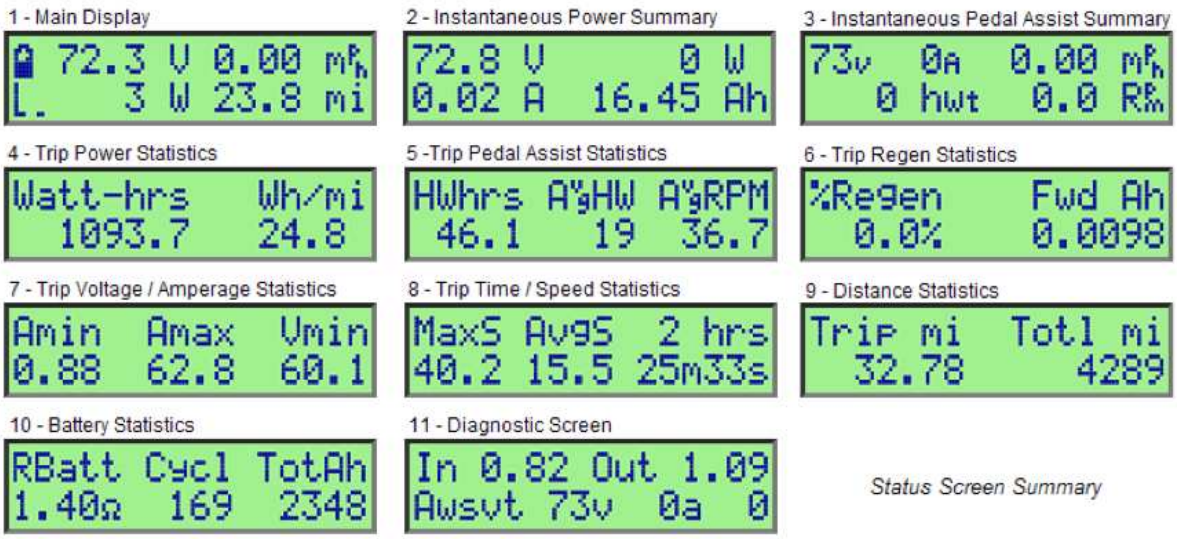
The CycleAnalyst® is an advanced bicycle computer that can help you track your speed, mileage, battery level and energy consumption.

Basic Button Navigation

- Press right/left buttons to navigate Status or Setup Screens.
- Press/hold left button to enter Setup.
- Press/hold right button to reset trip statistics.
- From the 'Trip Regen Stats' status screen, press/hold right button to reset peak trip statistics.

Status Screens

There are eleven Status screens which display information grouped by function. Some information (e.g. speed, Amps) is displayed on more than one screen to give the operator a more comprehensive view without changing screens. Due to the design of the ELF, screens 3 and 5 do not apply and should be ignored. The status screens are shown below and can be navigated through by pressing the left or right buttons on the CycleAnalyst®.



Status Screen Summary

Setup

The CycleAnalyst® will arrive completely set up if it was factory-installed. If the CycleAnalyst was user-installed, refer to the ***CycleAnalyst User Installation Manual*** for setup instructions.

Handling the ELF

Turning

Make gentle arcing turns at low speed. Avoid making sharp turns at speed. Failure to follow these guidelines may result in a dangerous loss of control. Take the time to familiarize yourself with how the ELF handles and turns in a controlled environment before joining traffic.

The ELF has a large turning radius. Make sure to plan accordingly when riding as it may be difficult to get out of tight spaces.

Always use the turn signals when making turns. Make sure to return the turn signal switch to the middle (off) position once you have completed the turn as the signal will stay on until you change it.

Always ride at appropriate speeds for the road conditions. Increased speed can increase risk — exercise good judgment to stay safe.

Reversing

The ELF does not have a reverse gear. To reverse, make sure the vehicle has come to a complete stop and place your feet on the ground. Then simply push the vehicle backward using your feet (like “The Flintstones”).

Stopping

Engage the brakes by squeezing the brake lever. Try to use even pressure to avoid jarring stops. Under wet conditions, stopping distance is increased because tires do not grip as well. Ride more slowly and brake earlier in wet or icy conditions.

Parking

Remember to always engage the parking brake and turn the wheels toward curb when parking the ELF. The parking brake should aid in immobilizing your ELF, but additional steps may need to be taken to prevent rolling, particularly on steep or slippery terrain. Always make sure your ELF is securely parked before leaving.

The “parking brake” is a simple loop on the end of the right-side handgrip. To activate the parking brake, squeeze the brake lever, then slide the loop around the end of the brake lever to keep the brakes engaged.

Understanding Your Battery

The 11Ah battery pack and the 15 Ah battery pack both come in the plastic case shown below. Each battery pack is made of Li-ion NMC batteries and has a built-in Battery Management System (BMS).

Battery Connections

In order to power the ELF and allow the solar panel to charge the battery, you must plug the black plug located on the ELF into the corresponding plug on the battery. Do so by grabbing both terminals at their base and pressing them firmly together until you hear a click. The two connectors are designed to mate only one way. Be sure to secure cables away from the chain and do not allow them to drag.

⚠ WARNING

When disconnecting the main power connection, avoid personal injury on the surrounding elements by disconnecting the connectors using a gentle wiggle/pull motion.

Charging Your Battery

Using the Wall Charger

1. Disconnect the battery from your ELF by holding the base of both plugs and gently wiggling and pulling the connection apart. Once the battery is disconnected, carefully lift it from the battery box.
2. Make sure the battery charger is NOT connected to a wall outlet yet! If it is, simply unplug it before continuing.
3. To charge your battery, connect the plug on the battery to the plug on the charger. Do so by holding the base of both plugs and gentling pushing them together until they click into place.
4. Plug the battery charger into a standard wall outlet. You may need an adapter for use in countries outside the United States. While the battery is charging, both indicator lights will be red.

5. Once the battery is fully charged, one indicator light will show red and one indicator light will show green. First, disconnect the battery charger from the wall outlet. Then, disconnect the battery from the battery charger.

> **Note**
>
> The battery wall charger must be unplugged between charges to work properly during charging.

> **Note**
>
> The 11Ah battery should charge in roughly 2.5 hours and the 15Ah battery should charge in roughly 3 hours.

Using the Solar Panel

Once the battery is plugged in to the ELF, the solar panel will begin to charge your battery.

Keeping the solar panel clean is crucial in efficiently harnessing the power of the sun. Please refer to ***Cleaning*** on page 31 for more information.

Carrying and Using Two Batteries

The ELF battery box is designed to carry two batteries. The ELF comes standard with one battery and additional batteries are available for purchase at www.organictransit.com.

When carrying a spare battery, please note that it is necessary to manually switch the cables from the depleted battery to the full one (the two batteries are not connected to each other).

How to Get the Most Out of Your Battery

The ELF battery will carry you and your ELF for many miles per charge, often enough for most commutes and trips around town. If you would like to maximize the miles you get out of each charge, try these helpful tips:

- Using the throttle to start from a dead stop requires a lot of energy and may quickly reduce the charge in your battery. It may take a lot of effort, but try using the pedals to start your ELF rolling before engaging the throttle to save battery power.
- Use the pedals to maintain speed as much as possible, saving the motor for uphill climbs.
- Look for opportunities to coast or pedal to maintain speed without using the throttle.
- When approaching stop lights/signs, coast to a stop.

> **Note**
>
> Temperature change can affect battery efficiency. Battery capacity may be reduced when used in cold temperatures. If you park your ELF in the cold, you might want to take your battery in at night to keep it warm.

Remember to pedal. It's fun, good for you, and extends the range of your battery.

Care Instructions

> **⚠ WARNING**
>
> We do not recommend using a plastic tarp to cover and store your ELF, as direct contact with the tarp material may cause damage to the clear window and windshield plastic.

Organic Transit offers a custom made ELF security cover that protects your ELF from dust, pollen, rain, and intruders. Visit www.organictransit.com for ordering details.

Drivetrain

Chains and cables need regular lubrication. Use a high quality lube available at bike shops. The internally geared NuVinci Hub does not need lubrication. For more detailed information on your NuVinci hub, visit www.fallbrooktech.com/cycling/n360.

Wheels and Tires

Make sure tires are inflated to proper tire pressure listed on the wall of the tire. Proper inflation will ensure your tires last longer and you enjoy a smoother ride. Proper inflation also improves battery range.

Battery

Periodically examine your battery case for cracks, holes, and other signs of wear. It is important to protect the internal components from moisture, so all cracks and holes in the external plastic shell should be repaired immediately using water resistant tape such as duct tape or similar.

Keep the battery tray in the ELF clean and dry. If the battery gets wet during operation, be sure to dry all parts once you have reached your destination.

> **⚠ WARNING**
>
> Avoid dropping, jarring, puncturing, or otherwise damaging your battery as it can cause permanent internal damage.

Brakes

Brake cables experience a break-in period over the first 50-75 miles. Cable stretching can be easily adjusted by the owner, by a professional bike mechanic, or by an Organic Transit technician.

Shifting

Shifter cables experience a break-in period during the first 100 miles, you may need to adjust them occasionally. For instructions on adjustments call the Organic Transit service department at 919/908-1599 or visit your local bike shop.

Cleaning

⚠ WARNING
Always remove the battery before washing your ELF. Make sure battery box is dry before reinstalling battery.

1. **Side Body Panels**
   - Clean with water and a soft cloth.
   - The plastic manufacturer recommends Novus 2 polishing compound to repair minor scratches. http://www.novuspolish.com/
2. **Clear Panels (Windshield, Side Windows, Rear Hatch)**
   - Thoroughly rinse with warm water using a soft cloth or sponge. To prevent water spots, thoroughly dry the glazing with a clean chamois or moist sponge.
   - **Never use abrasive rags or cleaners. These may scratch your windows and reduce visibility.**
   - Avoid cleaning in direct sunlight to prevent streaking.
   - The plastic manufacturer recommends Novus 2 polishing compound to repair minor scratches. http://www.novuspolish.com/
3. **Drivetrain**
   - Lubricate chains on a regular basis using a quality bicycle lubricant.
   - Wipe chain down after rides, especially after harsh weather (rain, snow).
4. **Solar Panel**
   - Clean with water and soft cloth.
   - Clean panels promote efficiency. Regular removal of dust/pollen/etc. with a static duster is recommended for maximum efficiency.

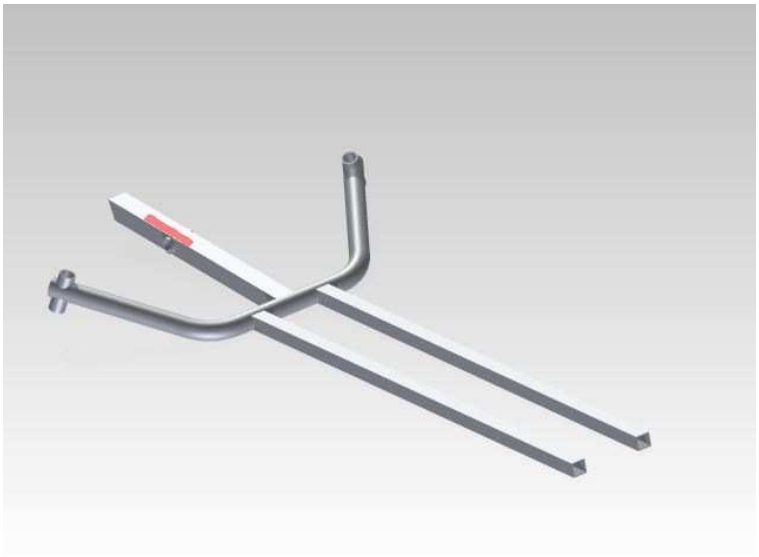
Transport

Organic Transit only recommends transport of your ELF in an enclosed trailer or truck. Exposure to high winds in an open truck or trailer can cause damage to your ELF.

Security

We recommend that you lock your ELF when leaving it unattended. To do so, we suggest using a U-lock with a cable attachment to run through the rear wheel or a portion of the frame and around a post or bike rack to deter theft.

We also recommend that you make a note of your serial number when you purchase your ELF. If your ELF is stolen, the serial number may be helpful in trying to recover the vehicle. The serial number is etched into the frame of the ELF near the pedals.



Organic Transit offers a security cover which helps prevent unauthorized access to your ELF when you are not around. Visit www.organictransit.com for ordering details.

Roadside Assistance

Included with the purchase of an ELF is a 1-year membership to the Better World Club's roadside assistance program. To find more information on the roadside assistance program, refer to betterworldclub.com.

In the event that your ELF stops working and you cannot get home, we ask you to follow the following steps:

1. Move your ELF off of the road or trail to a safe location away from traffic.
2. Call Better World Club and have them pick you and your ELF up. They can be reached at 1.866.238.1137.
3. Talk to a bicycle repair shop to see if they would be able to fix your ELF and get it running.
4. If the bicycle repair shop can't solve the problem, call our service department here at Organic Transit by dialing 919/908-1599.

Notes

If you have questions, visit our web page at www.organictransit.com or call Organic Transit at 919/908-1599.

Notes

Legal

The ELF is a LOW-speed electric bicycle under U.S. Code Title 15, Chapter 47 Section 2085 and as such is eligible to travel on all U.S. roads open to bicycle travel.

"…The term 'low-speed electric bicycle' means a two or three-wheeled electric vehicle with fully operable pedals and an electric motor of less than 750 watts (1 h.p.), whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20mph."

This section shall supersede any State law or requirement with respect to low-speed electric bicycles to the extent that such State law or requirement is more stringent than the Federal law or requirements referred to subsection (a) of this section.

IN NO EVENT SHALL ORGANIC TRANSIT BE HELD RESPONSIBLE FOR DIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES FOR PERSONAL INJURY, PROPERTY DAMAGE OR ECONOMIC LOSSES, WHETHER BASED ON CONTRACT, WARRANTY NEGLIGENCE, PRODUCT LIABILITY OR ANY OTHER THEORY.

Some states do not allow the exclusion or limitation of damages, so the above limitation may not apply.

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