



# BrüHaul

OWNER'S MANUAL

FELT ELECTRIC

# » INTRODUCTION

## BRÜHAUL

Congratulations! You are the proud owner of a Felt BrüHaul cargo e-bike.

At Felt, our mission is simple: Build the world’s best bikes. Period. We are passionate about that and strive to achieve it in each and every single bike we make. The new BrüHaul is an example of that passion.

Please carefully read through this manual. It will help you understand and get the most use and enjoyment out of what we believe is the best cargo e-bike you can ride.

For further information, visit:  
**FELTELECTRIC.COM**

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## » BRÜHAUL DESIGN

Cargo bikes are like the 18-wheelers of the bike world, and some of them handle like it. We designed the BrüHaul to be the stiffest and lightest cargo e-bike available. To do so, we made it the stiffest and lightest e-Cargo bike available. That makes BrüHaul more efficient and allows it to handle more like a standard sized bicycle rather than a long tail bicycle. The BrüHaul is stable, predictable and fun to ride.

The BrüHaul is flexible in the number of ways it can be configured for carrying loads. From kids and adults to groceries and ice cold brews, the BrüHaul can be configured to haul just about anything.

## » BRÜHAUL



### 1. Frame Design

The BrüHaul is made from lightweight T6061 aluminum with shaped tubes that enhance rigidity and are double butted for strength. The stiffness of the frame, enhanced by the tapered headtube, allows the BrüHaul to have agile and consistent handling – empty or fully loaded. The BrüHaul was designed, from its inception, to integrate Bosch's world-leading eDrive system while increasing the stiffness at the bottom bracket.

### 2. Load Deck and Integrated Pannier Rack

The integrated load deck and pannier rack make it a breeze to equip your BrüHaul to carry all your precious cargo. There is a full line of accessories available for your BrüHaul. See the back of this manual or go to [www.FeltBicycles.com](http://www.FeltBicycles.com) for more information.

### 3. Brakes

The BrüHaul is designed to be used at full capacity. Oversized Shimano brakes that use a 180mm rotor in the front and 160mm rotor in the rear provide serious stopping power in all types of weather.

### 4. Full Front and Rear Fenders

The BrüHaul comes with both front and rear fenders to ensure that you can continue to ride in rainy weather conditions.

### 5. Weight

50 pounds (23 kg) – including the Bosch eDrive system and battery. Less weight means less energy is needed to move, so you'll go farther on a charge. In addition, the BrüHaul's light weight means better acceleration, handling and braking response than other cargo bikes.

### 6. 24" Wheels

We chose 24" wheels because they deliver a stabilizing low center of gravity, effort-reducing torque transfer from the motor and ride-smoothing roll-over characteristics.

### 7. Front and Rear Lights – Standard

The BrüHaul lights the road and makes you visible so you and your cargo get to your destination safely.

## » THE BOSCH E-DRIVE SYSTEM

### Overview

The multiple award-winning Bosch e-Drive System in the BrūHaul is, at 350 watts, the highest output Bosch system currently available in North America. The system monitors rider output, cadence and speed providing 1,000 measurements each second. This delivers a seamless power boost at the rider's chosen level an instant, seamless power cut-off when pedaling stops (critical for negotiating tight turns with heavy loads and loose surfaces).

Because it is a mid-motor system, the BrūHaul gives riders a full 10-speed gear range to help with the heaviest loads, the steepest hills and to get the most efficient performance from the electric motor.

### Intuvia Control Center

The control unit consists of a switch panel located within thumb's reach and the display unit mounted near the center of the handlebars. The assist level is chosen by pressing the up or down button on the switch panel. In addition to assist level, the display provides bike computer functions including: Range, Trip Distance and Trip Time. There is also a USB port for charging your phone.



### The system provides five assist modes:

"Off" - 0% assistance

"Eco" - 50% assist: Your power + 50% more.

"Tour" - 120% assist.

"Sport" - 190% assist.

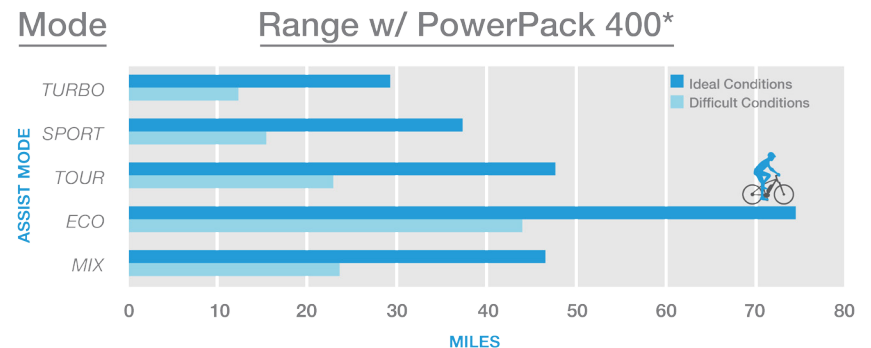
"Turbo" - 275% assist.

## » THE BOSCH E-DRIVE SYSTEM

### Range

The BrūHaul is equipped with Bosch's 400 watt hour (Wh) PowerPack 400 battery that is downtube or rack mounted. Depending on variables like gear selection, tire pressure, total weight, road surface, temperature and assist level, the PowerPack 400 can provide a maximum range of up to 75 miles in Eco mode and over 45 miles across a general mix of modes.

*Because it is heavier than the rest of the bikes in the Felt eBike lineup and because you'll probably be employing its increased cargo capacity, your range will likely be less with the BrūHaul.*



\* Ideal Conditions: Appropriate gear selection, proper tire inflation, flat terrain, no headwind, 68°F, weight of rider + gear 154lb, avg. speed 9.3 mph  
 \* Difficult Conditions: Poor gear selection, underinflated tires, hilly terrain w/ long, steep inclines, headwind, 50°F, weight of rider + gear > 187lb, avg/ speed 15 mph

### Battery Care

The PowerPack 400 employs a standard, 110 V plug-in charger (included). 50% charge is reached in just 1.5 hours and a full charge takes less than 3.5 hours. The battery will operate at full strength for 500 cycles (about two years) after which it will retain about 60% of its original capacity. In all, the battery will be serviceable for between 15,000 and 30,000 miles.

After the cost of purchase, the Felt eBikes cost about ½ cent per mile to charge and maintain.

## » LOADING AND RIDING THE BRÜHAUL

### Pre-Ride Checks

Your BrüHaul needs both its mechanical and electric systems fully functional to give you the best and longest ride. Here are two quick check procedures to do before every ride.

### Mechanical

Make sure to check your bike before every ride. Go through the following check-list for safety and function.

**A is for Air (in the tires)** - check to make sure there is plenty in there!

**B is for Brakes** – brake pads wear – especially if you frequently ride the BrüHaul well loaded.

- Pull the brake levers – if you can squeeze them to within 1" of the bar grips, it is time to have them serviced
- When moving, listen for a grinding sound that indicates worn-out brake pads
- Visually inspect the rotors for wear of the stainless steel braking surface
- Visually inspect the brake cables for signs of wear

### C is for Chain and Cables

The chain and cables on the BrüHaul are long and require weekly visual inspection and lubrication.

- At the end of each day wipe down the chain and apply lubricant as necessary
- The cable that runs to the rear derailleur should be inspected daily and lubed weekly if you are in rainy or damp conditions. (As with any multi-cogged drivetrain, a snapped derailleur cable will default the bike into its highest gear making for a potentially difficult ride home).

Make sure the Quick Release levers at both wheels are tightly in the "closed" position. Up against the fork in the front and bisecting the angle of the triangle at the rear. In those positions they are most protected from stray hits.

## » LOADING AND RIDING THE BRÜHAUL

Listen for any rattling that is a warning of loose parts – like fenders or racks or seats you may have attached. Fix those issues before you ride.

### Bosch e-Drive System Check

The Bosch e-Drive system is maintenance free so, check to make sure the battery has enough charge for the intended length of your ride via the Intuvia Control's "Range" function.

### Unloaded Riding

The BrüHaul wheelbase is longer and the head tube has more slack than your average bike. Because it weighs more, the BrüHaul takes longer to get going and longer to stop too. So, as you're riding the BrüHaul, think a little farther down the road than you would on a smaller, lighter bike.

Set the saddle height of the BrüHaul so that your feet can easily reach the ground and provide a solid base. Ride far enough from the side of the road or lane so that you have room to maneuver around road hazards like potholes and are out of that zone of debris lining the sides of many roads.

## » LOADING AND RIDING THE BRÜHAUL

### Loaded Riding

BrüHaul comes standard ready to haul people and/or cargo.



### Stock BrüHaul Configuration

#### 1 & 2 Rack with Load Deck

The integrated rack and load deck (1) accommodates people, child seats, pannier bags. There are four bolt holes on either side of the load deck (2) for attaching M5-sized eyebolts for light duty tie-down attachments.

#### 3 Foot Loops

The foot loops (3) provide a place to hook longer bungee cords to secure cargo and they also accept our bamboo foot plate kit for passengers (see “Carrying Passengers”).

#### 4 & 5 Additional Attachment Points

There is also an M6-sized, threaded hole through the top tube (4) and an M5-sized one on either side of the fork (5) which may be used to help secure very long loads.

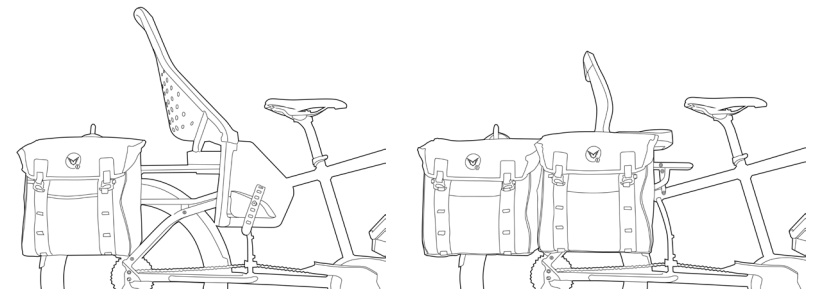
## » CARGO

### WARNING

**Total Maximum Weight Restriction (Bike + Payload) = 400 pounds  
(unloaded bike weight = 50 pounds)**

**Total Maximum Load Deck Capacity = 200 pounds**

### Sample Cargo Configurations



2 pannier bags and a child seat.

4 pannier bags and a youth seat.

### Loading your bike

The integrated rack on the BrüHaul accepts Genuine Felt and other pannier bags as well as seats for infants and children. The rack system allows for tremendous flexibility in set-up; allowing you freedom in how you configure the bike to haul your cargo. To preserve BrüHaul’s handling and stability, follow these general guidelines:

1. Place heavier objects ahead of lighter ones. Concentrating mass towards the center of the bike will minimize the impact a load has on BrüHaul handling.
2. Place objects as low on the bike as you can. Doing so will make it easier to stop and start and increase the bike’s stability as you ride – especially at low speeds.
3. Load side-to-side and front-to-back. Attaching two, heavily loaded pannier bags to one side of the BrüHaul may make it tip over. Put bags in the forward position first, then in the rear positions.

## » CARGO

### When loading odd-sized cargo

1. Make sure there is clearance for you to get onto and safely operate the bike.
2. Get the heaviest part of the load as low as possible to maximize stability.
3. Tie long things together to reduce their vibration as you pick up speed.

### Getting Under Way with Cargo

1. Make sure your cargo is well-secured and as low on the bike as possible. Use pannier bags and milk crates to carry all but oversized cargo.
2. If your cargo is extra-long, make sure you flag it so that motor vehicles, other cyclists and pedestrians see and avoid it.
3. Smoothness in take-off, turning and braking is critical to getting cargo loads safely to journey's end.
4. Make sure that the chain is on or close to the largest cog before you load the bike. The shifter on the right controls that.
5. Select any of the three upper boost modes on the Bosch Intuvia control panel "Tour," "Sport," or "Turbo" depending on the size of the load you are hauling. You want a smooth start without spinning the rear wheel so don't select too great a boost level
6. Practice some low speed maneuvers before heading out into traffic to make sure everything is secure and to understand how the load will affect the bike's handling.
7. Pre-plan your route – no dodging traffic, racing red lights or bunny-hopping speed bumps here. Pre-plan a route with enough width for you to maneuver oversized cargo on the BrüHaul.

## » PASSENGERS

### Carrying Passengers

#### General Passenger Rules

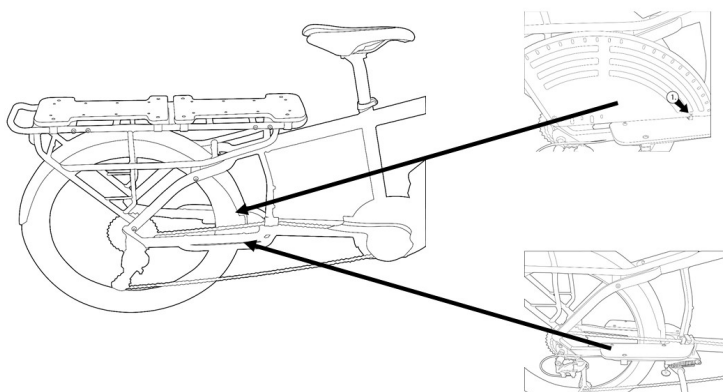
1. Passengers should always wear helmets.
2. Use our Bamboo Foot Plates or clamp-on foot pegs for carriers similar to the Yepp Jr for passengers not in child carriers.
3. Passengers will affect BrüHaul steering and stopping distances more than any other cargo. Ask them to stay seated and keep their hands inside the cockpit for the entire ride.
4. Be a good captain. Let them know when it's about to be bumpy or any obstacles are in the path of the bike.
5. Practice on-boarding, taking off and slow-speed maneuvers with your crew. Loading/unloading and starting/stopping are the least stable of times for any cargo bike, make sure you and your crew are practiced at it before you are in busy riding conditions. There is also a power kickstand accessory available that lifts away at the touch of a button. (See the Accessories section of this manual)
6. Know your local laws about carrying passengers on bikes. Check the League of American Bicyclists' Bike Laws Page: [BikeLeague.org/StateBikeLaws](http://BikeLeague.org/StateBikeLaws)

## » PASSENGERS

### Passenger Configurations

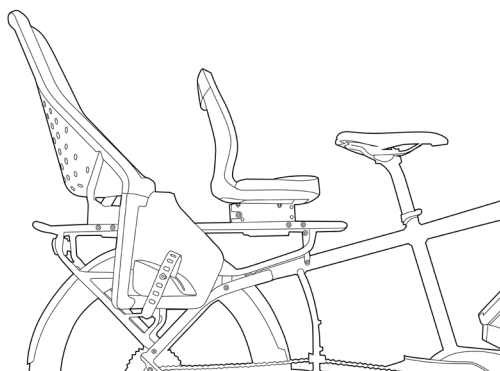
BrüHaul can carry passengers in several configurations. Don't forget that the **Total Maximum Weight Restriction (Bike + Payload) is 400 pounds**. For most riders, that means the maximum cargo weight (passengers + stuff) is somewhere under 200 pounds.

**Figure 1. Adolescent and Adult Seating Configuration**  
Showing Bamboo Footplate and Skirt Guard Kits



**Figure 2. Showing Child and Youth Configuration**

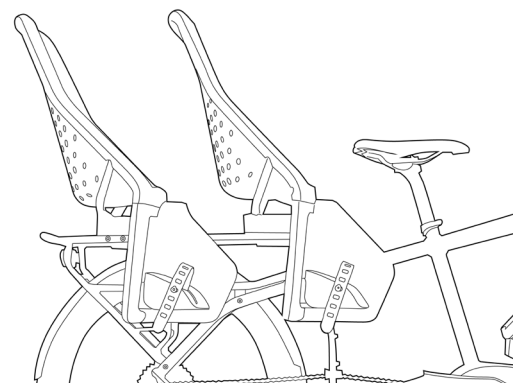
The Yepp Maxi (9 mos to 49 lbs) behind the Yepp Junior (5 yrs to 77 lbs)  
Note: Required Footplate and Skirt Guard not shown; Yepp child seats fit the BrüHaul directly, there is no need for an adapter.



## » PASSENGERS

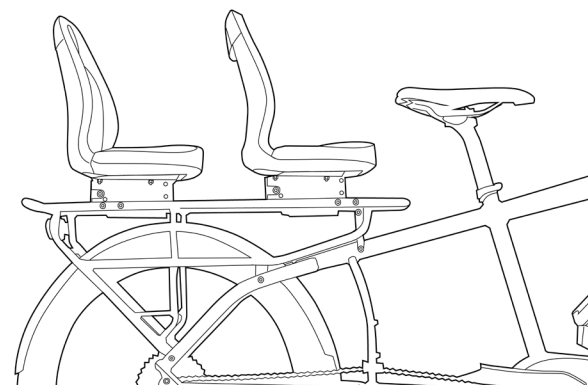
**Figure 3. Showing Two Child Configuration**

Two Yepp Maxi Child Seats (up to 49 lbs each)  
Note: Footplate Kit and Skirt Guard not required



**Figure 4. Showing Two Youth Configuration**

Yepp Junior Seats (up to 77 lbs each)  
Note: Footplate Kit and Skirt Guard not shown but required





## » PASSENGERS

### Starting and Stopping with Passengers

Again, passengers are the heaviest thing you'll carry, but the BrüHaul with the Bosch eDrive system makes it easy.

Smooth take-offs are key and here's our suggested method:

1. Let your passengers know what to expect. Let them know you will warn them of bumps, stops and turns.
2. Smoothness in take-off, turning and braking is the key to safe, enjoyable rides with passengers.
3. Make sure that the chain is on or close to the largest cog. The shifter on the right controls that.
4. Select any of the three upper boost modes on the Bosch Intuvia control panel "Tour," "Sport," or "Turbo" depending on the size of the load you are hauling; You want a smooth start without spinning the rear wheel so don't select too great a boost level.
5. Tell your passenger's when to pick up their feet and, as they do, begin pedaling.
6. Practice some low speed maneuvers with your passengers so you both get a feel for the bike's handling.

### Using the Bosch eDrive System to Maximum Effect

Your Bosch e-Drive system can deliver maximum torque as soon as you begin pedaling. We chose 24" wheels for BrüHaul to give the ideal combination of stability, roll-over capabilities and ability to apply torque from the e-Drive system to the road.

If you are carrying a heavy load, on a dry surface, click the Intuvia control up to "Turbo Mode" to get maximum assistance as you take off. You may want to back it down to "Sport Mode" if you are taking off from a loosely packed or wet surface.

## » PASSENGERS

### Foul Weather Riding

Take advantage of the BrüHaul's standard full fenders and lighting. When riding in wet conditions, remember:

- Brake early and easily. It will take longer to stop and loose road surfaces – as along the side of an intersection – can give-way under your tires causing skidding and loss of balance.
- Turn on your lights. They come standard on BrüHaul and many states require bikes to have lights on if motor vehicles must have theirs on (such as when it is raining).

## » LOCKING AND TRANSPORT

### Bike Racks

Lock your BrüHaul with two (2) U-Locks. Use one of the locks to secure the front wheel and frame to a secure object. Use the second U-Lock to secure the rear wheel to the frame.

### Public Transit

Ask your dealer, regional transit authority or local advocacy group about bike transportation on area public transportation.

## » BRÜHAUL MAINTENANCE

### **BrüHaul Systems Maintenance**

With any bike, maintenance is important. If you ride it regularly, your BrüHaul will need a derailleur adjustment soon after your purchase as the new shifter cable will have stretched. At that time, you should also have the brake fluid checked and the brake pads will have bedded in.

Beyond that, the ABC Quick Drop test should be performed before every ride and, each week, you should check the tightness of the stem bolts, your water-bottle cages, seat post clamp and any other accessories you have mounted to the bike.

### **Bosch eDrive Maintenance**

Please refer to the Bosch e-Drive manual that came with your bike

## » CYCLING SOCIETY NOTES

As a cargo bike rider you move into the category of dedicated bicyclists who are in it for local transportation. As a transportation cyclist, you are more affected by urban and sub-urban infrastructure and road sharing issues than many sport cyclists who ride on less trafficked roads, multi-use paths or mountain trails. There are three organizations you should consider connecting with as they can provide you with significant resources to understand, safely and enjoyably ride on your local roads. They are:

### **The League of American Bicyclists**

At the forefront of teaching cyclists to survive and thrive on America's public roadways is the LAB. They offer online safe cycling courses and local instructors to provide certifications. The League also has a multitude of resources to teach you what you need to safely navigate roads you will be sharing with motor vehicles. <http://BikeLeague.org>

### **People for Bikes**

People for Bikes is the national bicycle advocacy group. They compile bicycling statistics, lobby Washington to direct highway funds to improve bicycling infrastructure, and provide grants for local cycling infrastructure development. <http://PeopleForBikes.org>

### **Get involved with your local cycling advocates**

More and more, there are bicycling advocacy groups in towns and cities across the country. They work for things like placement of bike lanes, run local bike-to-work day activities and often provide local League of American Bicyclists testing and certification. Ask your local bike shop how to reach them.

## » BRÜHAUL ACCESSORIES

These accessories have been developed specifically for your BrüHaul. Get them from your authorized Felt dealer.

### **Bamboo Footplate Kit (Part #: 9000141)**

Includes bamboo footplates and attachment hardware for passengers too large to fit into the Yepp Maxi seat (over 49lb/22kg).

### **Skirt Guard Kit (Part #: 9000142)**

A light plastic shield that prevents feet, shoelaces, skirts, etc., from becoming tangled in the rear wheel spokes and causing injury. For passengers too large to fit into the Yepp Maxi seat (over 49lb/22kg). Note: the Skirt Guard is included with the Yepp Youth seat.

### **Seat Pad Kit for BrüHaul Integrated Cargo Rack (Part #: 9000143)**

Two pads which bolt to the integrated rack so passengers riding directly on the rack are more comfortable.

### **Stoker Bar Kit (Part #: 9000144)**

Handlebar and stem for front passenger. Attaches to seat post.

### **Yepp Child Seats**

For children aged 9 months and up. Award winning child seats designed in the Netherlands and available at retailers throughout North America. The BrüHaul's integrated rack accepts the Yepp seats directly, without need for an adapter. More information available at [www.yepp.nl](http://www.yepp.nl).

### **Rolling Jackass Remote Kickstand**

This remote-released center stand with an internally-routed cable control which allows you to load your BrüHaul, then step over the top tube, pull its handlebar-mounted lever and ride away. It is perfect for smooth take-offs with large, unruly loads be they animate or inanimate. Custom-made for the BrüHaul. More information at [www.RollingJackass.com](http://www.RollingJackass.com). You can have your authorized Felt dealer order and install a Rolling Jackass Center Stand for you – or do it yourself.

### **Additional Accessories for your Felt BrüHaul**

A full line of parts and accessories for your Felt eBike, including genuine Felt pannier bags, bar mounted cup holders and Felt apparel can be found at

**WWW.FELTBICYCLES.COM**

## » ACCESSORY INSTRUCTIONS

### **Bamboo Footplate Kit Installation**

#### **Included Parts**

- 2 Bamboo Footplates
- 4 Black Plastic Frame Clips
- 8 Allen Head Machine Footplate Bolts
- 4 Footplate Nuts
- 22 Footplate Washers

#### **Required Tools**

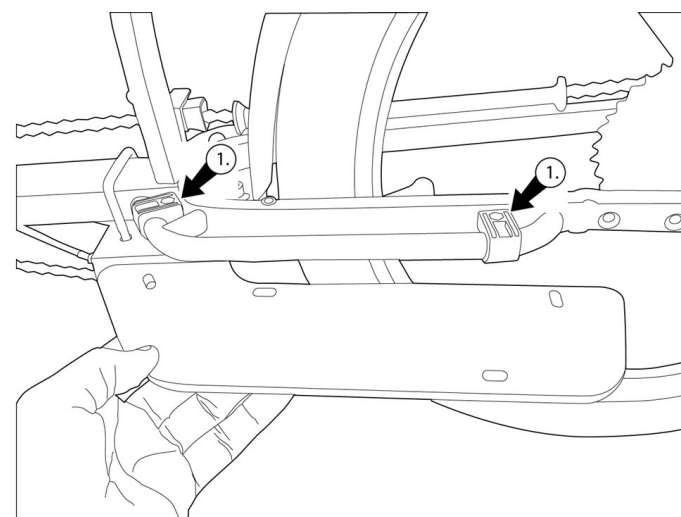
Metric bicycle multi-tool or Allen wrench set

Small metric wrench to fit the nuts used to secure the Footplate thru-bolts to the frame's foot loop

Micro Torque wrench (optional)

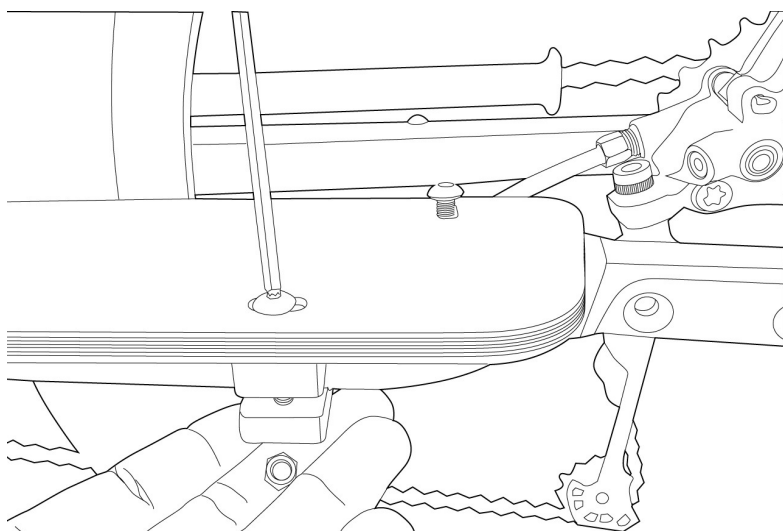
#### **Installation Steps**

1. Insert black Footplate clips (1) onto the loops on the left side of the frame as per the illustration. Make sure that the screw holes are on the outside of the frame hoops so that they line up with the holes in the Bamboo Footplate.



## » ACCESSORY INSTRUCTIONS

2. Place the Footplate on the hoop and line up with holes of the clips and the chainstays.
3. Place washers onto each of two bolts and attach them to the frame through the holes in the Footplate that line up with the rear chainstay hole. Do not fully tighten.
4. If you will be adding the Skirt Guard accessory, do not attach the front screw until you are installing the Skirt Guard.
5. Place a washer (not shown) onto each of two bolts and put the bolts through the holes on the outer edge of the Footplate and through the clips.



6. Place a second washer (not shown) and a nut onto the bottom of the screws underneath the clip.
7. Tighten all Footplate bolts to 5Nm
8. Repeat the procedure for the other side of the bike.
9. Check weekly to ensure that the Footplate bolts are tight.
10. Have Fun!

## » ACCESSORY INSTRUCTIONS

### Skirt Guard Kit Installation

#### Included Parts

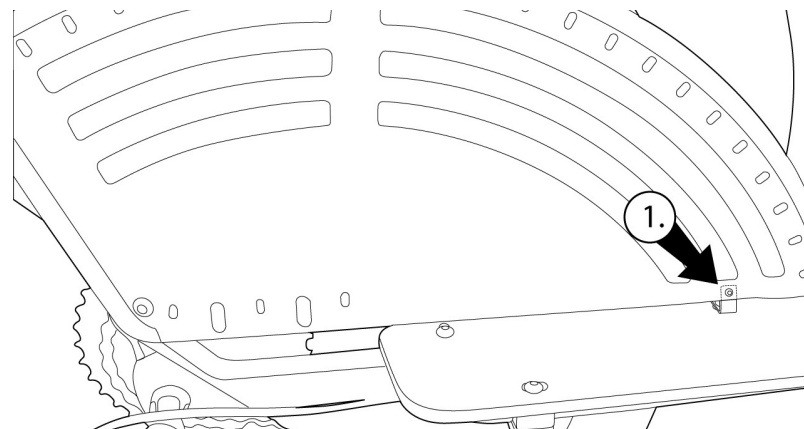
- 2 Plastic Skirt Guards
- 4 M6 Bolts
- 2 M5 Bolts
- 2 Skirt Guard Mounting Tabs

#### Required Tools

- Power Drill with 1/4" bit and a scrap wood block
- Metric bicycle multi-tool or Allen wrench set
- Permanent Ink Marker
- Micro Torque wrench (optional)

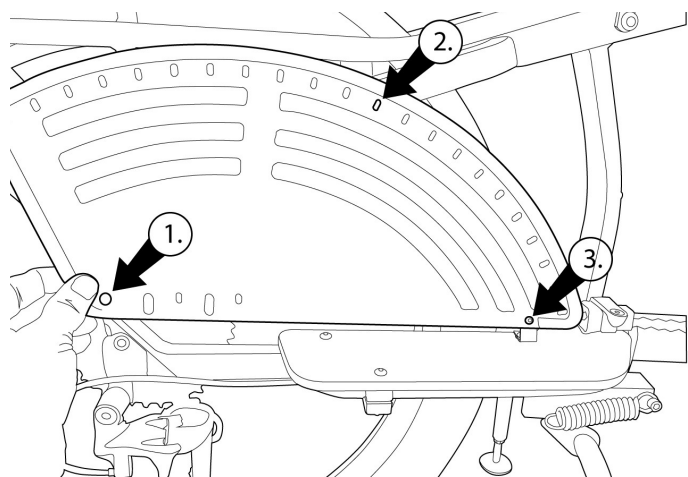
#### Installation Steps

1. If the Bamboo Footplate Kit (Part # 9000141) has been installed, remove the inside front mounting bolt (at the chainstay).
2. Place a washer and a Skirt Guard Mounting Tab onto a bolt and screw the bolt through the front, inboard hole and into the hole in the chainstay. **Make sure the Mounting Tab is oriented so that its vertical surface faces away from the bike** (1, below).



## » ACCESSORY INSTRUCTIONS

3. Tighten the Footplate bolt to 5Nm making sure to preserve the proper orientation of the Skirt Guard Mounting Tab
4. Attach the Skirt Guard at Point 2 with one of the M6-sized bolts.



5. Pull the Skirt Guard taut at Point 1 and mark where it overlaps the bolt hole on the Load Deck upright using your marker pen.
6. Place the scrap wood block behind the mark and, using the 1/4" bit, drill a hole through the Skirt Guard at the mark.
7. Using an M6-sized bolt, attach the Skirt Guard to the Load Deck upright.
8. Pull the Skirt Guard taut at Point 3 and mark where it overlaps the hole on the vertical face of the Mounting Tab.
9. Place the scrap wood block behind the mark and, using the 1/4" bit, drill a hole through the Skirt Guard at the mark.
10. Using the M5-sized bolt, attach the front of the Skirt Guard to the Mounting Tab.
11. Torque all three Skirt Guard bolts to 3Nm.
12. Repeat the procedure for the other side of the bike.
13. Check weekly to ensure that the Skirt Guard bolts are tight.

## » CONTACT INFORMATION

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