

hds

TM



HSD SUPPLEMENTAL INSTRUCTIONS

Original Instructions

EN

INSTRUCCIONES SUPLEMENTARIAS DE HSD

Traducción de las Instrucciones Originales

ES

HSD INSTRUCTIONS SUPPLÉMENTAIRES

Traduction des Instructions Originales

FR

MANUALE SUPPLEMENTARE PER BICICLETTA HSD

Traduzione delle Istruzioni Originali

IT

ZUSÄTZLICHE BEDIENUNGSANLEITUNG ZUM HSD

Übersetzung der Original-Bedienungsanleitung

DE

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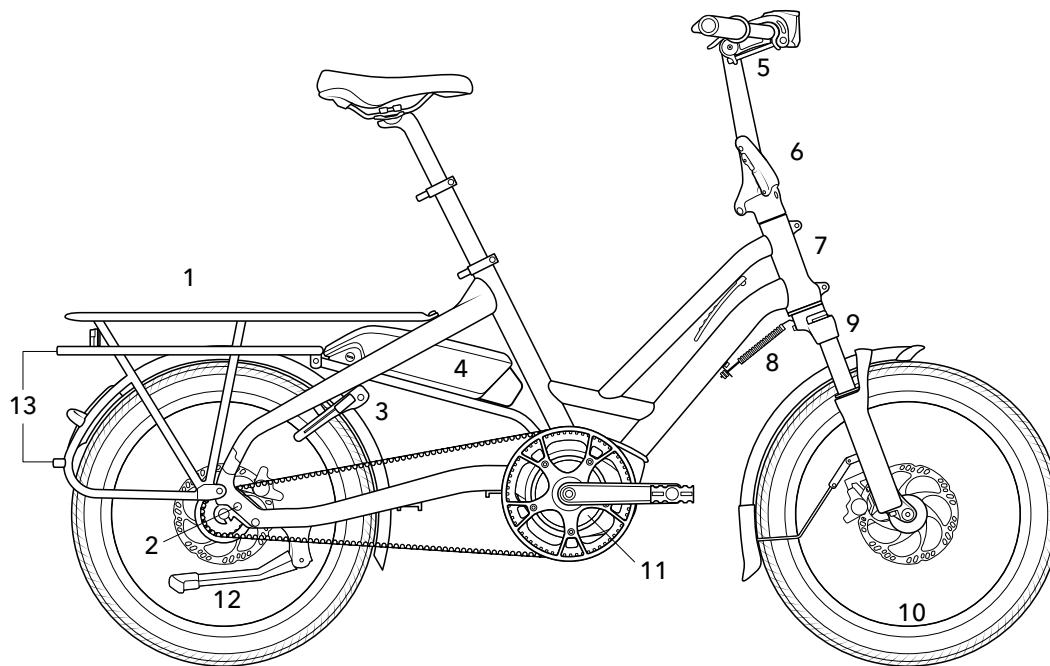
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1. General Information

Congratulations on your purchase of the Tern HSD, a mighty but mini ebike that is easy to handle, easy to share and carries a whole lot of cargo. For most riders, the HSD is just the right amount of bike for them.

Nomenclature of Parts

1. Atlas H Rack
2. Atlas H Dropouts
3. Frame Lock
4. Battery
5. Andros Stem
6. Physis Handlepost
7. Combo Mount
8. Wheel Stabilizer
9. Fork
10. Atlas Wheels
11. Motor Drive
12. Kickstand
13. Vertical Parking Contact Points



Meaning of Icons



Indicates how to use the product or items that require special attention.



Possible non-lethal injuries, if instructions are not followed.



Incorrect action could result in damage to the equipment.



You must have the proper tool, such as a torque wrench for items that require a specific torque. A torque that is too high or too low can cause parts to fall off or break and can lead to serious accidents and injuries.



Life-threatening danger if instructions are not followed or preventive measures are not taken.

EN

Intended Use

The HSD is designed for up to two people riding with both wheels in contact with paved roads or graded and maintained gravel roads. It is not intended for racing, jumps, hops, wheelies, stunts or anything of the kind.

 Failure to follow the intended use described above may result in serious injuries.

The manufacturer and dealer are not liable for any direct or consequential damages resulting from misuse.

The warranty will be void if your HSD is not used in accordance with the intended usage. Please refer to the HSD warranty card included in the box for specifics.

2. Weight and Loading

The Tern HSD is designed to carry cargo. In addition to meeting EN 15194 standards for ebikes, the HSD has undergone additional testing to ensure that it is capable of carrying up to 60 kg (132 lb). Rear cargo can be one child in an approved child seat or panniers and baskets or a combination of both. However, restrictions do apply and there are considerations for loading the HSD in a way that maximizes comfort and stability for the rider.

⚠ Total laden weight, excluding rider, at all attachment points should not exceed 60 kg.

HSD Limits:

- Maximum rider weight shall not exceed 120 kg (265 lb) when using non suspension seatpost. If your HSD is equipped with suspension seatpost, refer to the limits given by its manufacturer.
- Maximum load limit for the HSD is 170 kg (375 lb) which includes rider, passenger(s), accessories, and any additional cargo.
- Maximum weight on each tire should not exceed 95 kg (209 lb) when inflated to the maximum allowable pressure of 65 psi (4.5 bar). Overloading and/or under-inflating a tire causes premature wear. Approximately 65% of the total weight should be on the rear wheel.
- Maximum weight for a rear passenger is limited to 60 kg (132 lb).

⚠ HSD is NOT designed to carry adult passengers. Observe above limits and do not overload.

Rider Weight (kg)	50	60	70	80	90	100	110	120
Max Cargo (kg)*	60**	60**	60**	60	50	40	30	20
Rider Weight (lb)	110	132	154	176	198	220	243	265
Max Cargo (lb)*	132**	132**	132**	132	109	87	65	43

- ⓘ Numbers based on average vehicle weight of 30 kg, including panniers/racks.
- ⓘ * Make sure to follow the limits and recommendations in the Weight and Loading section. Total weight is limited by maximum allowed weight on each tire and a 60% weight distribution on the rear wheel
- ⓘ **Exceeds 80% of rider weight recommendation as described on page 7. Only carry what you can comfortably handle.

Kickstand Weight Limit

Unless otherwise stated, the rear-mounted kickstand has a load capacity of 25 kg (55 lb). With the kickstand lowered, the full weight of the HSD is shared among the wheels and kickstand. Follow these rules:

- The kickstand is designed for light cargo only.
- The kickstand is not designed to support a fully loaded HSD.
- If you are carrying a passenger, hold and help steady the HSD to reduce kickstand load while loading and unloading.

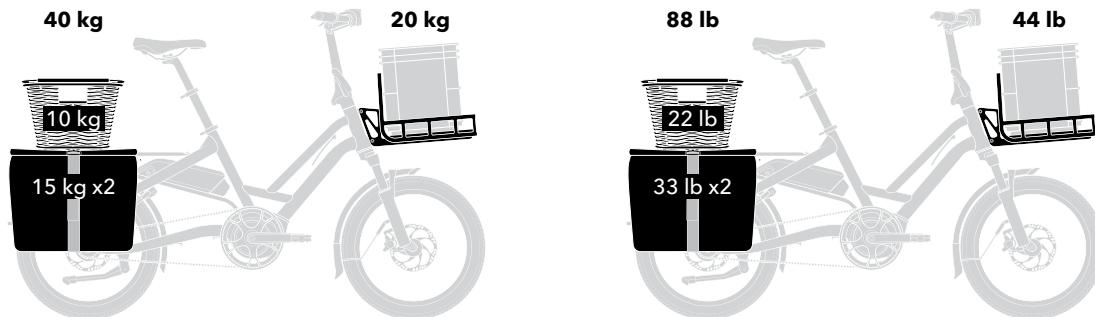
 **NEVER allow children to climb onto the HSD by themselves even if the kickstand is lowered unless an adult is steadying the bike.**

HSD Attachment Limits

- Maximum weight on the Combo Mount (Head Tube) is 20 kg (44 lb).
- Maximum weight on a pair of foot support, if installed, is 25 kg (55 lb) on each side.
- Maximum weight on the top of the Rear Rack is 50 kg (110 lb).
- Maximum weight on the side of the Rear Rack is 20 kg (44 lb). Keep the weight balanced between left and right sides for optimal stability.
- Individual accessory load limit may be lower than mounting location limit. Please refer to the instruction manual included with the accessory for maximum load limits.

 **The above load limits pertain to individual mounting area. Total cargo load should remain less than 60 kg (132 lb).**

Example Showing Proper Loading of the HSD



Recommendations for Safe and Happy Riding

- **Check your local regulations:** Some countries do not allow the carrying of passengers on the back of a bicycle. Others may require specific accessories to do so legally.
- **Check the well-being of your passenger:** These are recommended guidelines for usage. As always, you must determine if your passenger is strong and alert enough to be transported as a passenger on this bicycle.
- **Handling:** Most riders can comfortably carry 80% of their weight. You should determine if you are comfortable carrying that much weight.
- **Practice, practice, practice:** Rider size and strength will affect how easily a loaded bicycle can be handled. Always practice in an open, car-free area before carrying a passenger.
- **Road type:** The HSD should only be used on paved roads or graded and maintained gravel roads.
- **Cargo:** Place as low as possible and strapped firmly to the HSD. Items not securely fastened may compromise the handling and endanger yourself and others on the road.
- **Pay attention:** NEVER ride with hands off the handlebar. NEVER operate a handheld device such as a mobile phone when in motion.

Passenger Considerations

To safely carry a rear passenger, please make sure the HSD is equipped with the proper equipment that are installed and fastened securely:


- **Proper location:** The only location for carrying a passenger should be the rear rack. No other location is allowed.
- **Proper seating:** For children ages 6 and below, always use an approved child seat. The Thule Yepp Maxi and Next child seat has been tested and approved for use with the Tern HSD. For older children and adults less than 60 kg* (132 lb), install a seat cushion to protect against bumps.
- **A pair of foot supports:** The rear passenger's feet need to lie flat on foot support during the ride. Foot support are strictly for passenger use when SEATED. Standing on them is unsafe and may permanently damage the frame.
- **Handholds:** Ensure the rear passenger has something to hold during the ride. Whenever the HSD is in motion, the passenger who is not in a child seat must keep a grip on something stationary such as the Sidekick™ Bars.
- **Foot and leg protection:** Install wheel guards or Cargo Hold 37 Panniers folded flat on both sides of the bike.
- **Wear a helmet:** All passengers should wear approved helmets.
- **Check for dangling straps and loose-fitting clothing on passengers:** Ensure skirts, pants, shoelaces, etc. are tucked away or tied down to avoid being caught when the bike is in motion.

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⚠ While HSD frame and rack are strong, they are not intended to carry a passenger in excess of 60 kg (132 lb).

Getting Off and On the Bike

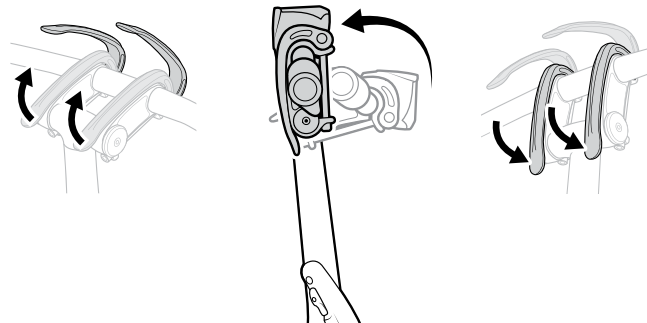
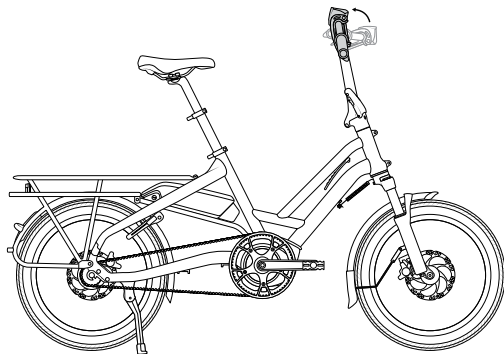
- When a child or adult passenger is getting onto the rear rack, ALWAYS hold the bike: NEVER allow children to climb onto the HSD by themselves unless an adult is steadying the bike.
- Use the kickstand when buckling in children: Because the kickstand will keep the bike stable, you can use two hands to securely buckle children into a child seat.

 **Do not leave children unattended on the back of the HSD: NEVER, ever, ever leave children unattended on the back of the HSD, even if it is on the kickstand. Wriggling children can upset the balance of the bike and a fall may result in serious injuries.**

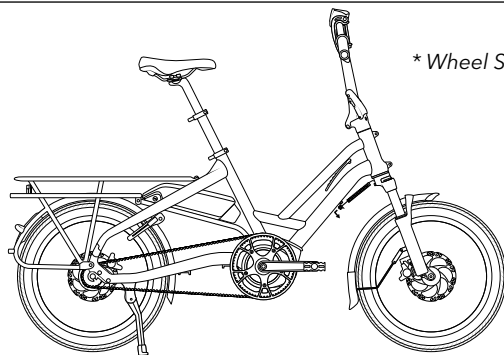
3. Flat Fold

The Tern HSD can be flat-folded to reduce its size. To do so, follow the steps below:

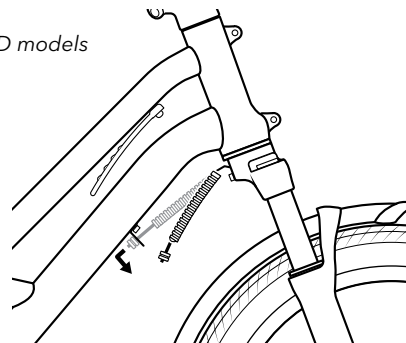
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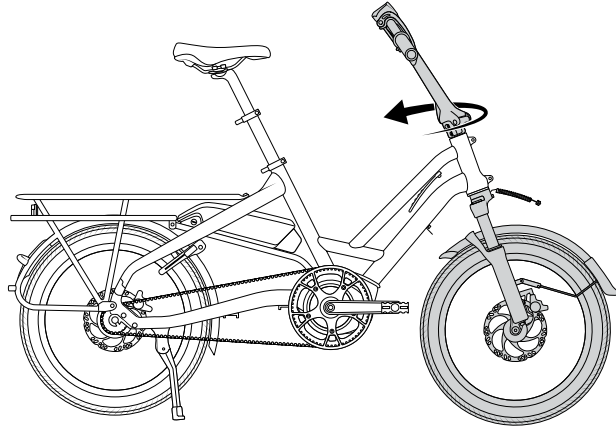
2*



* Wheel Stabilizer is not on all HSD models

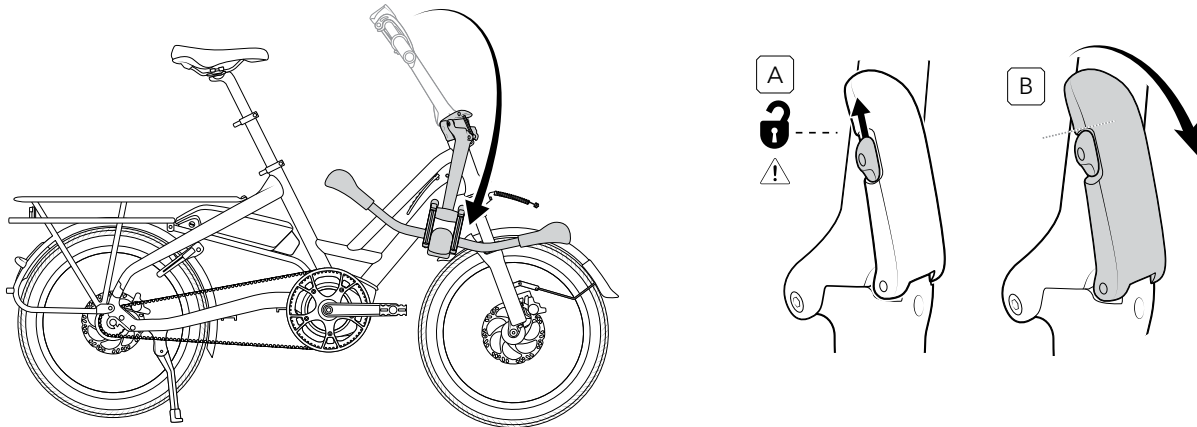


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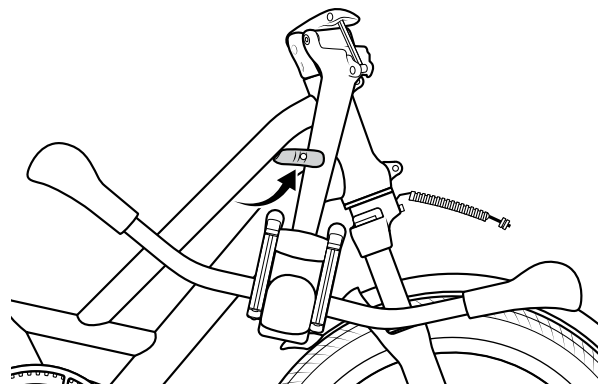
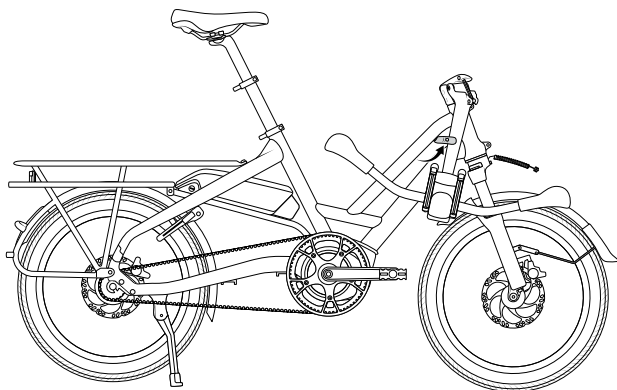


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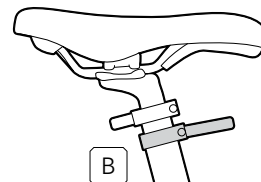
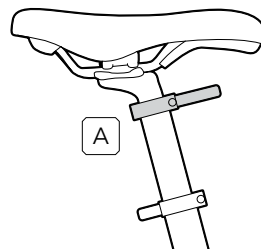
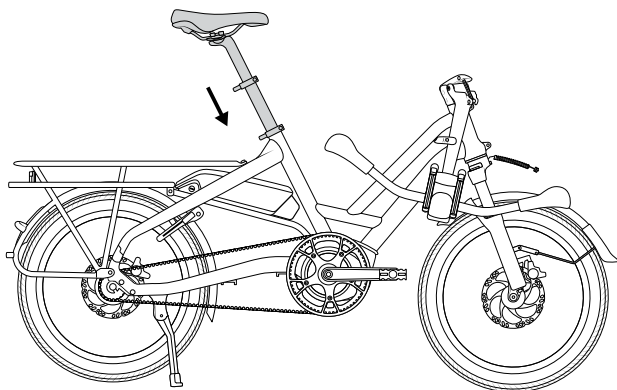


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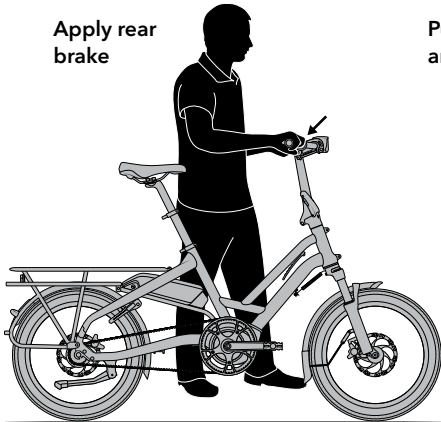
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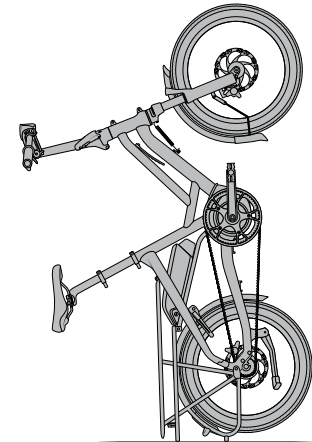
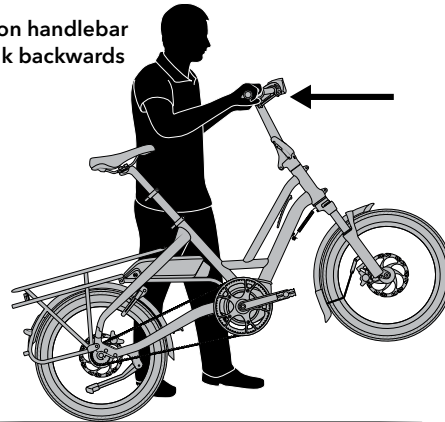
4. Vertical Parking

The Tern HSD is designed to stand on four contact points on the rear rack. In this configuration, the bike takes up a small footprint, which is very useful in tight spaces, such as in an elevator or in a storage area.


Apply rear
brake

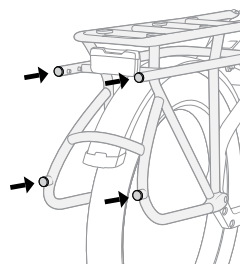



Pull up on handlebar
and walk backwards




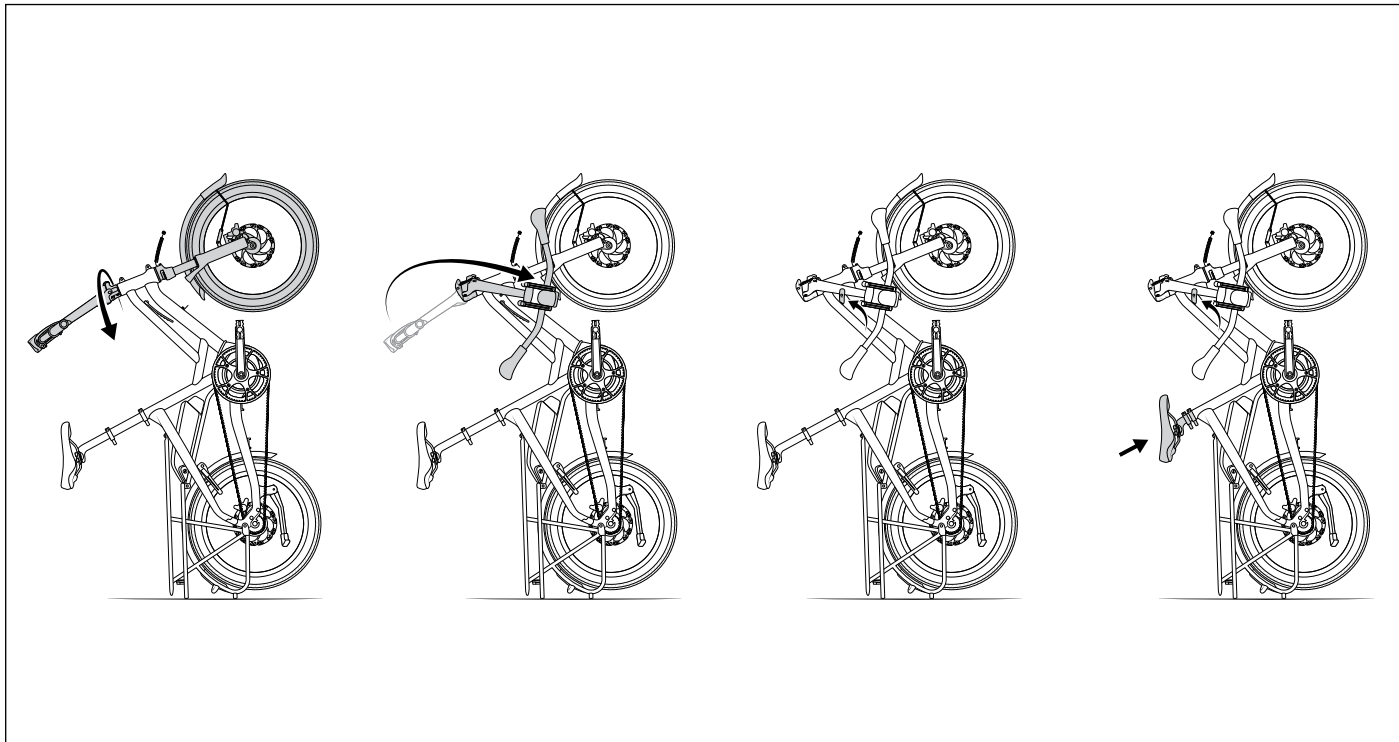
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 Make sure all four contact points touch the ground



 In public areas, hold the bike to prevent it from accidentally falling over.

 If the vertical parked bike is to be left unattended, always strap the bike to a fixed object to prevent falling.



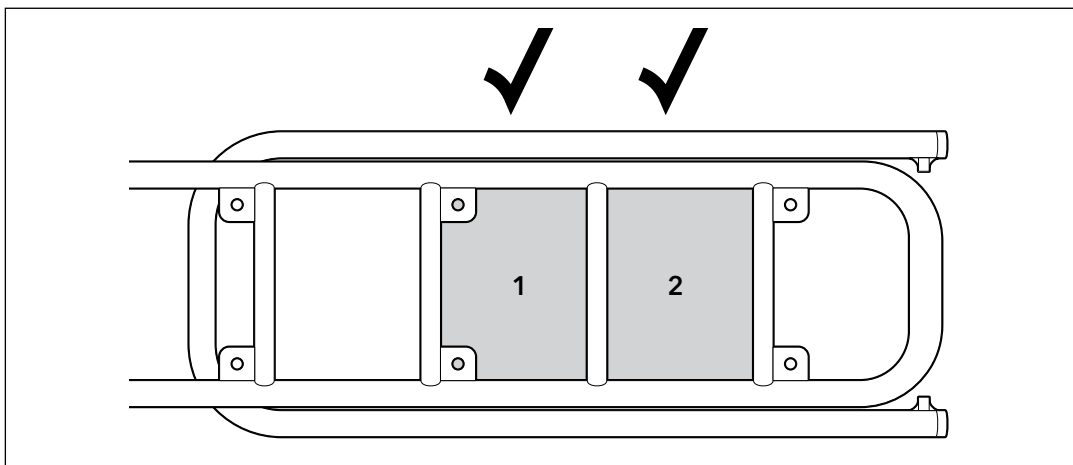
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5. Child Seat Mounting



The HSD Rack is designed to mount a single approved child seat, such as the Thule Yepp Maxi or the Thule Yepp Nextt Maxi.

As a general rule, place the child seat as forward as possible. Ensure the rider's heel does not strike the child seat while pedaling.

The preferred placement for the Yepp Maxi child seat is Windows 1 on the Rack. If heel strike occurs, use Window 2. The Nextt Maxi child seat can be mounted along the length of Windows 1 and 2 in as forward position as possible.



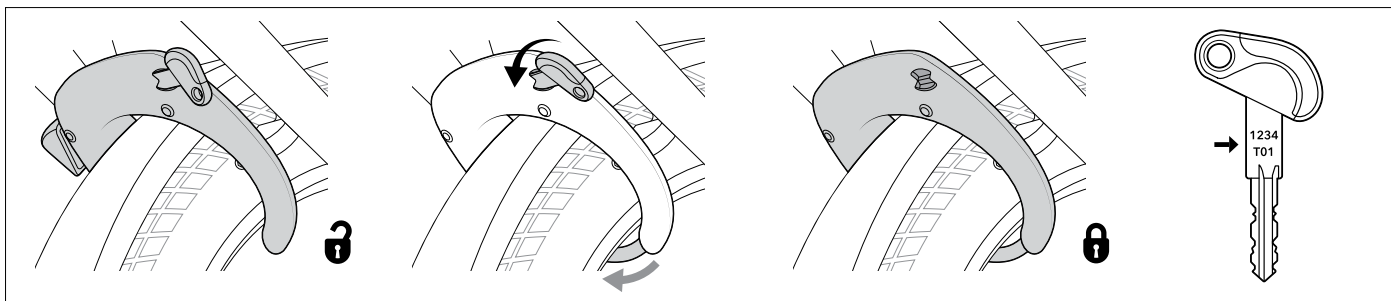
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-  Follow the installation instructions from the child seat manufacturer.
-  Do not accelerate hard, especially when going up steep hills to avoid front wheel lifting off ground

6. Frame and Battery Lock

This section applies to you if your model is equipped with a frame lock.

- ⚠ While frame locks can protect against unauthorized use of the bicycle, the use of a second lock is highly recommended.
- ⚠ Key cannot be removed from the frame lock while it's unlocked.



The frame and battery locks are keyed alike, meaning the same key works for both locks. The key code is written on a card that was originally supplied with the lock and on the key itself.

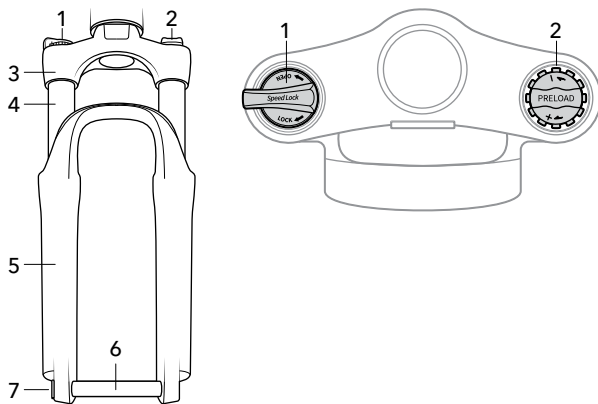
Please record the key number and/or store the key code card in a secure location in case you need to order a replacement from the lock manufacturer. You will not be able to recover your locks if this information is missing. Certain lock manufacturers allow registration of your locks online to provide better replacement service.

In case you are unable to retrieve your key and key code, you may take your HSD to the local Bosch dealer to retrieve the key code from the Bosch controller. Note this information may not always be possible/available.

7. Suspension Fork

Nomenclature of Parts

- | | |
|------------------------|------------------|
| 1. Speed Lock Adjuster | 5. Slider |
| 2. Preload Adjuster | 6. Thru Axle |
| 3. Crown | 7. Thru Axle Cap |
| 4. Stanchion | |



If your HSD is equipped with Suspension Fork, there are two adjustments available.

Preload Adjuster

- The suspension can be tuned to the rider's weight and preferred riding style through the Preload Adjuster (2).
- This dial sets the preload compression of the spring to the rider's weight on the fork.
- Turn the Preload Adjuster knob (2) clockwise to increase the spring preload and turn it counter-clockwise to reduce it.

Speed Lock Adjuster

- Turn the Speed Lock Adjuster knob (1) toward the LOCK direction to disable suspension.
- You may desire this adjustment when riding on paved/smooth surfaces or to improve pedal efficiency during uphill riding.
- Turn the Speed Lock Adjuster knob (1) to the OPEN direction to enable suspension.

Tire Clearance

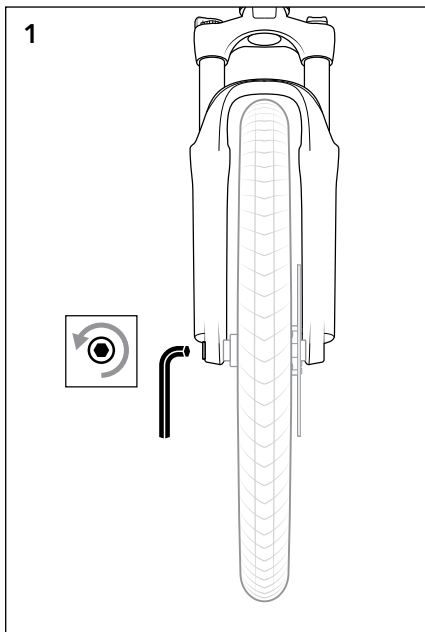
Your tire should not touch the fork under any circumstances.

⚠ Do not change your tires to a smaller or larger size. Inadequate tire clearance will result in sudden and unexpected loss of bicycle control, personal injury or death.

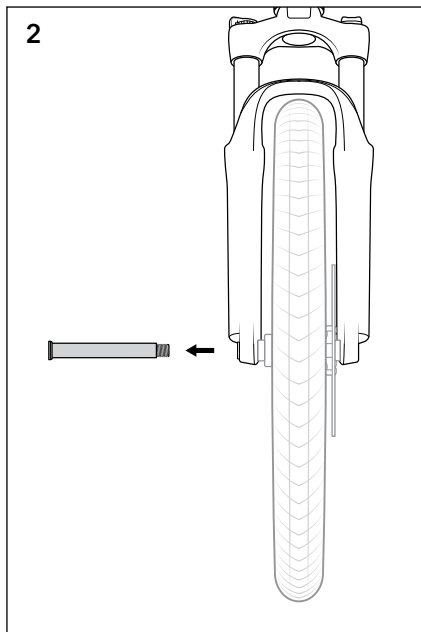
Wheel Removal

The Tern HSD uses a thru-axle for the front wheel. Unscrew and pull out the thru-axle to release your wheel.

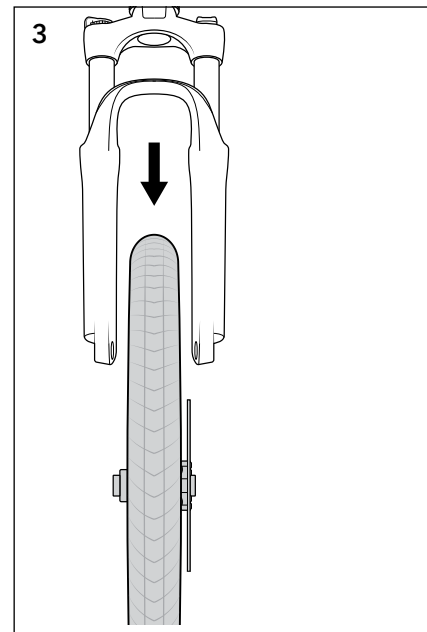
 Tool required: M5 Allen Key




1 Loosen Thru Axle cap (7) on the drive side with a 5 mm Allen wrench.



2 Remove nut and pull out axle.



3 Remove wheel.

 Do not press brake lever when the wheel is removed.

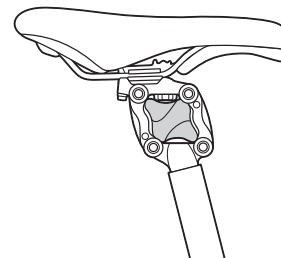
8. Suspension Seatpost

This section is for models equipped with the Thudbuster ST Suspension Seatpost. The Thudbuster uses elastomers as a suspension element within a parallelogram housing where the distance from the seat to pedal never changes.

Selecting Elastomers

The elastomer is made from natural rubber for its favorable damping characteristics and completely silent operation. To identify the stiffness of elastomer, locate the number on the small dial that is molded into one side. 1 is extra-soft, 9 is extra firm and 5 is medium. Cane Creek offers various elastomers for replacement. The Thudbuster must be set-up with appropriate elastomer before riding.

Rider Weight		Minimum Elastomer Recommendation
(Kilograms)	(Pounds)	
Under 45	Under 100	Extra Soft - #1
45-64	100-140	Soft - #3
64-86	140-190	Medium - #5
86-114	190-250	Hard - #7
Over 114	Over 250	Exceeds post limit





⚠️ Maximum allowable rider weight is 114 kg (250 lb). Never use a softer elastomer than recommended for your weight.

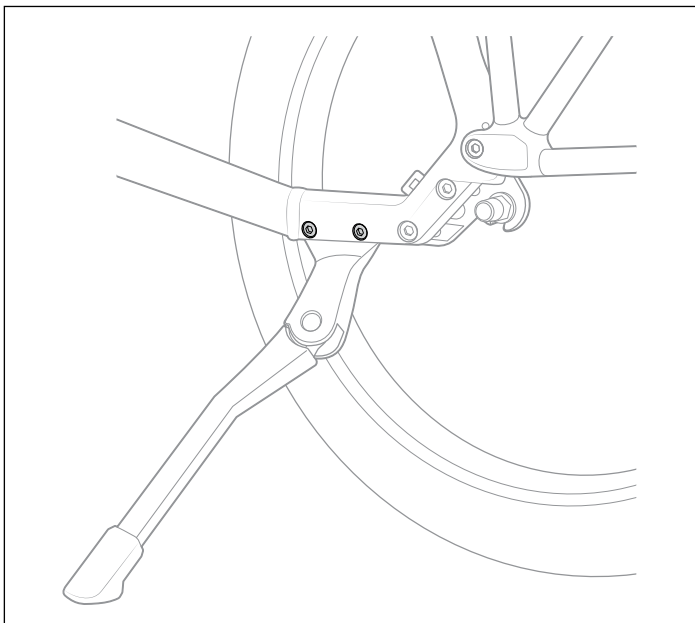
⚠️ Periodically check elastomer for excessive wear and replace if necessary.

For details about changing elastomer, maintenance and precautions, refer to the Thudbuster instructions included with your HSD.

9. Trailer Mounting

The kickstand mount on the chainstay has a 40 mm screw spacing and is compatible with aftermarket trailer kits, such as the Weber EH coupling.

-  Follow instructions given in all owner's manuals provided with trailer kit.
-  Observe all load and speed limits provided by the trailer kit manufacturer.



10. Belt Drive System

This section is for models equipped with the Gates Carbon Drive belt drive system.

Your HSD comes with Sliding Dropouts that offers 20 mm of adjustment. Once adjusted properly, it's possible to remove and slot back the rear wheel at the perfect tension.

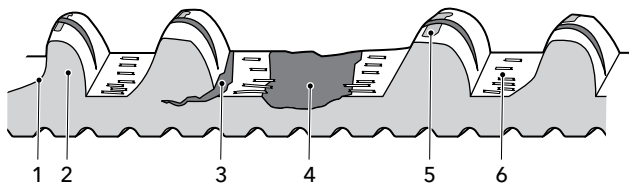
The Positive Tension Screw prevents the Sliding Dropout from moving forward unintentionally.

Visual Inspection

Periodically inspect the belt and sprocket for wear and tear. Take it to your dealer for a replacement if parts are worn as shown below.

Illustration source: Gates tech docs

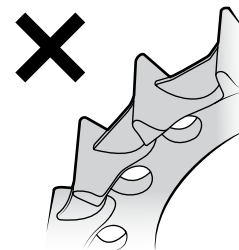
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1. Shark tooth
2. Not symmetrical
3. Cracks
4. Missing tooth
5. Fabric work with exposed polymer body
6. Carbon cords are exposed



This CenterTrack Sprocket is in excellent condition.




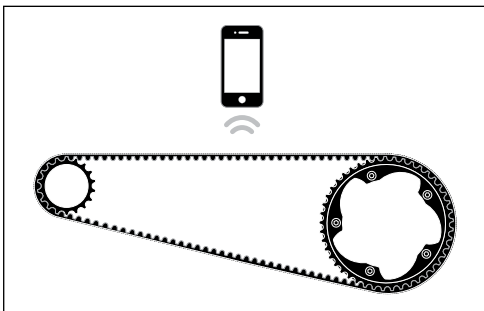
Replace your CenterTrack Sprocket when the teeth become worn, as shown in the illustration above.

Checking Belt Tension

Proper belt tension is essential for optimum operation. Lack of belt tension can lead to tooth jump or “skipping” which is when the teeth of the belt slide over the teeth of the rear sprocket. Too much tension can damage the bearings within the rear hub, can cause the system to drag, and can prematurely wear out your drive system.

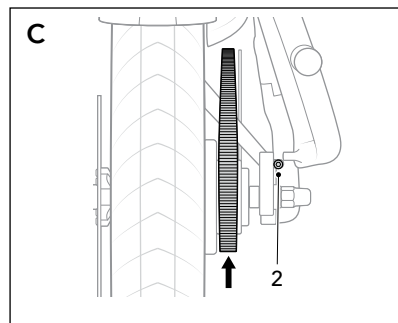
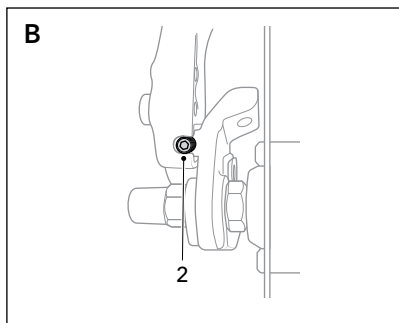
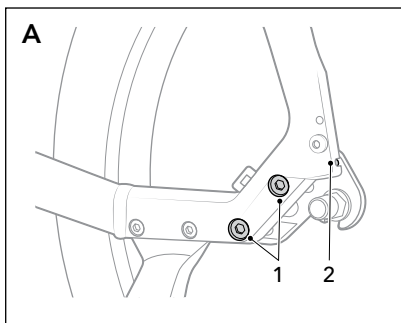
Unless you have special tension measurement tool, the best option is to use the Gates Carbon Drive Mobile App, available for Android and iPhone. The app measures belt tension from the natural frequency (Hz) of the belt by converting the vibrational sound into the primary frequency of the belt.

- From the Carbon Drive App, click the Frequency Tab and then click Measure icon. 




- Hold the phone next to the belt.
- Pluck the belt so that it vibrates similar to a guitar string. Rotate the crank quarter turn and repeat the frequency measurement. Complete one full revolution of the belt.
- Take an average of these readings. Around 15 Hz variation per reading is considered acceptable.
- For your HSD, the average measurement should be 35-50 Hz.

Belt Tension Adjustment Procedure



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 Tools required: M3 and M6 Allen Key

Steps:


A. Loosen but do not remove (1) Dropout Bolts.

B. Tension Adjustment

- To increase tension, turn Tensioning Screws (2) clockwise to lengthen chainstay distance. Make the same amount of adjustment to each Tensioning Screw (2) so that dropouts maintain alignment.
- To decrease tension, turn Tensioning Screws (2) counterclockwise to reduce chainstay distance. Make the same amount of adjustment to each Tensioning Screw (2) so that dropouts maintain alignment. Push the rear wheel forward until Tensioning Screws butt against the frame.

C. Check that belt is aligned and wheel is centered in the frame.

D. Tighten Dropout Bolts (1) to a torque of 25 Nm.

 If you are not mechanically inclined, please have your dealer adjust the tension.

 For additional care, troubleshooting and precautions, please consult the Gates Owner's Manual.

11. Enviolo AUTOMATIQ

For models equipped with the Enviolo AUTOMATIQ, the controls are integrated into the Bosch Intuvia control unit. This eliminates the need for an additional shifter on the handlebars.

Shifting

Automatic Shifting

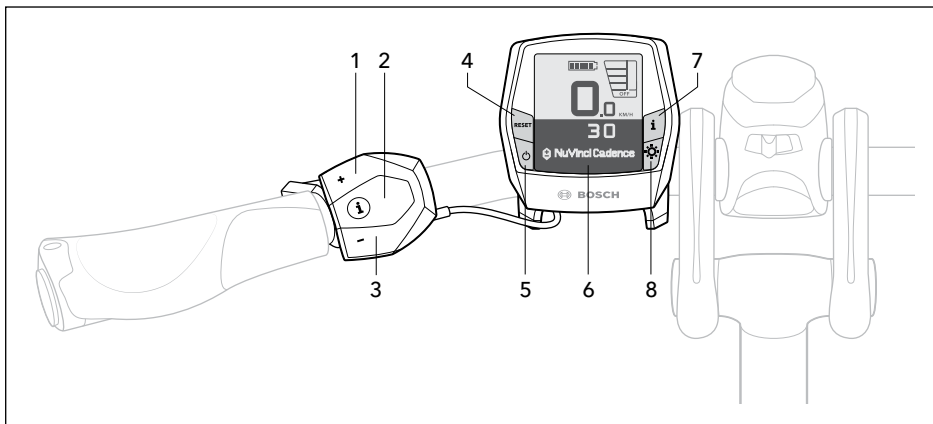
Press information button (2) or (7) until the Display (6) shows "NuVinci Cadence". Press + (1) or - (3) to set your preferred cadence. The transmission is automatically controlled so that you can always pedal at the same pace no matter what the terrain is.

Manual Shifting

Hold down the information button (2) or (7) until the Display (6) shows "NuVinci Gear". Press + (1) or - (3) to set your preferred gear.

Motor Assistance Level

Press information button (2) or (7) until the Display (6) is NOT showing "NuVinci Cadence" or "NuVinci Gear". Press + (1) or - (3) to set your preferred assistance level.



Enviolo App

- Configuring and updating the firmware can be done using Enviolo app via Bluetooth connection. Please visit the iPhone or Android App Store to download the app for your phone.
- Upon successful Bluetooth pairing, you will be prompted to upgrade if updated firmware version exists.
- Follow the on-screen instructions to upgrade firmware.

Cleaning

- Your Enviolo components are sealed and well protected from the external environment. However, do not use water under pressure (such as pressure washers or water jets) for cleaning to prevent malfunctions due to water penetration.
- During the winter season, you should frequently clean your bicycle, so that winter road salt cannot cause any damage.
- Do not use aggressive cleaners.

Lubrication

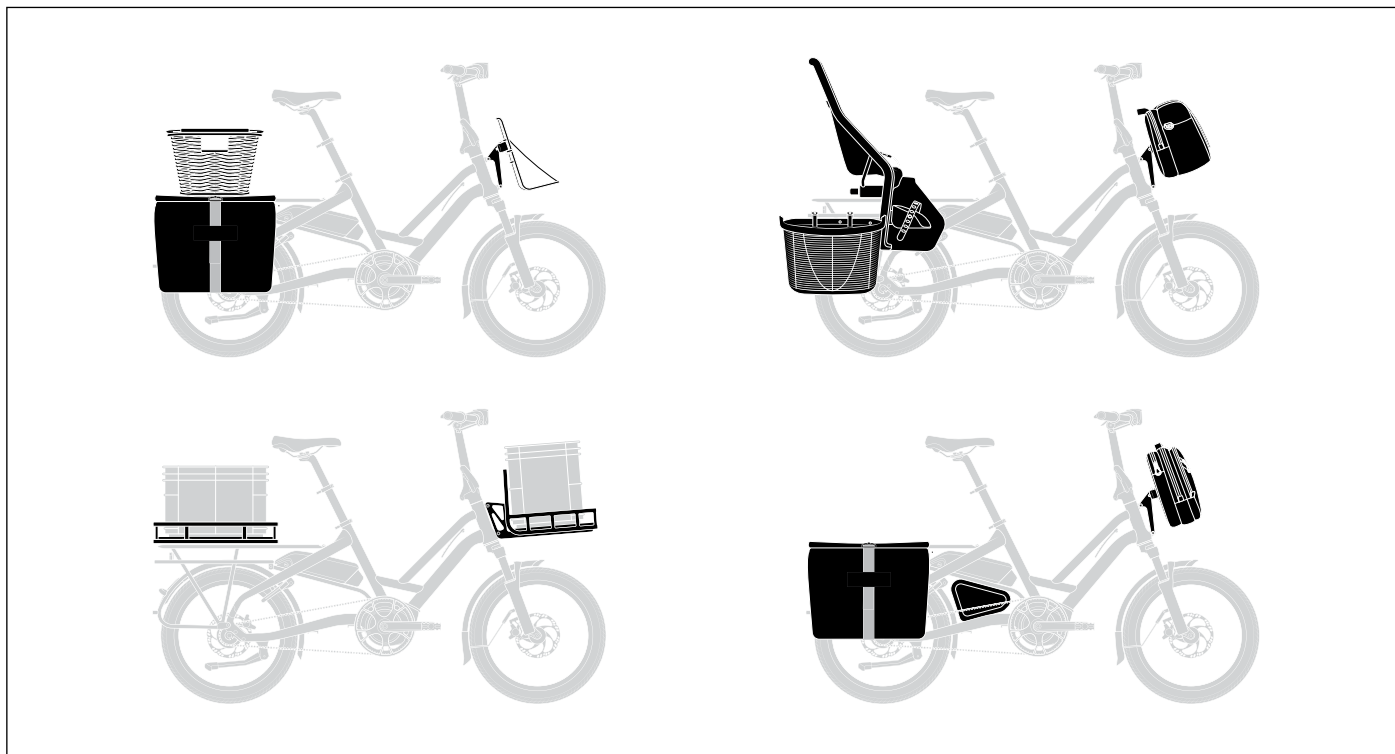
- The Enviolo internal gear hubs are provided with permanent lubrication and the internal gear hub is maintenance-free for the life of the product.
- The internal freewheel mechanism is serviceable.

Storage

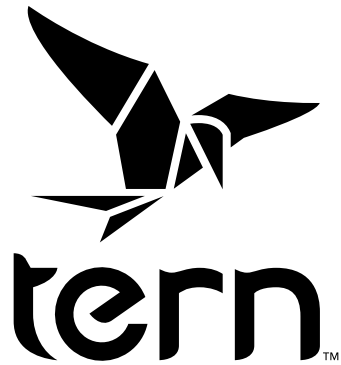
- Do not store your Enviolo components at ambient temperatures below -20°C or above 48°C.

12. HSD Accessories

A full range of accessories is available for the HSD.
 Please visit ternbicycles.com/hsd to learn about the latest HSD accessories.



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Tern Bicycles

ternbicycles.com

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