

# PISTON ION™

ASSEMBLY | USER GUIDE



ASSEMBLY VIDEO

# Table of Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
	Safety Instructions .....	3
	RV Compatibility & Off-Road Use Warning .....	5
	Parts, Tools, Important Notes & Tips .....	6
<b>2</b>	<b>Assembly</b>	<b>7</b>
	Hitch Assembly .....	7
	Foot Lever Assembly .....	8
	Inner Tray Assembly .....	9
	Outer Tray Assembly .....	11
<b>3</b>	<b>ION™ Use Guide</b>	<b>12</b>
	Tire Arm Operation .....	12
	Foot Lever Operation .....	14
	Tire Cradle Operation .....	16
	Tire Arm Placement .....	17
	Bike Ramp Instruction .....	19
	ION™ Wheel Stabilizers .....	21
	ION™ Fender Straps .....	23
	Unloading Bikes .....	24
	Securing your Bikes with the Cable Lock .....	28
<b>4</b>	<b>No Worries Limited Warranty</b>	<b>29</b>



# SAFETY INSTRUCTIONS

**ION**<sup>TM</sup>  
EASTON

Number Of Bikes	Weight Per Bike Dedicated 2" Hitch	Weight Per Tray RV use	Max Wheelbase	Max Tire Width	Off-Road Use	Use of Strap Kit
2	100lb	80lb	57in	4.8in	50lbs	RV-Use, Off-Road Use, Bikes with Fenders, Weight Over 70lbs, Wheelbase over 53in
	45.4kg	36.3kg	1447mm	122mm	22.6kg	
		See RV Compatibility on page 5	Max Wheelbase for Fender Use is 50"	May require use of the Küat Strap Extender Kit	See Off-Road Warning below	

## ⚠ WARNING

- Follow instructions for proper assembly, installation and use.
- Check tightness of all bolts and screws periodically.
- Make sure rack and vehicle receiver are in working condition before each use.
- Only use hitch extenders with a tightening mechanism like Küat hitch extenders.
  - When using the ION with a hitch extender, the weight capacity decreases to 80 lbs per bike. Do not use a hitch extender on an RV or off-road.
- Ensure Foot Pedal is fully engaged with Lever Lock activated each time the ION is in use.
- Do not exceed the bicycle or weight limits intended for this rack.
- Off-Road Use Warning: The ION is designed for and tested to be used off-road on non-technical terrain, at moderate speeds with a weight capacity not to exceed 50 lbs per tray.
  - When used off-road, the ION should only be mounted to dedicated 2" hitch receivers.
  - Use of the ION rack in off-road conditions with any hitch extension, swing-way product, or adapter is not approved and may result in damage that is not covered under warranty.
  - It should not be used on rough, washed-out, boulder-and-rut-strewn roads, while rock crawling, jumping, bogging, or other technical driving conditions.
  - Smooth gravel roads are not considered off-road
- Do not use tarps, rain covers or wind covers with this product.
- Do not exceed the weight rating of your vehicle's hitch receiver.
- Read the Limited Warranty for additional limitations on use with RV's and hitch extenders.

## NOTICE

- Do not take through automatic car wash.

# SAFETY INSTRUCTIONS CONT.



Number Of Bikes	Weight Per Bike Dedicated 2" Hitch	Weight Per Tray RV use	Max Wheelbase	Max Tire Width	Off-Road Use	Use of Strap Kit
2	100lb	80lb	57in	4.8in	50lbs	RV-Use, Off-Road Use, Bikes with Fenders, Weight Over 70lbs, Wheelbase over 53in
	45.4kg	36.3kg	1447mm	122mm	22.6kg	
		See RV Compatibility on page 5	Max Wheelbase for Fender Use is 50"	May require use of the Küat Strap Extender Kit	See Off-Road Warning below	

## ⚠ ADVERTENCIA

- Siga las instrucciones para el montaje, la instalación y el uso correctos.
- Compruebe periódicamente que todos los pernos y tornillos estén bien apretados.
- Asegúrese de que el portabicicletas y el enganche del vehículo estén en buenas condiciones antes de cada uso.
- Utilice únicamente extensores de enganche con mecanismo de apriete, como los extensores de enganche Küat.
  - Cuando utilice el ION con un extensor de enganche, la capacidad de peso se reduce a 80 libras por bicicleta. No utilice un extensor de enganche en una autocaravana o fuera de carretera.
- Asegúrese de que el pedal esté completamente enganchado con el bloqueo de palanca activado cada vez que utilice el ION.
- No exceda los límites de peso o de bicicletas previstos para este portabicicletas.
- Advertencia para uso todoterreno: El ION está diseñado y probado para su uso todoterreno en terrenos no técnicos, a velocidades moderadas y con una capacidad de peso que no exceda las 50 libras por bandeja.
  - Cuando se utilice fuera de carretera, el ION solo debe montarse en receptores de enganche específicos de 2 pulgadas.
  - El uso del portaequipajes ION en condiciones todoterreno con cualquier extensión de enganche, producto oscilante o adaptador no está aprobado y puede provocar daños que no están cubiertos por la garantía.
  - No debe utilizarse en carreteras irregulares, erosionadas, llenas de rocas y baches, ni en condiciones de conducción técnica, como escalada de rocas, saltos, atoladeros u otras.
  - Las carreteras de grava lisa no se consideran todoterreno.
- No utilice lonas, cubiertas para la lluvia o cubiertas para el viento con este producto.
- No exceda la capacidad de peso del enganche de su vehículo.
- Lea la garantía limitada para conocer las limitaciones adicionales de uso con vehículos recreativos y extensiones de enganche.

## AVISO

- No lo lleve a lavaderos de coches automáticos.

## ⚠ AVERTISSEMENT

- Suivez les instructions pour un montage, une installation et une utilisation corrects.
- Vérifiez régulièrement le serrage de tous les boulons et vis.
- Assurez-vous que le porte-vélos et l'attelage du véhicule sont en bon état de fonctionnement avant chaque utilisation.
- Utilisez uniquement des rallonges d'attelage dotées d'un mécanisme de serrage, comme les rallonges d'attelage Küat.
  - Lorsque vous utilisez le porte-vélos ION avec une rallonge d'attelage, la capacité de charge est réduite à 80 lb par vélo. N'utilisez pas de rallonge d'attelage sur un camping-car ou en tout-terrain.
- Assurez-vous que la pédale est bien enclenchée et que le verrouillage du levier est activé chaque fois que vous utilisez le ION.
- Ne dépassez pas les limites de poids ou de vélos prévues pour ce porte-vélos.
- Avertissement concernant l'utilisation hors route: le ION est conçu et testé pour être utilisé hors route sur des terrains non techniques, à des vitesses modérées, avec une capacité de charge ne dépassant pas 50 lb par plateau.
  - Lorsqu'il est utilisé hors route, le porte-vélos ION ne doit être monté que sur des attelages de 2 pouces dédiés.
  - L'utilisation du support ION dans des conditions hors route avec une rallonge d'attelage, un produit pivotant ou un adaptateur n'est pas approuvée et peut entraîner des dommages qui ne sont pas couverts par la garantie.
  - Il ne doit pas être utilisé sur des routes accidentées, délavées, jonchées de rochers et d'ornières, lors de la conduite sur des rochers, de sauts, de bourbiers ou dans d'autres conditions de conduite techniques.
  - Les routes de gravier lisses ne sont pas considérées comme hors route.
- N'utilisez pas de bâches, de housses de pluie ou de housses anti-vent avec ce produit.
- Ne dépassez pas la capacité de charge nominale de l'attelage de votre véhicule.
- Lisez la garantie limitée pour connaître les restrictions supplémentaires relatives à l'utilisation avec les camping-cars et les rallonges d'attelage.

## AVIS

- Ne passez pas dans une station de lavage automatique.

# Küat RV Compatibility Warning

Küat's limited warranty only covers the use of some of its receiver hitch-mounted bicycle racks with some recreational vehicles (RVs), as described below. Many types of RVs subject the rack and bicycles on it to high forces and extreme movements. Damage resulting from the use of a Küat product in violation of this section is not covered by this limited warranty.

Küat's limited warranty will cover use of any of its 2-inch receiver hitch-mounted bicycle racks on Class B type motorhomes, commonly known as van conversions (as defined in 49 C.F.R. 571.3), satisfying all of the following requirements:

The receiver hitch is directly attached to the motorhome chassis, not just to the bumper;

The rear-most point of the receiver hitch, where the bicycle rack will be attached, is no more than 64 inches from the rear axle of the motorhome; and

The vehicle is a class B type motorhome as described below.

Class B type motorhomes are commonly known as van conversions and comprise a completed van-type vehicle that has been altered to provide temporary living quarters. Class B type motorhomes have a gross vehicle weight rating of 10,000 lbs or less.

In addition, (i) the 2-inch receiver Transfer™ v2, (ii) the 2-inch receiver Piston ION, (iii) the 2-inch receiver Piston Pro X, (iv) the 2-inch receiver Piston Pro, and (v) the Piston SR with 2" Hitch Adapter may be used on RVs (both motorhomes and trailers) satisfying all of the following requirements:

The receiver hitch is directly attached to the RV chassis, not just to the bumper;

No hitch extender or swing-away rack attachment is being used; and

The bike rack is in its original configuration, with no add-on rack attachments.

Please check the product User Guide for load weight limits applicable to your rack when used on an RV. Lower weight limits apply.

Even if the conditions above are met, any RV may be operated in a way that will expose Küat's products to conditions that they are not designed to handle. The RV operator is responsible for operating the RV in a manner that will not overload the rack, such as by excessive speed over rough roads or speed bumps, rapid turning movements, driving the RV over changes in gradient that will bring the rack in contact with the ground, or other similar actions.

## Küat Off-Road Use Warning

Küat's limited warranty only covers the use of some of its products when used off-road, as described below. Many off-road situations subject the product, bicycles, and gear on it to high forces and extreme movements. Damage resulting from the use of a Küat product in violation of this section is not covered by this limited warranty.

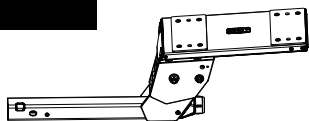
Küat's limited warranty will cover use of the (i) IBEX Truck Bed Rack, (ii) all IBEX Truck Bed Rack Accessories, (iii) the IBEX Panel Kit, (iv), the DEK Roof Platform, (v) the 2-inch receiver Piston ION, and (vi) the Pivot XD when used off-road as described below under the following conditions:

The product is used on non-technical terrain and does not require aftermarket upgrades to your 4WD suspension; and usage does not include rock-crawling, jumping, bogging, or driving on washed-out, boulder-and-rut-strewn, or other technical conditions; and the product is driven at a moderate speed. Smooth gravel roads are not considered off-road.

Always check the product User Guide for load distribution instructions and weight limits applicable to your rack when used off-road. Lower weight limits apply.

Even if the conditions above are met, a product can be used in a way that will expose it to situations it is not designed to handle. The vehicle operator is responsible for being an experienced off-road driver and should operate the vehicle in a manner that will not overload the rack. The vehicle operator should also consider total load distribution when encountering rutted and/or rocky terrain, and must reduce the load, speed, or both, as necessary.

## Parts



(1) Centerbeam Assembly



(1) Bike Ramp



(2) Long Fender Straps



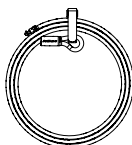
(2) Short Fender Straps



(1) Outer Tray



(1) Inner Tray



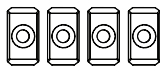
(1) Cable Lock



(1) Foot Pedal



(2) Key



(4) Tray Bolt Spacers



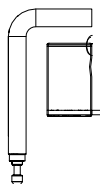
(4) M10 x 45mm  
Socket Cap Bolts



(1) M6x16

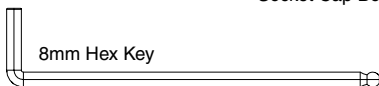


(1) M6 Washer

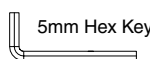


(1) Hitch Pin  
(1) Hitch Lock

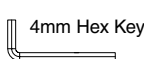
## Tools



8mm Hex Key



5mm Hex Key



4mm Hex Key

**We recommend that you begin by inserting the centerbeam assembly into a hitch receiver for a smoother assembly experience.**

**Keep your rack clean! Just like your shifter and derailleur, dirt, dust, and grime can work themselves into the mechanism resulting in sub-par performance. Periodically hose and wipe down your ION™ to keep your rack looking good and functioning smoothly.**

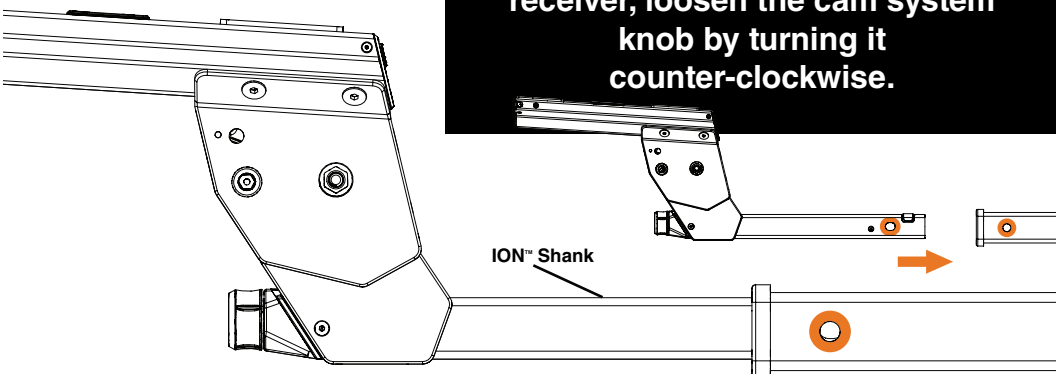
**Estimated assembly time: 25 Minutes**

# Hitch Installation

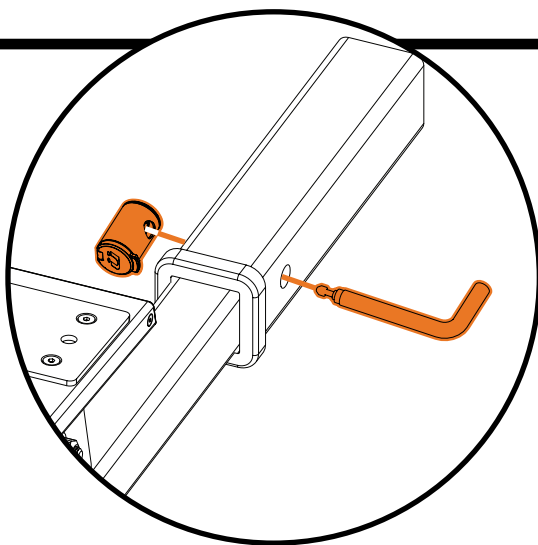
- 1 Insert ION™ Centerbeam Assembly into hitch receiver.

## NOTICE

If the Centerbeam Assembly does not fit into the hitch receiver, loosen the cam system knob by turning it counter-clockwise.

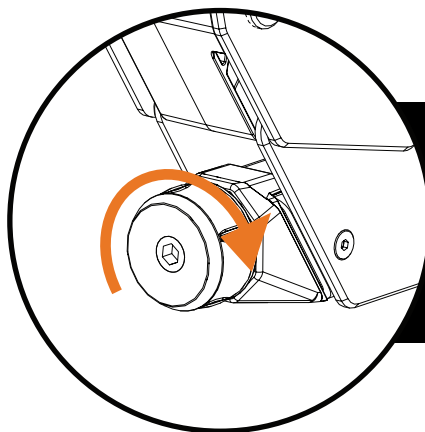


- 2 Align hitch pin holes.



- 3 Insert hitch pin through holes in hitch receiver and ION™ shank, and secure with hitch pin lock.

- 3 Fully tighten the Flatlock™ cam system into the hitch receiver by turning the cam system knob clockwise.

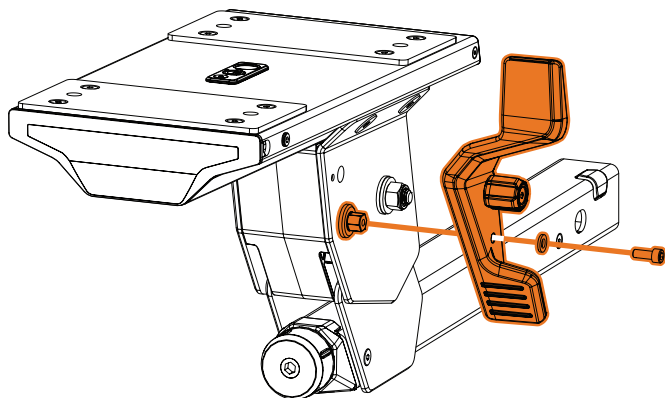


**NOTICE**

**Helpful Tip:**  
Before tightening the cam system, push the rack into the hitch receiver until the hitch pin is pinched in the receiver

## Foot Lever Assembly

- 1 Slide foot lever into position on Centerbeam assembly, installing the M6 x 16 Bolt and M6 Washer using the provided 5mm hex key.

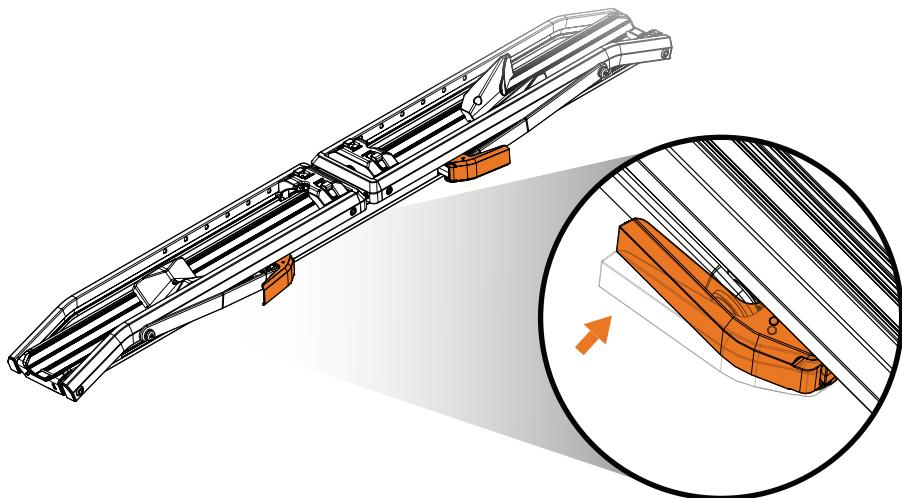


**CAUTION**

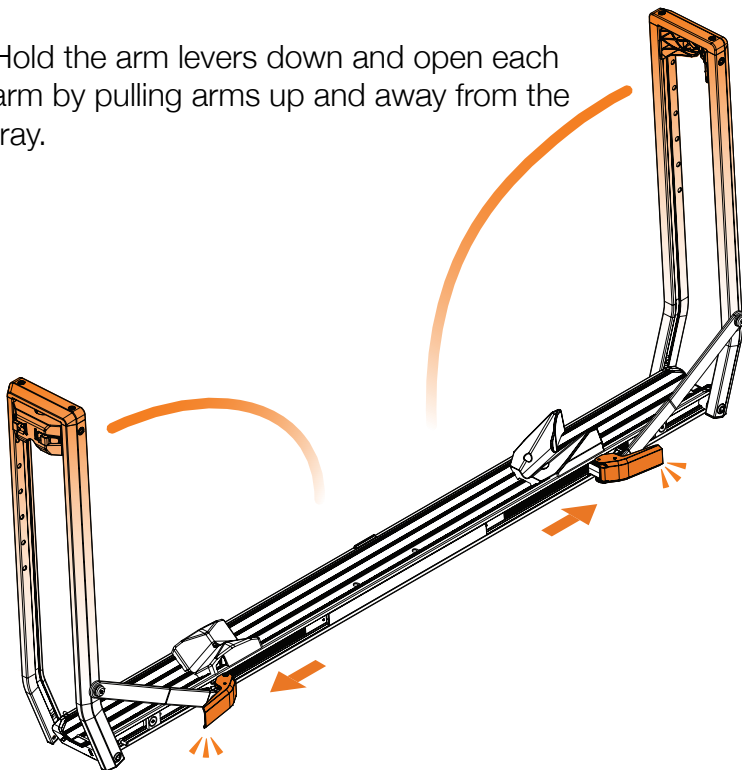
**Torque Foot Lever Bolt to 10Nm.**

# Inner Tray Assembly

- 1 To assemble the trays for your ION™, begin by deploying the tire arms on each tray. This will provide access to the two mounting locations on each tray.



- 2 Hold the arm levers down and open each arm by pulling arms up and away from the tray.



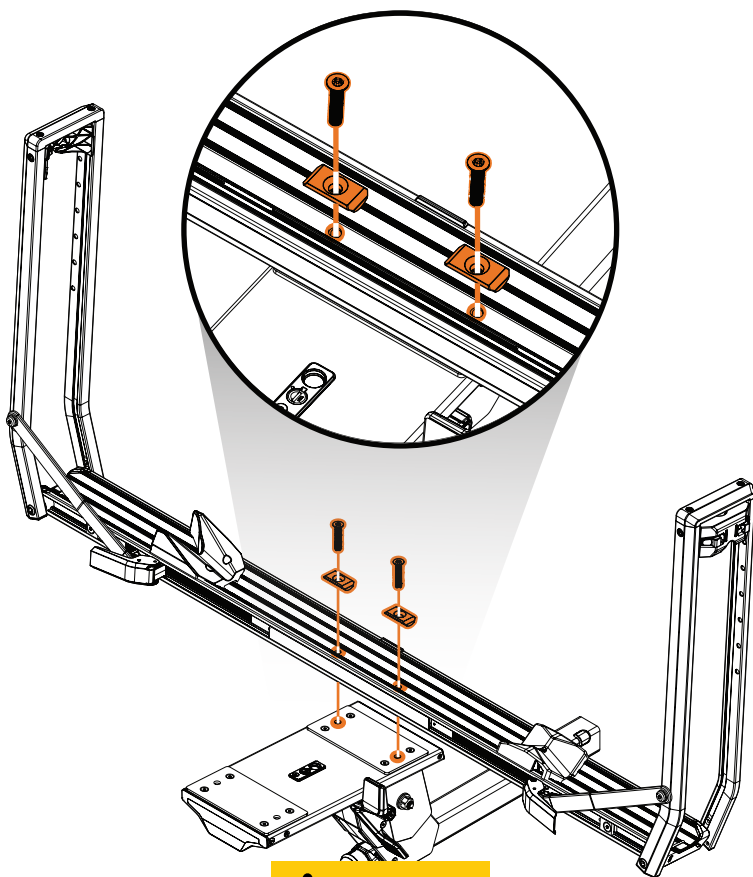
# Inner Tray Assembly

- 1 Set the Inner tray over the two bolt hole locations on the inner tray seat on the Centerbeam.



The Inner Tray is labeled ION™ and Küat.

- 2 Using the M8 Hex Key, install two M10x45 Socket Cap Screws through two Tray Bolt Spacers, Inner ION™ tray, and into the Centerbeam assembly.



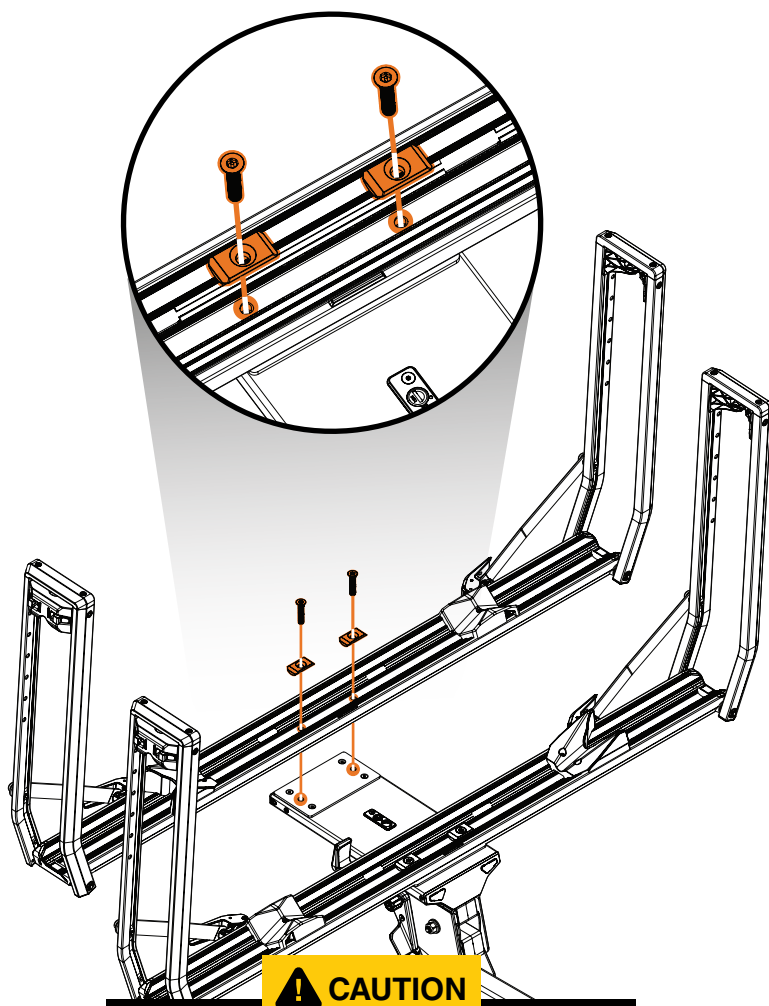
**⚠ CAUTION**

**Torque M10x45 bolts to 40Nm.**



# Outer Tray Assembly

- 1 Position the Outer tray over the two bolt hole locations in the front of the Centerbeam.
- 2 Using the M8 Hex Key, install two additional M10x45 Socket Cap Screws through two tray bolt spacers, Outer ION™ tray, and into the Centerbeam assembly.

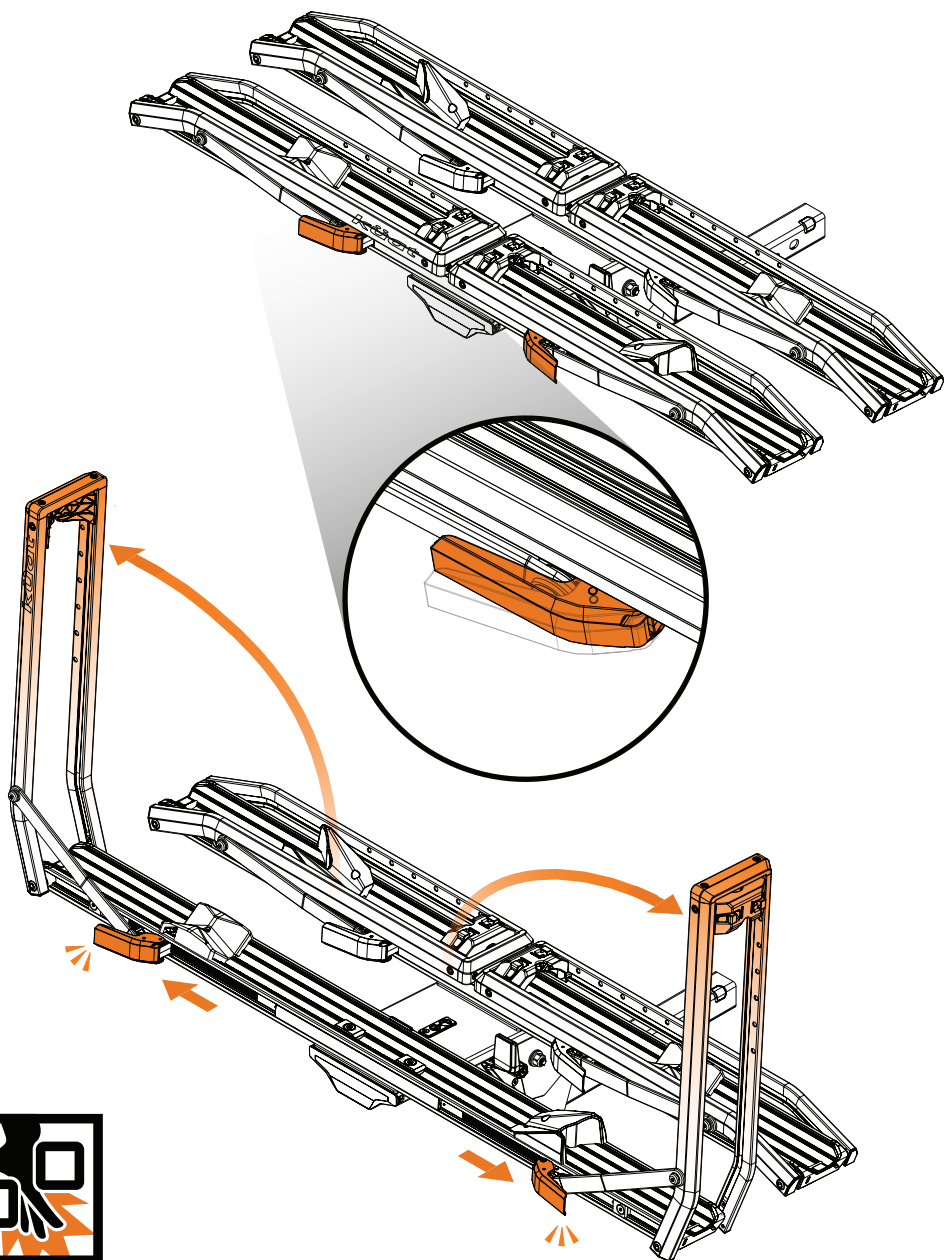


**CAUTION**

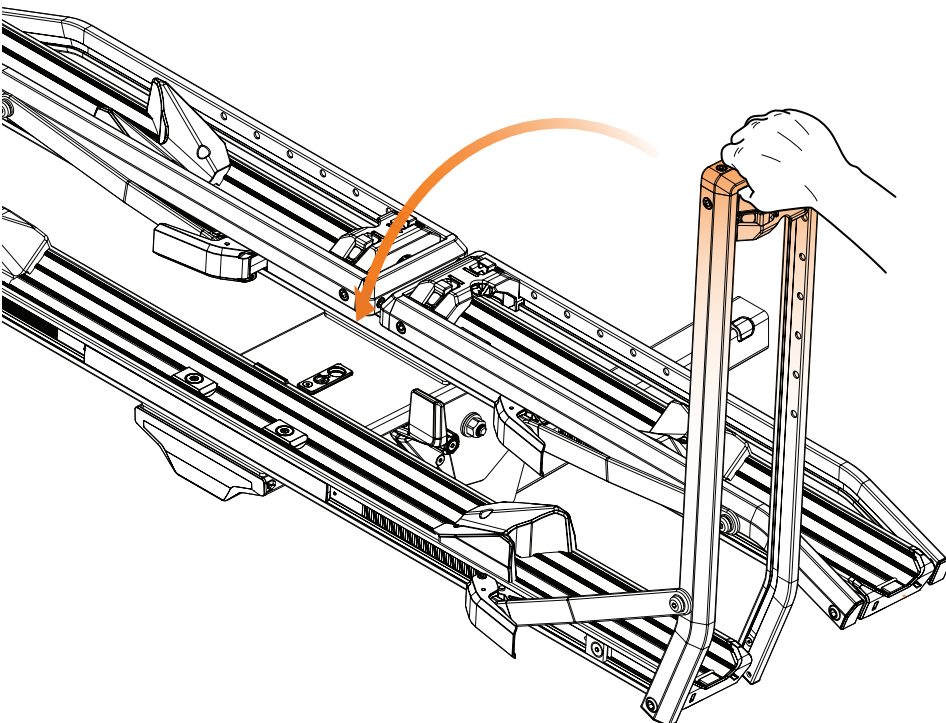
**Torque M10x45 bolts to 40Nm.**

# Tire Arm Operation

- 1 To open the arms of your ION™, hold the arm levers down while simultaneously pulling each arm up and away from the tray.



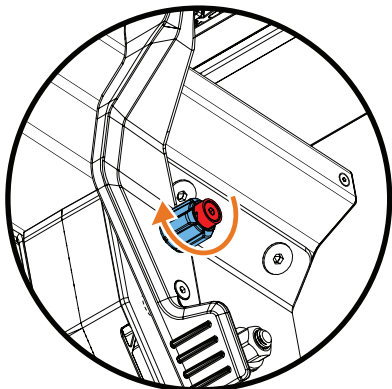
- 2 To close your ION™ tire arms, ratchet the arms back onto the bike tray.



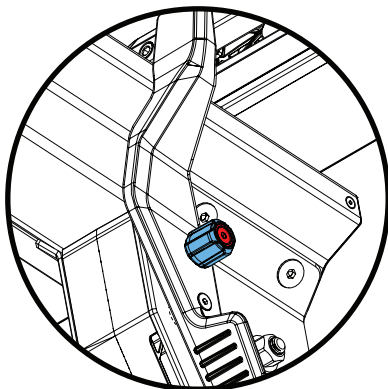
# Foot Lever Operation

- 1 The ION™ foot pedal features a Foot Pedal Lock. This will need to be unlocked to use the foot pedal.

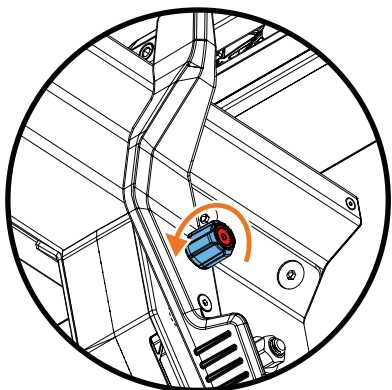
Spin the knob clockwise to engage or disengage the Foot Pedal Lock.



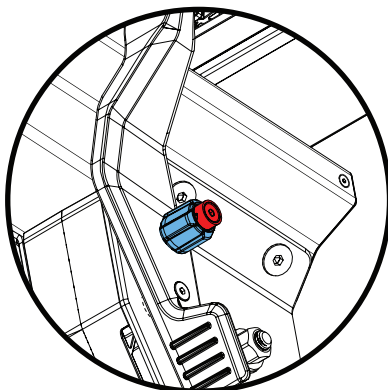
Disengaged



Engaged



Engaged



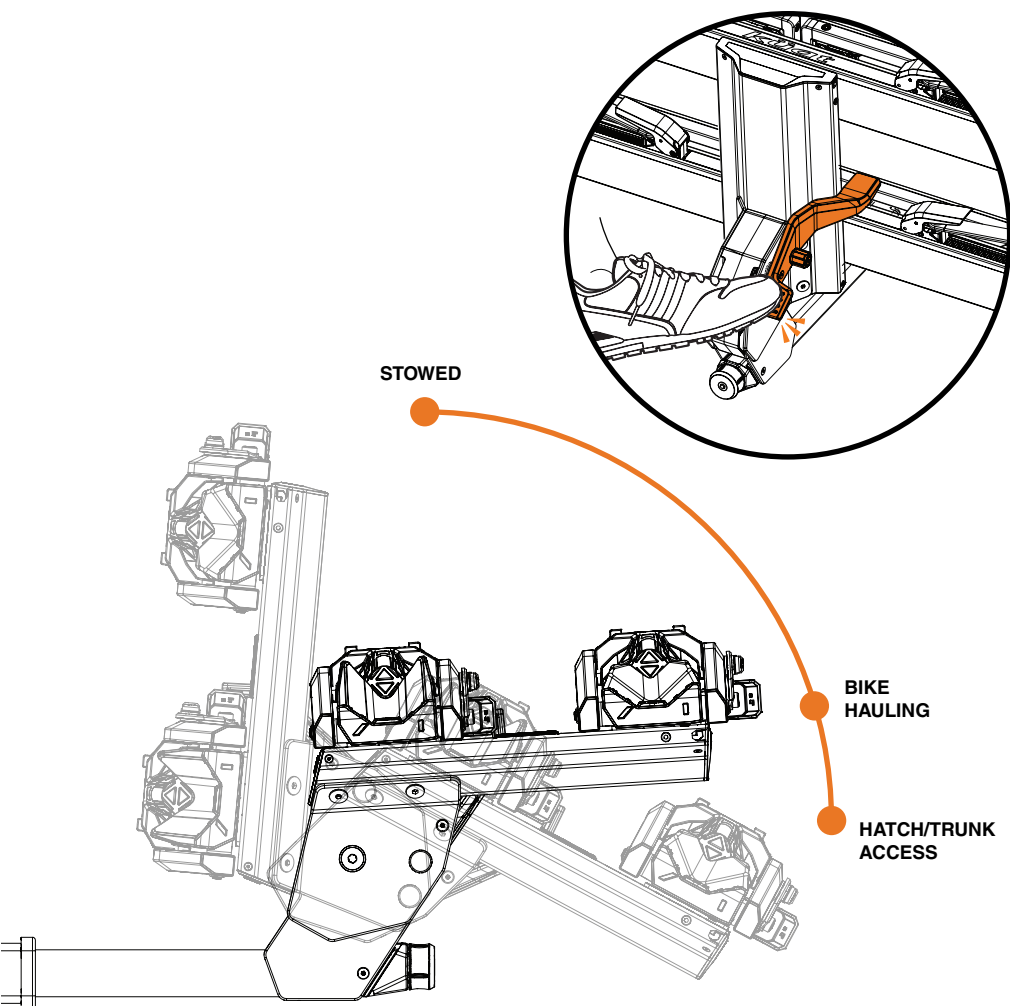
Disengaged



**WARNING**

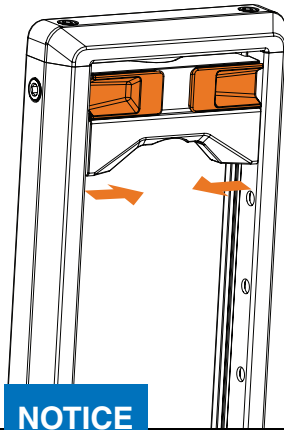
**Ensure Foot Pedal is fully engaged with Lever Lock activated when ION is being used. You might need to manipulate the Lever Lock slightly to achieve proper engagement.**

- 2 Use the foot pedal to tilt the rack down from the stowed position to load and haul bikes. Use the foot pedal again to tilt further down to a 45 degree angle for hatch or truck access.



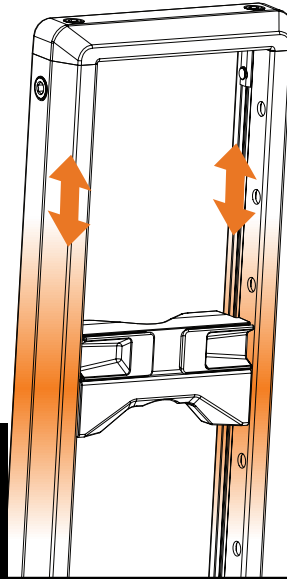
# Tire Cradle Operation

- 1 Push tabs inward and slide tire cradle up or down tire arm to adjust for measured wheel size.



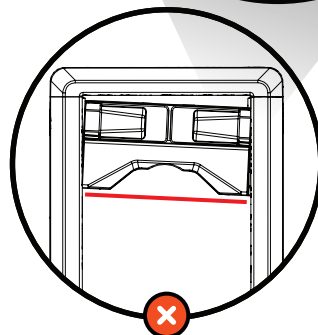
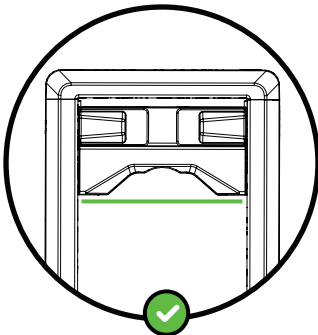
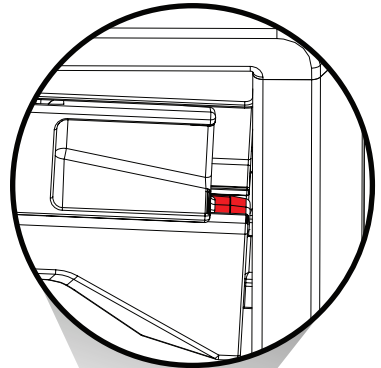
## NOTICE

**Periodically lubricate inside channels of Tire Arm to maintain performance.**



- 2 Visually ensure tabs are fully secured in notches. Misaligned tabs or tabs not fully secured will show a red warning indicator.

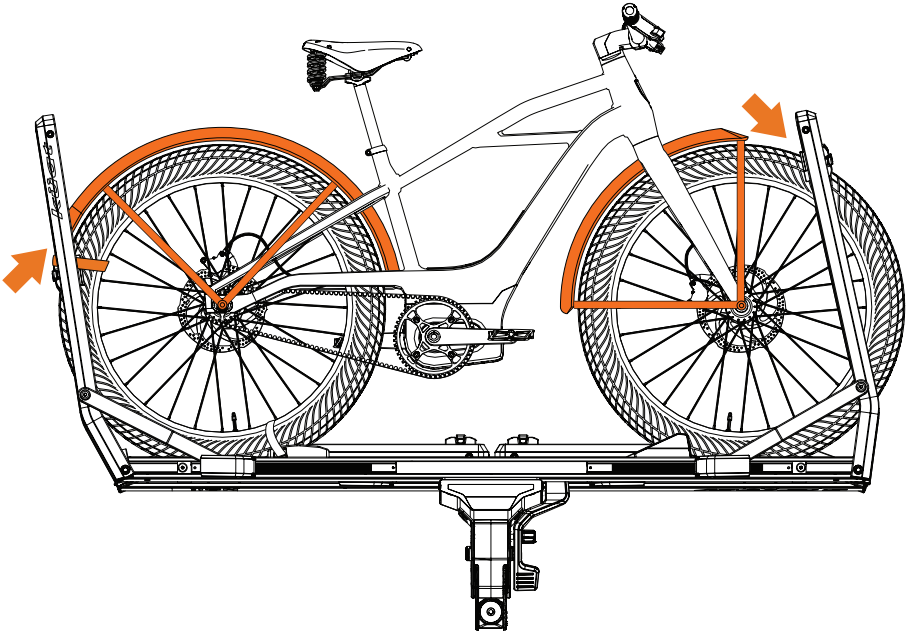
**CAUTION** Failure to secure both tabs may result in bikes becoming loose and falling during travel.



# Tire Arm Placement

## Bicycles with Fenders

Place Tire Cradles as close to fenders as possible as shown in the example below:



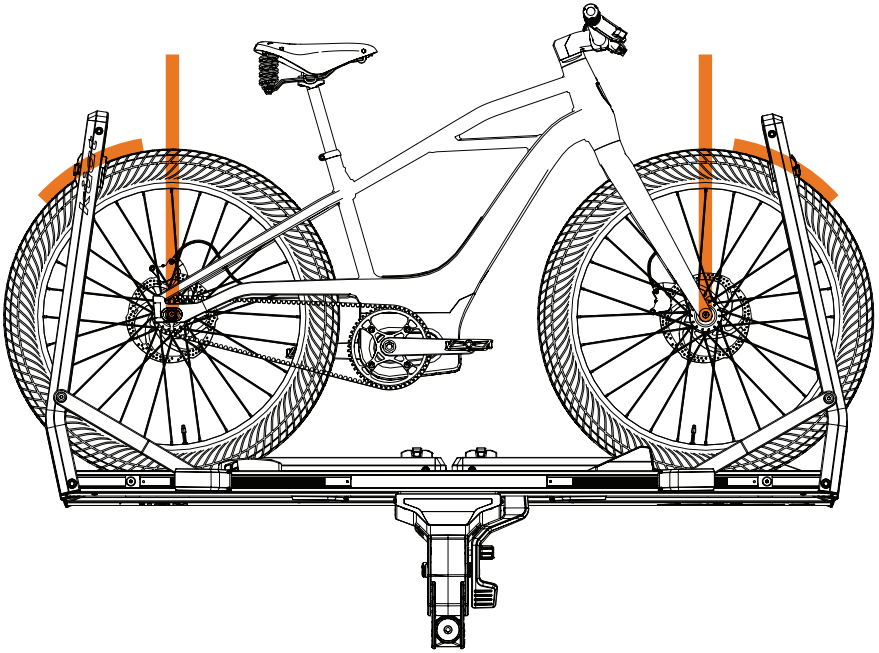
### CAUTION

Placement of the Tire Cradle should be as close to the Fender as possible.  
The use of an added strap for stability will be necessary.

# Tire Arm Placement

## Bicycles without Fenders

Place Tire Cradles as close to the center axis of the tire as possible.

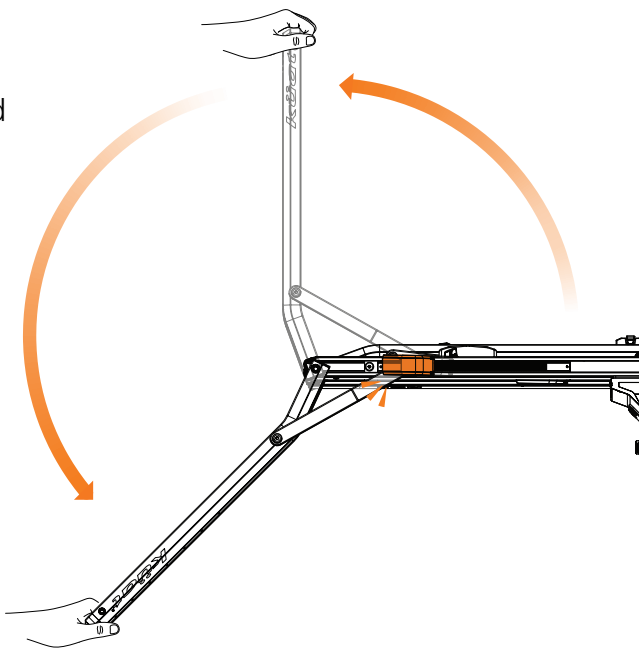




# Bike Ramp Instruction

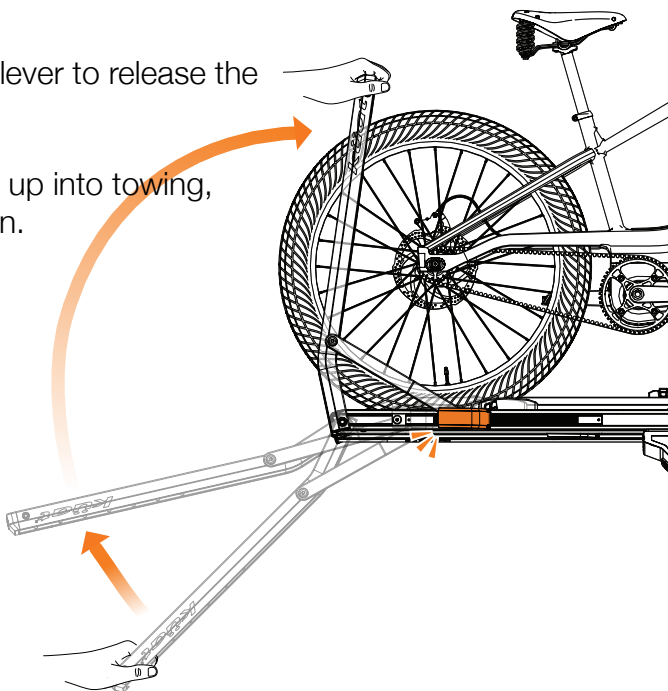
## To Fold Down

- 1 Hold ION™ lever and open tire arm.
- 2 Pull arm down into negative position.
- 3 Unload selected bike or install eBike Ramp.



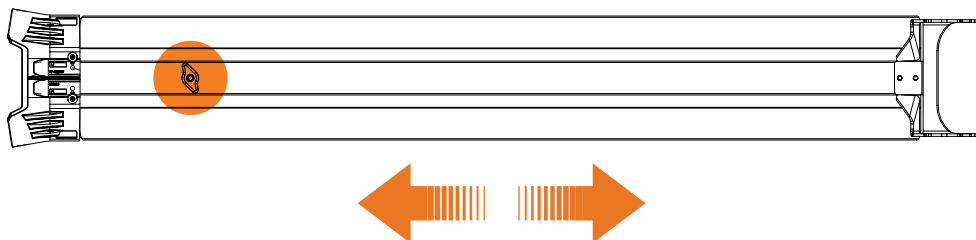
## To Fold Up

- 1 Hold the tire arm lever to release the tire arm up.
- 2 Pull tire arm back up into towing, or stowed position.



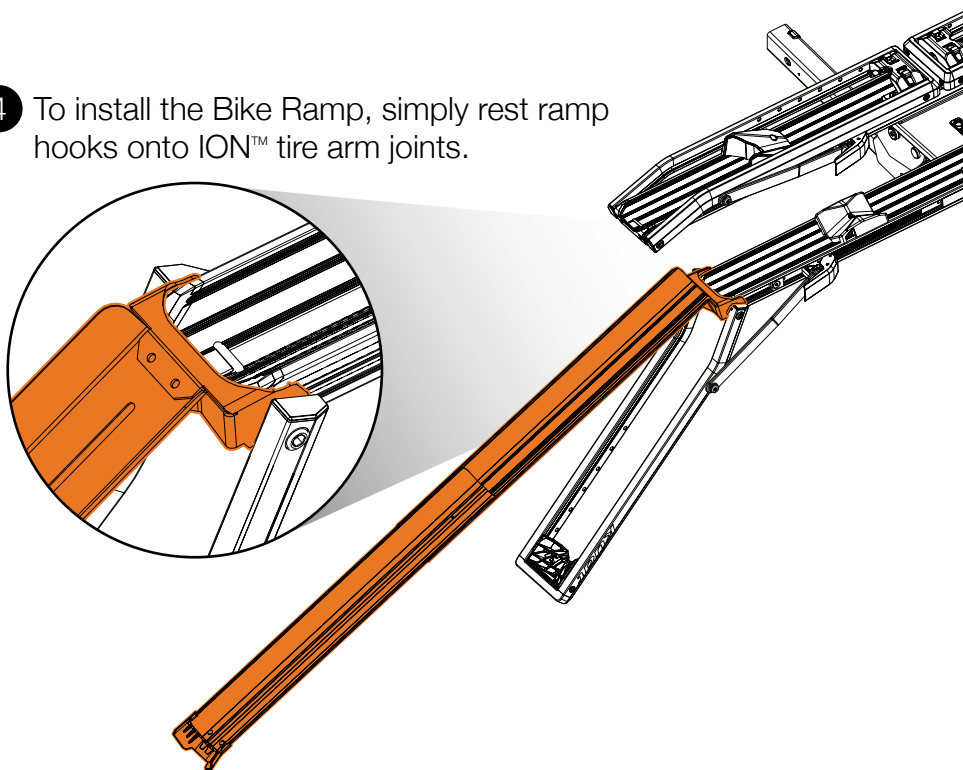
# Bike Ramp Instruction

- 1 Loosen wing knob and expand tray to desired length.



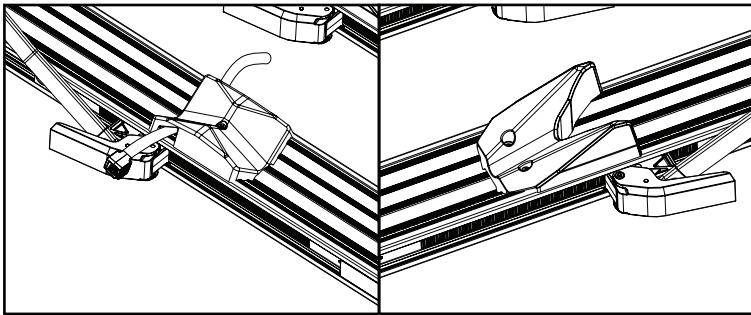
- 2 Re-tighten wing knob.

- 4 To install the Bike Ramp, simply rest ramp hooks onto ION™ tire arm joints.



# ION™ Wheel Stabilizers

- 1 The ION™ comes with a front wheel stabilizer and Rear Tire Strap kit to help secure extra heavy eBikes and bikes with fenders.



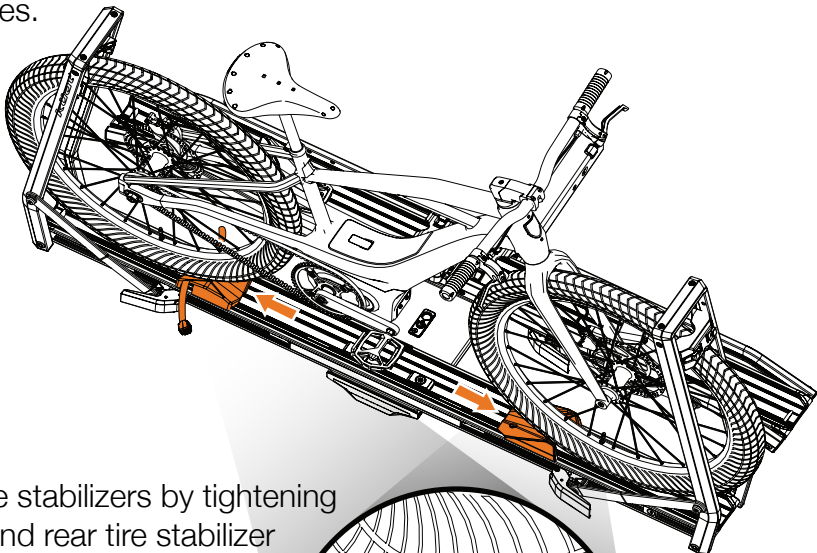
Rear Tire  
Strap Kit

Front Wheel  
Stabilizer

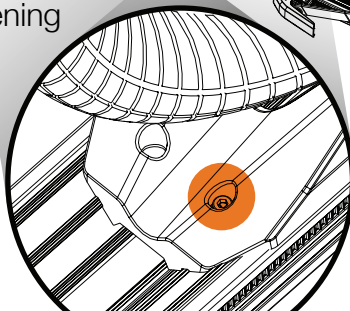
## NOTICE

**Loading the same bike in the same direction ensures no future adjustment is necessary.**

- 2 Load your bike, then slide the stabilizers under both front and rear tires.



- 3 Secure stabilizers by tightening front and rear tire stabilizer bolts.

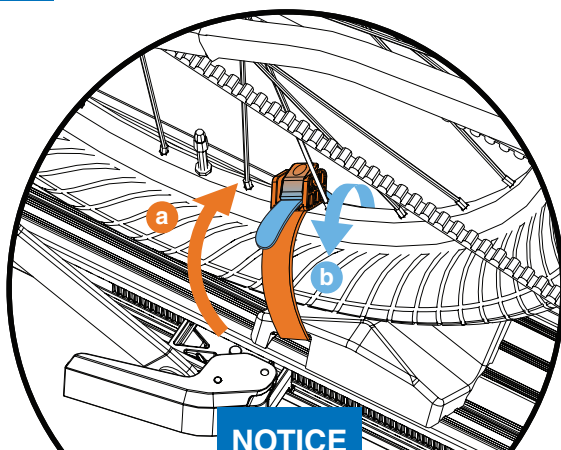


- 4 Secure rear wheel with the Rear Tire Strap.
- a Slide one end of the Rear Tire Strap through the slot in the wheel stabilizer then up, around and through the rear wheel.
- b Feed the end of the Rear Tire Strap through ratchet head.

Ensure Rear Tire Strap is tight against the wheel and the ratchet is fully engaged.

**NOTICE**

**Some tires over 3" wide may require the use of the Küat Strap Extender Kit.**



**NOTICE**

**Be sure to place the rear tire strap so that it does not make contact with your spokes.**

- 5 Positioning of the Rear Tire Strap Kit, and Front Wheel Stabilizer only needs to be done once.

Re-adjustment would only need done when transporting new bikes with different dimensions.



**WARNING**

**Failure to properly use the Rear Tire Strap Kit may result in bikes becoming loose and falling during travel. Kit must be used with: RVs, bikes weighing over 70lbs, bikes with fenders, bikes with a wheelbase over 53", or whenever off-road.**

# ION™ Fender Straps



## WARNING

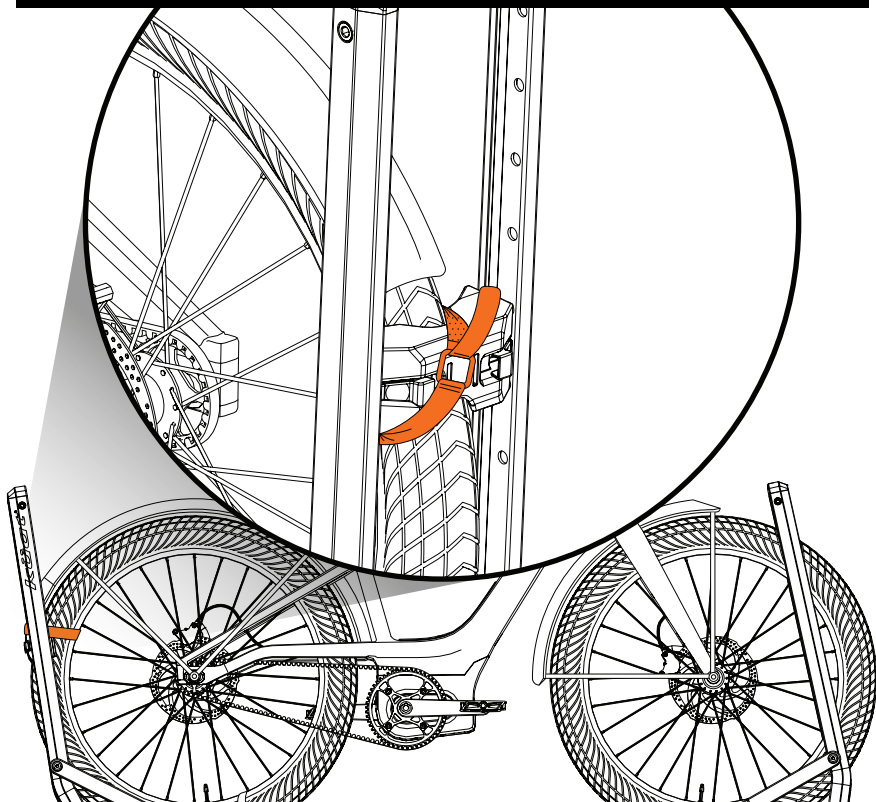
**Bikes with fenders require the use of provided Fender Straps.**

- 6 If your bike has fenders, secure rear wheel with either the Short or Long Fender Straps.

Position D-ring against outside of tire cradle, with self-securing hook and loop side facing outward. Wrap strap around wheel, thread through D-ring and pull back over, securing against the hook and loop side.

## NOTICE

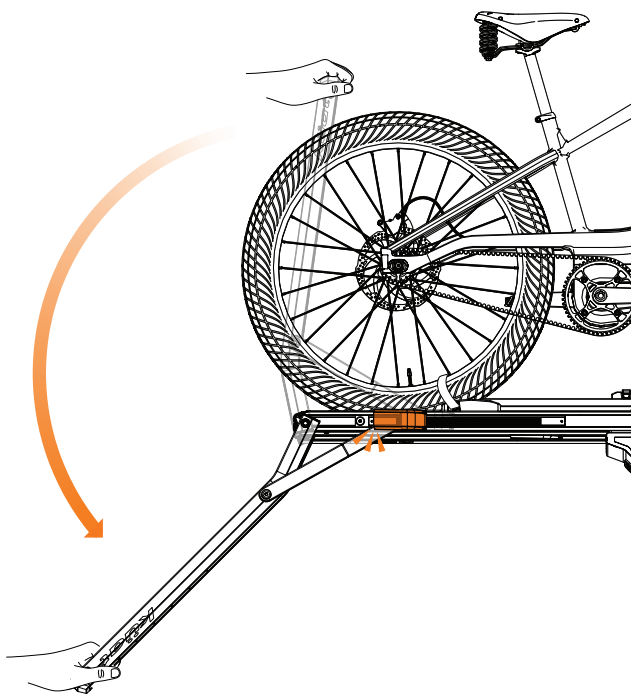
**Long Fender Strap for Tires 3" - 4.8"**  
**Short Fender Strap for Tires Less than 3"**



# Unloading Bikes

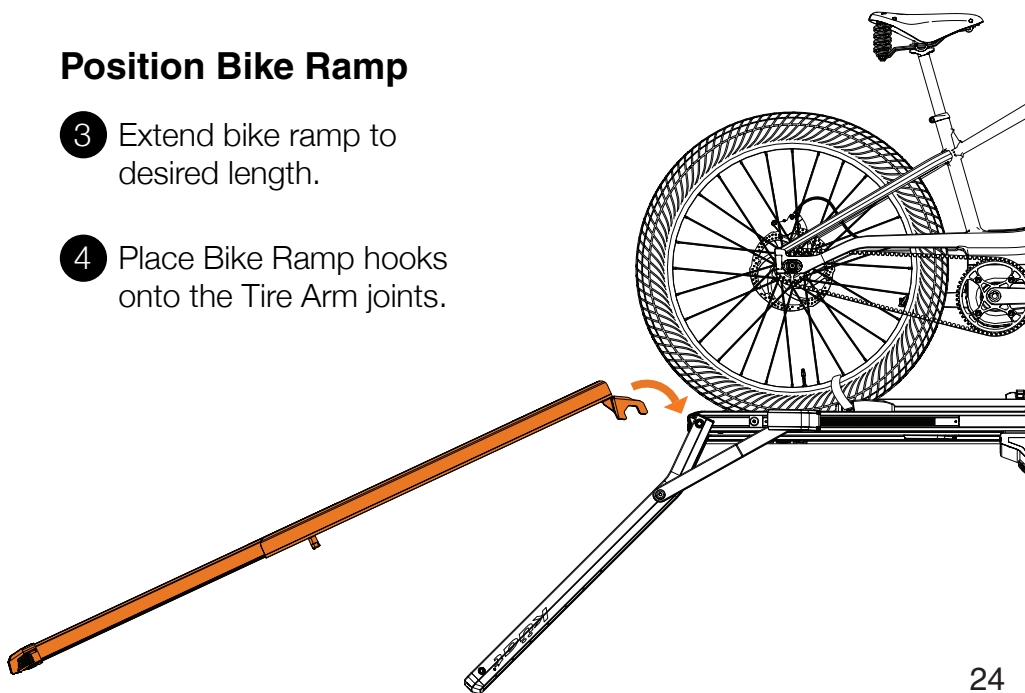
## Fold Down Arm

- 1 Hold ION™ lever and open tire arm.
- 2 Pull arm down into negative position.

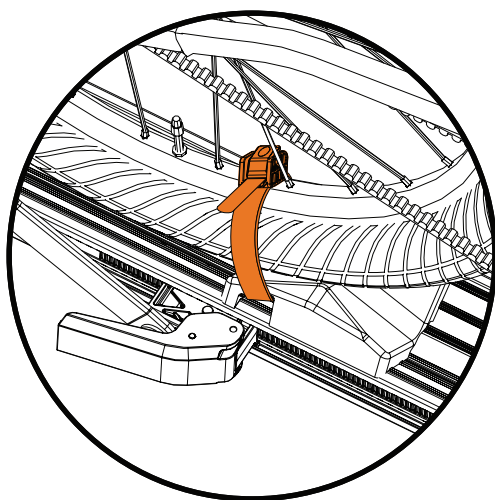


## Position Bike Ramp

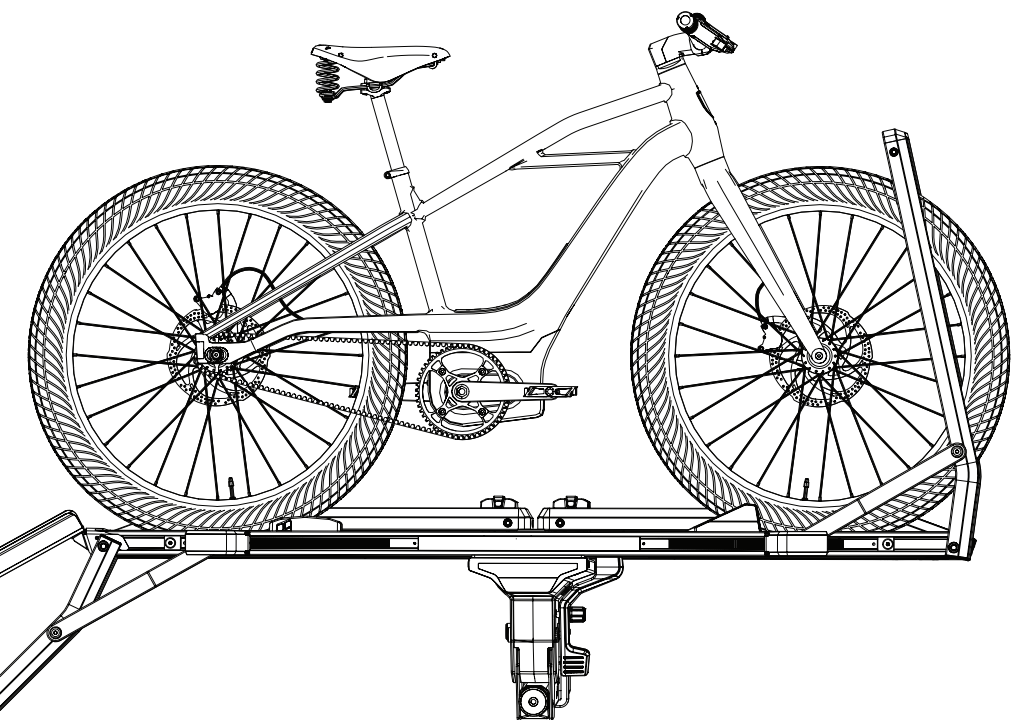
- 3 Extend bike ramp to desired length.
- 4 Place Bike Ramp hooks onto the Tire Arm joints.



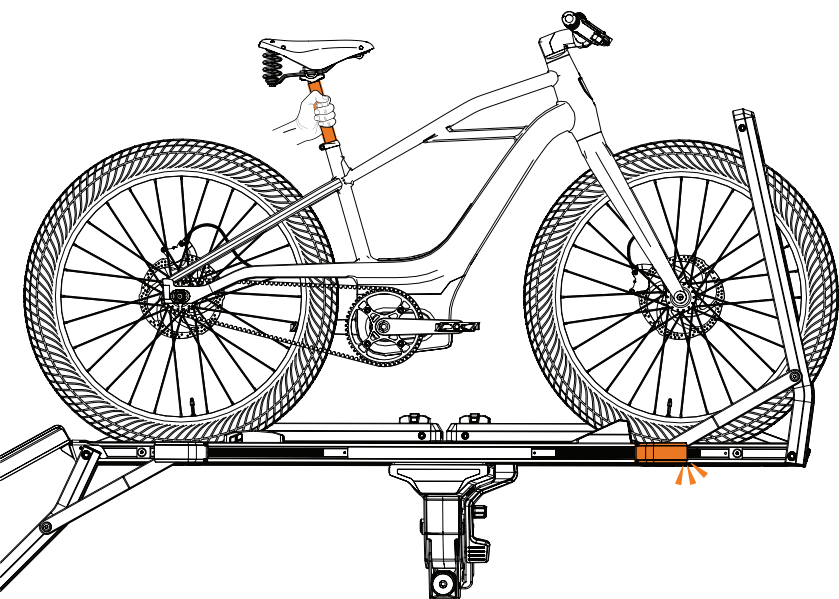
- 5 Undo the Rear Tire Strap Kit.



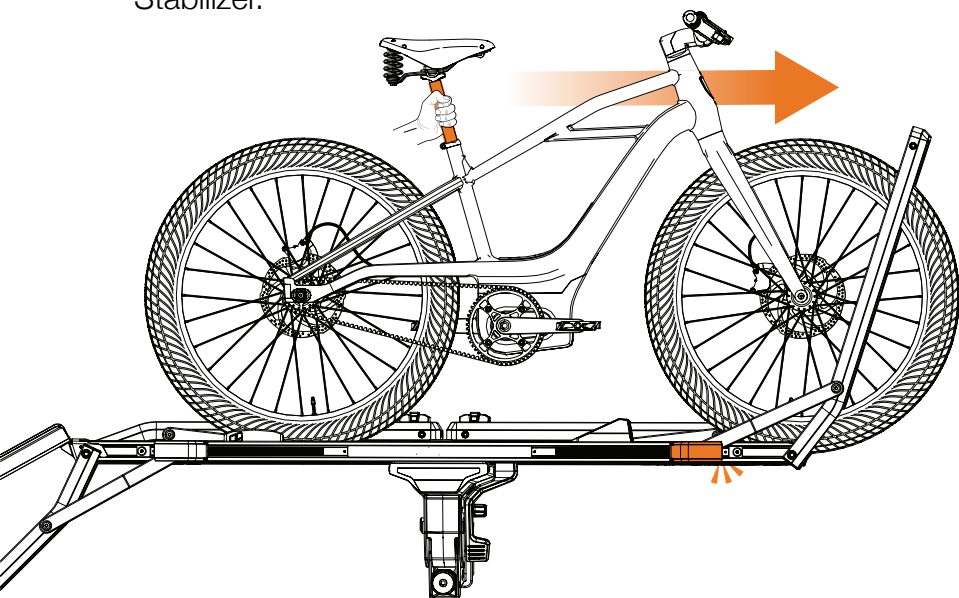
- 6 With the front tire still secure in the Front Wheel Stabilizer, The bicycle will continue to be stable in the tray.



- 7 Use one hand to grip the bicycle, use your free hand to hold the ION™ Tire Arm Lever open.

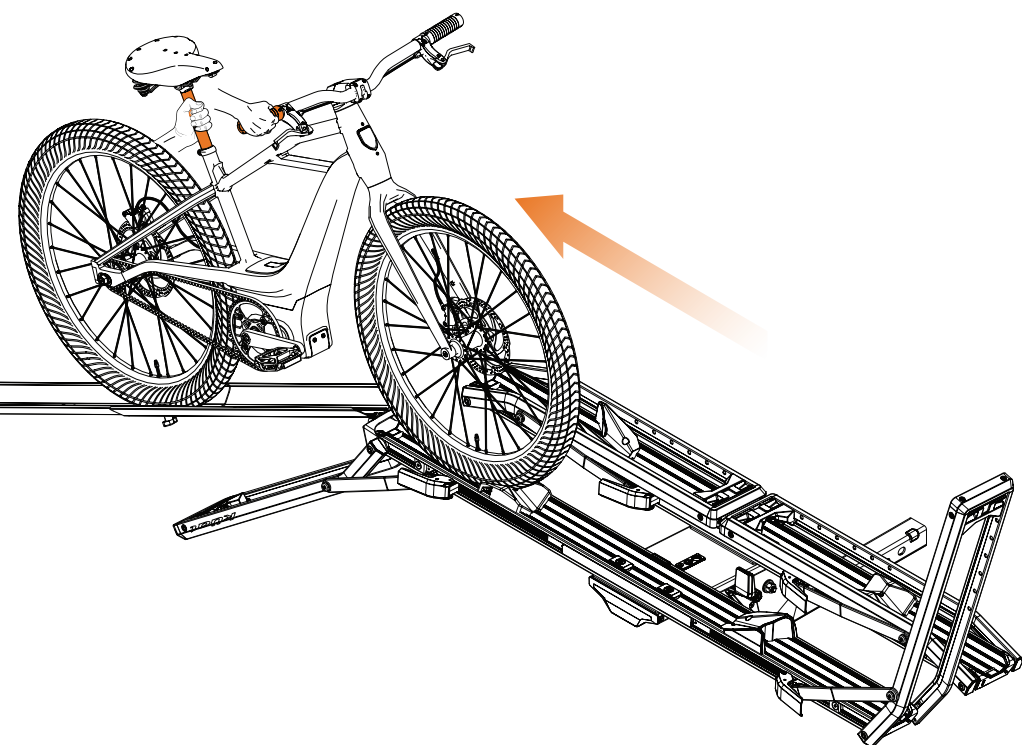


- 8 With one hand on the bicycle and one hand on the lever, Push the bicycle and Front Tire Arm forward. This will provide enough clearance to free the front tire from the Front Wheel Stabilizer.





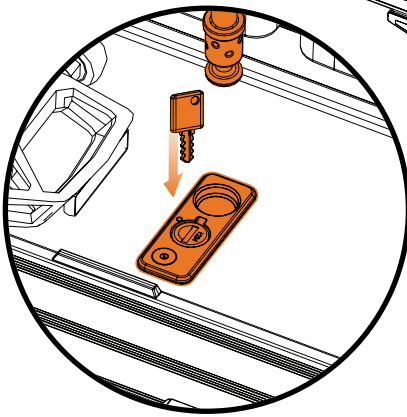
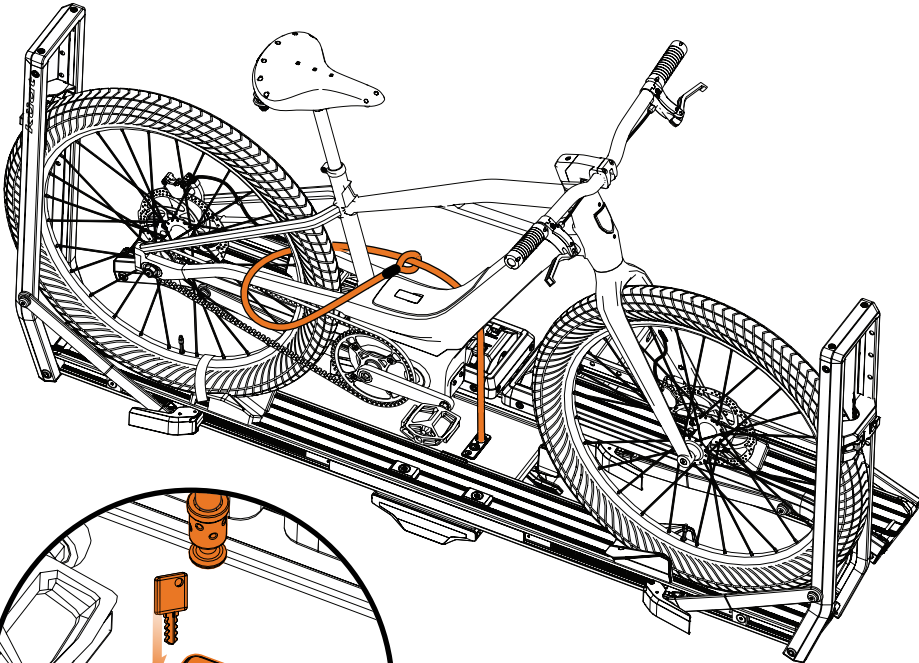
- 9 With the bicycle moving freely, roll the bicycle backwards over the Front Wheel Stabilizer, Rear Tire Strap Kit, and down the Bike Ramp.



**NOTICE**

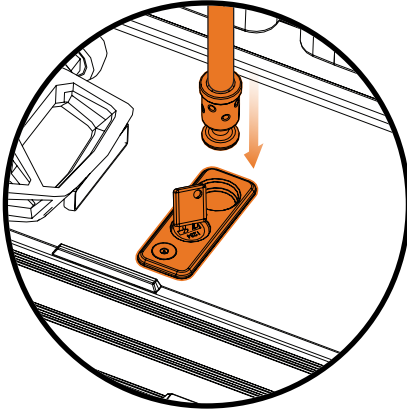
**Team lift your bike with a friend if use of the provided e-bike ramp is not possible.**

# Securing Your Bikes with Cable Lock



1 Thread cable through rear wheel, frame, and front wheel when possible, then the cable end loop.

2 Insert the Cable Lock Key into the lock port located on ION™ centerbeam and twist the lock open.



3 While holding the lock open, secure cable tip into lock port.

# LIMITED WARRANTY

We stand behind our products, and our customer service reps are waiting to help you out if you have any problems with your product. Our limited warranty covers your purchase for life. You can review our limited warranty on our website or call customer service at the number below if you have questions or need a repair, replacement, refund, or a copy of the limited warranty.

**[www.kuat.com/warranty](http://www.kuat.com/warranty)**

## **Questions or comments?**

Drop us an email or call us directly!

**[kuat.com](http://kuat.com) | [info@kuat.com](mailto:info@kuat.com) | 877.822.5828**

***kuat***<sup>®</sup>