

# ICE

## OWNERS & ASSEMBLY MANUAL



# 10 YEAR WARRANTY

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## Register within 30 days of purchase to activate your 10 year warranty

For total peace of mind, activate your warranty to enjoy full 10 year coverage on all ICE proprietary parts. The warranty is available to the original trike owner for 10 years from the date of purchase. It guarantees that the frame, seat, and steering components are free from material and manufacturing defects. More details on page 41.

To register and for more details visit:

[www.icetrikes.co/warranty](http://www.icetrikes.co/warranty)

## Sign up to our newsletter and follow us on social media

Sign up to our email newsletter when you register your new trike. Keep up-to-date with what's new and exciting from ICE. Why not share your trike riding experiences with other riders and ICE?

Don't forget to follow us and tag your social media posts: [@icetrikes](#) and [#icetrikes](#)

# Sections

## 4 Introduction, Safety & Visual Glossary

A brief introduction to your latest purchase.

## 10 Owner's Manual

The owner's section is for those who have ordered from a dealer and have received a trike that has been assembled by their dealer and are now looking to adjust their trike to fit.

## 24 Assembly Manual

The assembly section is for those who have ordered directly from ICE and have received their trike packed in an ICE shipping box. This manual helps you unpack, assemble and configure your trike. At this point you will be able to return to the owner's section to fit your trike.

## 39 Other Information

This section contains universal information including warranty information and the Appendix.

We have strategically placed smaller images of the YouTube icon throughout the manual to highlight that we have videos available to help you.

To access all of our instructional videos please visit our website support page.

[www.icetrikes.co/support/video-manuals](http://www.icetrikes.co/support/video-manuals)



# INTRODUCTION

Congratulations on being a new ICE trike owner. You have purchased the most refined recumbent trike available today; we hope it brings you many years of enjoyment.

You will find the latest version of this manual in a downloadable PDF format on our website.

Throughout the manual, we have included some tips, which have been learned from over 20 years of experience building trikes. They are well worth taking special note of.

If you are assembling your trike for the first time please refer to the Assembly Manual. However if you have received a completed trike from your dealer please refer to the ICE Trikes Owner's Manual. We hope you enjoy owning and riding your ICE trike as much as we like making these great machines.

This manual contains important information, so please read it carefully before your first ride. Pay special attention to the safety information, warnings and cautions, as these could help you avoid serious injury.

Some parts of this manual are explained in the ICE Tech Guide instruction films on our website and YouTube channel.

Remember that if you choose to do adjustments or maintenance yourself, by following instructions in this manual or in the videos, you may make a mistake that damages your trike or results in injury.

If you have any problems or concerns with your trike, contact your local ICE dealer. Your dealer can answer your questions and perform required maintenance or repairs.

# INTENDED USE

Please be aware of how your trike should be used. No ICE trike is suitable for jumping or tricks. Misuse of your ICE trike may lead to mechanical or structural failure, will invalidate your warranty and could result in serious injury or death.

VTX: Fast riding on smooth roads and paths. Not for off road, rough terrain or loose-gravel paths. Permissible maximum weight of rider: 230lbs (104kg)

Sprint X: Fast riding on smooth roads and paths, and moderate speeds on improved trails. Permissible maximum weight of rider: 229lbs (104kg)

Sprint X Tour: Fast riding on smooth roads and paths, and moderate speeds on improved trails. Permissible maximum weight of rider: 275lbs (125kg)

Adventure: Moderate speed riding on paved surfaces, roads and improved trails. Permissible maximum weight of rider: 275lbs (125kg)

Adventure HD: Moderate speed riding on paved surfaces, roads and improved trails. Permissible maximum weight of rider: 325lbs (150kg)

Full Fat: Slow to moderate speed riding on paved surfaces, roads, improved trails, and rough trails. Permissible total weight of rider: 275lbs (125kg)



ICE Adventure 26 used in this example

# SAFETY

## Overview

This section describes ways to keep safe while cycling. Always think “safety” and cycle according to your ability and experience.

## Cycling Laws and Regulations

Most countries have special laws and regulations for bicycles and cyclists, and these may apply to you as a trike rider. Know the local cycling laws and obey them.

## Pinch Points, Moving Parts and Hot Spots

Some parts of your trike can injure you if mishandled. For example, the chainring teeth are sharp and brakes get hot during use. Moving parts, including brake levers and the fold mechanism can pinch, cut or crush. When you sit on the trike your hands will be close to the wheels. Touching the wheels when they are moving can cause friction burns. Before you ride your trike, ensure that the wheels cannot touch your hands when the steering is in full lock.

## Check List for Every Ride

Before you ride your trike make sure it is in a safe operating condition. If any part of your trike does not function correctly, do not ride it until it is fixed.

- Visual inspection: check the trike and accessories for damage
- Brakes: ensure the front brakes and parking brake (if fitted) work correctly
- Gears: ensure the gear system works correctly
- Wheels and tyres: ensure the tyres are correctly inflated and wheels are fitted correctly
- Seat: ensure the seat is secure and cannot move
- QR levers: ensure QR levers on main hinge, seat, steering, and wheels are tight
- Reflectors: ensure reflectors are clean, in position, and unobstructed

Refer to the ICE Kite Check on page 45.

## Wear a Helmet

It is good practice to wear a cycling helmet that complies with the latest safety standards. Choose a helmet that is comfortable and fits well. Follow the manufacturer’s instructions to ensure it fits correctly.

## Visibility

Make sure other road users and pedestrians can see you. Ensure your reflectors and lights are clean, correctly positioned and not obstructed by clothing or accessories. Check that your lights are working correctly before you ride, even if you don’t anticipate using them. Wear bright coloured clothing with reflective areas. Attach a flag to your trike.

## Suitable Clothing

Wear clothing that is suitable for conditions you will ride in. Wear glasses to protect your eyes from dust, dirt, and bugs. Wear appropriate shoes that will stay on your feet and can grip the pedals. Use pedal straps or “clipless” pedals to prevent your shoes slipping off the pedals while cycling.

## Cycling with Care

You can help prevent accidents by using common sense, cycling with care, and thinking about your safety.

You need to think about what other cyclists, vehicles, and pedestrians may do, and react accordingly. Anticipate potential hazards, such as car doors opening or children running in front of you. Cycle at an appropriate speed, stay back from other cyclists and vehicles, and avoid cycling on the inside of traffic queues.

A rear view mirror is helpful to see what is happening behind you.

Help other road users understand what you are going to do next by staying visible, maintaining a clear position on the road and using clear hand signals. Using a horn or bell will help other people know that you are near.

## Cycling in Bad Weather

Take extra care when the weather is wet, foggy, windy, or icy. Ride with extra care and brake early, as your trike will take longer to stop. Sudden braking could lead to skidding and loss of control.

## Cycling in Poor Visibility

Take extra care when riding in the dark, dawn and dusk, or when visibility is poor. If you have to ride in these conditions, make sure you can be seen. Use a headlight (white) and tail-light (red) in addition to the reflectors that are fitted. Wear light-coloured reflective clothing and reflective accessories.

## TIPS & WARNINGS

### WARNING:

If your feet fall from the pedals when you are riding then they could be dragged under the cross-axle of the Trike. Therefore the trike should only be ridden with your feet securely attached to the pedals; either with special shoes and pedals which you clip into or toe clips and straps.

### TIP:

Refer to the ICE Kite Check before every ride. The ICE Kite Check should have been provided separately from the manual for easy storage and can also be found in the Appendix.

### TIP:

Use ‘clipless’ pedals with compatible shoes to prevent your feet from falling from the pedals. A small binding mechanism on the pedal locks into a plate, called a ‘cleat’, on the shoe. This keeps your feet securely on the pedal. Twisting your heel sideways releases the cleat from the binding.

# VISUAL GLOSSARY

## Frame

Back End



Main Frame (Cruciform)



Boom



## Seat Assembly

Ergo-Luxe and Ergo-Flow seats



Air-Pro Seat



'T' Top Seat Mount Extension



Seat Bracket



## Steering Assembly

Handlebar, Handlebar Clamp



Handlebar Mid



Stem and Steering Damper



Track Rod, Ball Joint and Boot



## Gearing System

Bar-End Shifter



Grip-Shift Shifter



Chainrings



Sprocket



Rear Derailleur



Cranks



Chain Tubes



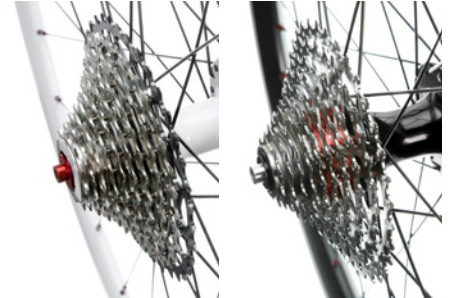
Front Derailleur



Bottom Bracket



Cassette



Chain Tensioner



Pulleys



Hub Gear



Chain



Pulley Plate



Shimano STEPS Control Buttons



## Wheels

Rims



Spoke Nipples



Hubs



Axles



Tyres



QR Skewer



Spokes



## Shimano STEPS System

Motor



Battery



Display



## Rear Suspension

Rear Suspension Elastomer



Elastomer Bolt



Retaining Arm



## Front End/Suspension

Rigid Kingpost



Suspension Kingpost



Front Suspension Elastomer



Suspension Gaiter



## Brake System

Brake Lever



Disc Brake



Drum Brake



Parking Brake Lever



Parking V-Brake



# OWNERS MANUAL





# RIDING YOUR TRIKE

## Getting on and off Your Trike

First empty your pockets and secure items such as keys and phones before sitting down.

### Ergo-Flow and Ergo-Luxe Seats

To sit down, first stand in front of the cross axle with one foot on either side of the front boom. Then sit down carefully, reaching back to hold the side of the seat for support.

To stand up, first put your feet flat on the ground in front of the cross axle. Sit on the front of the seat and lean forwards. Then stand up.

### Air-Pro Seat

Take extra care when sitting and standing, and follow the method shown in the pictures.

When getting on or off a Air-Pro seat:

- Do not use the handle bars.
- Do not push the edges of the seat.
- Do not fall back into the seat.
- Do not sit on the front of the seat
- Do not sit on the seat with items in your back pockets.



**DO NOT PLACE YOUR WEIGHT HERE!**

## TIPS & WARNINGS

### WARNING:

Do not use the handle bars for support when you get on or off your trike.

Do not use the wings of the seat for support when you get on or off your trike.

### WARNING:

Do not sit on the seat with items in your back pockets as they may hurt you and damage the seat cover.

The Air-Pro seat is strong but can be damaged if misused.

### TIP:

If you find it difficult to sit down or stand up, attach Helping Handles for extra support. These ICE accessories clamp to the cross axle and don't need to be removed when you ride or fold your trike.

If you purchased your trike with a parking strap we recommend using it before attempting to sit in the VTx.

## Getting on



1

When sitting in the seat of the VTX, first place one foot either side of the boom facing towards the pedals.



4

When doing this, ensure you place your hand on the front half of the wheel and apply pressure going away from you. In the meantime, place your hand half way up the Air-Pro seat.



2

Then bring the cruciform forwards so the cross axle touches the back of your calves.



5

Slowly lower yourself into the seat and only when seated, remove the pressure from the front wheel and the seat.



3

Then bend your legs placing one hand on the seat and the other on the wheel.

## Getting off



1

When getting off, sit upright and place both hands with the same positioning and pressure as used for getting in.



2

Using the hand placed on the seat, push yourself off the seat and onto your feet.

Only remove the pressure from the front wheel once you are confidently back on two feet. Once done, you are good to go.

# RIDING AND ADJUSTING YOUR TRIKE



## Braking

Use the front brakes to control your speed, slow, or stop your trike. The front brakes are controlled with brake levers on the handlebars of your trike. The left lever operates the brake on the left wheel, and the right lever operates the brake on the right wheel. To brake, squeeze both brake levers at the same time with even pressure whenever possible. Braking with one brake can be done but care must be taken. Some specially adapted trikes may have a different lever setup.

Take care when cycling downhill. Your trike can accelerate quickly. Use your front brakes to control speed by applying gentle, even pressure.

When your trike has stopped you can use a parking brake to keep it stationary. Use either the parking brake strap attached to one of the brake levers or a parking brake lever down on the handle bar. Test how the parking brake operates before your first ride.



## Gears

The way you shift gear will depend on the system fitted to your trike. This may be a 'bar end shifter', 'grip shifter' or 'electric push button shifter'. Some electric systems can change gear automatically. Grip shifters operate by twisting the handlebar shifter grip. Bar end shifters operate by pushing the shift lever forwards or backwards. With both mechanical systems you will feel a click for each gear position for the rear gears. The right shifter changes the rear gears, and the left shifter changes the front gears. Electric push button shifters operate by pushing one of two buttons. One button gives you easier gears the other harder.

When using derailleur gears you can only change gear when you are pedalling and moving forward.

## Ground Clearance

Take care when riding on uneven ground such as cycling over a curb. The underside of your trike may come into contact with raised areas. If the trike makes contact with an obstacle, stop riding and check the trike for damage. Do not ride your trike if it has been damaged.

## Carrying Loads

Always use appropriate luggage accessories to carry loads on your trike. Ask your dealer or visit our website for information on appropriate bags, panniers and racks.

When packing loads remember that a low centre of gravity ensures easier handling.

If you choose to use a trailer to carry loads, we insist using a two-wheel trailer. However, towing a trailer increases stopping distances and can affect the handling of the trike.

## Initial Test Ride

Start on a flat piece of road or drive preferably away from traffic. Sit on, clip in and make sure you know where the brakes are and that they stop you moving. Before you have ridden a few yards, check the front brakes. You should repeat this with every ride.

If one is fitted, release the parking brake by pushing down on the main parking brake lever under the seat.

Whilst riding sit back and relax. Do not pull on the handlebars; just hold them lightly. The trike will tend to steer itself in a straight line depending on the road surface and camber.

## Quick Release Levers (QR Levers)

Quick-releases are used in a number of places on your trike; it is important that they are tightened correctly. A quick-release that isn't fully and properly closed can result in parts coming loose or moving while riding. This could cause a serious accident. A quick-release system consists of two basic parts: a lever that provides the clamping force and an adjusting nut that alters the clamping tension.

With the part you are clamping located properly, adjust the quick-release by opening it, holding both ends and turning clockwise until, when you close the lever, you feel some

resistance. At this point, try to close the lever fully. The adjustment is correct when you can fully close the lever, but with some effort (the lever should leave its impression in the palm of your hand).

If you can only close the lever part way, open it, unscrew the adjusting nut slightly and try again. If it closes too easily, tighten it up a tiny bit and try again. Do not try to tighten the quick-release by winding the lever around; it will not tighten enough to be safe.

You should have to push hard on the lever to correctly close it.

Open

Closed



## TIPS & WARNINGS

### WARNING:

Do not use your parking brake to stop or slow your trike.

Do not apply the front brakes suddenly and with great force. This may make the rear wheel lift and you may lose control of the trike.

### WARNING:

Do not change derailleur gears when stationary, moving backwards or if you are not pedalling.

Heavy loads mounted on the back of the trike will adversely affect handling, especially at higher speeds and when cornering.

Do not carry passengers on your trike.

### WARNING:

Take care when cycling on an off-camber corner. This is when one side of the road or path is higher than the other. The higher wheel may lift, and the trike may roll over.

Take care when turning corners at speed. This may cause the inside wheel to skid or lift, and the trike may tip or roll over.

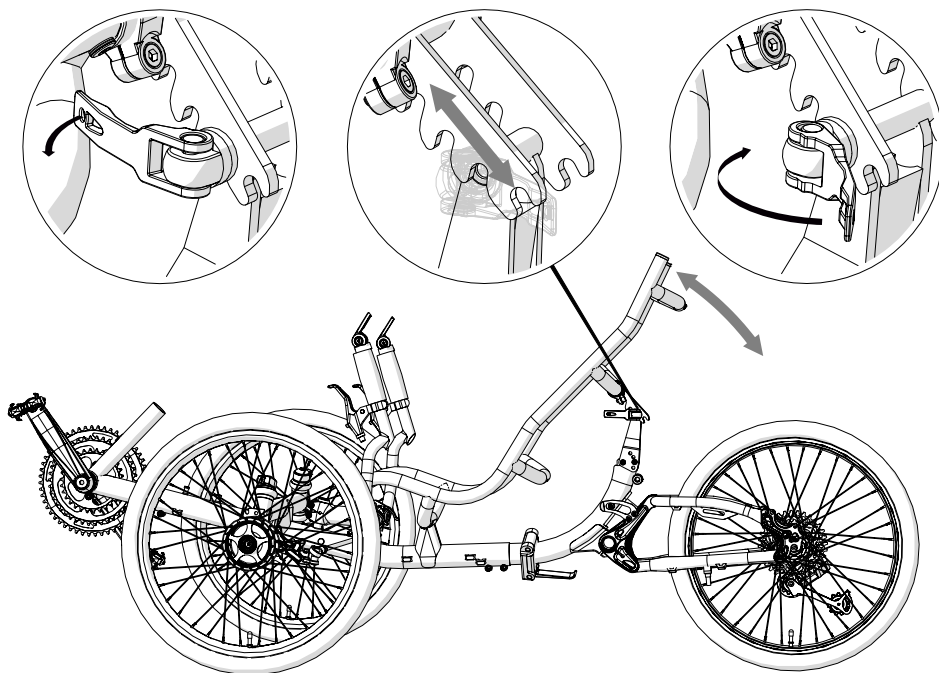
## Ergo-Flow and Ergo-Luxe Seats

For fitting your seat instructions please refer to the Assembly manual.

### Adjusting the Recline

The Ergo-Flow and Ergo-Luxe seats can be reclined to one of four positions.

1. Open the QR lever behind the seat back to release the seat bracket
2. Lift the bracket off the QR skewer
3. Move the seat bracket so that the QR skewer fits into your chosen notch
4. Re-tighten the QR lever



### Adjusting the Seat Tension

The Ergo-Flow and Ergo-Luxe seat tension can be adjusted using the straps behind the seat back and base. It is easier to adjust the tension when the seat is off the trike.

## Air-Pro Seat

Adjusting the recline. The Air-Pro seat can be reclined to one of five positions.

1. Undo and remove the bolt from the seat adjustment bracket
2. Move the seat to the new position
3. Replace the seat bolt through the seat bracket and frame and tighten to the correct torque (see appendix B)

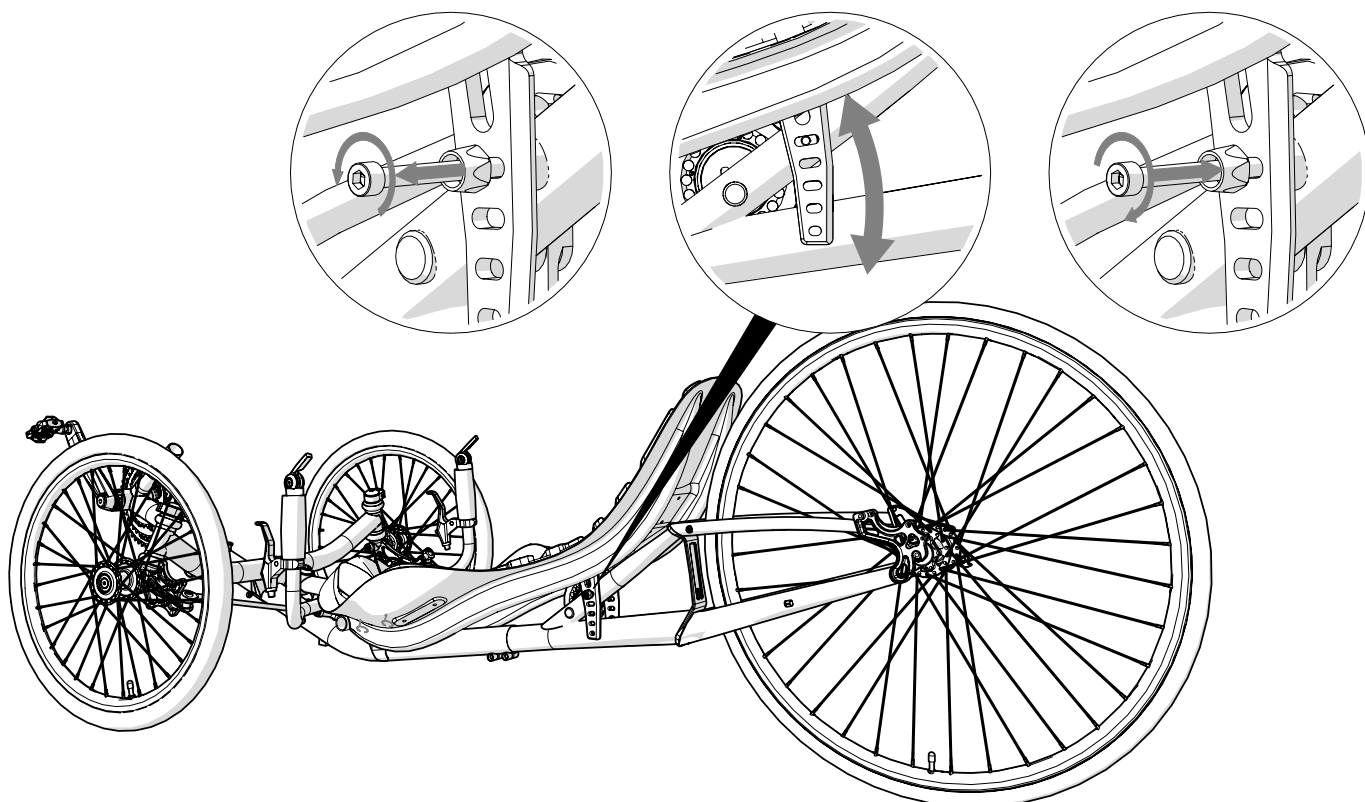
### Adjusting the fit of the Air-Pro Seat Cover

The Air-Pro seat can be adjusted for comfort using the foam pads supplied with the seat. The foam pads have adhesive backing, and stick to the seat under the cover. Once the pads are in position they are very difficult to remove.

1. Sit on the seat and identify uncomfortable areas
2. Remove the seat cover
3. Peel back a small area of the pad to attach it temporarily

4. Place pads in areas where there is a gap between your back and the seat
5. Place pads around areas where there is uncomfortable pressure on your back
6. Replace the seat cover

Ride your trike with the pads in place to check for comfort. You may need to adjust their position. When you are happy with their position remove the seat cover, peel the backing off each pad and stick them to the seat.



## Handlebars (not VTX)

The handlebars can be tilted forwards and backwards, and can be made wider or narrower: using the new notched handlebar clamps clamping system. These clamps ensure easy alignment when unfolding and secure handlebar positioning when riding.

Initial clamp setup and use:

1. Open the handlebar QR levers located under the seat (Step 1)
2. Sit on the trike and adjust the handlebars the handlebars so that they feel comfortable. Once in position re-tighten the handlebar QR levers (Steps 2-3)

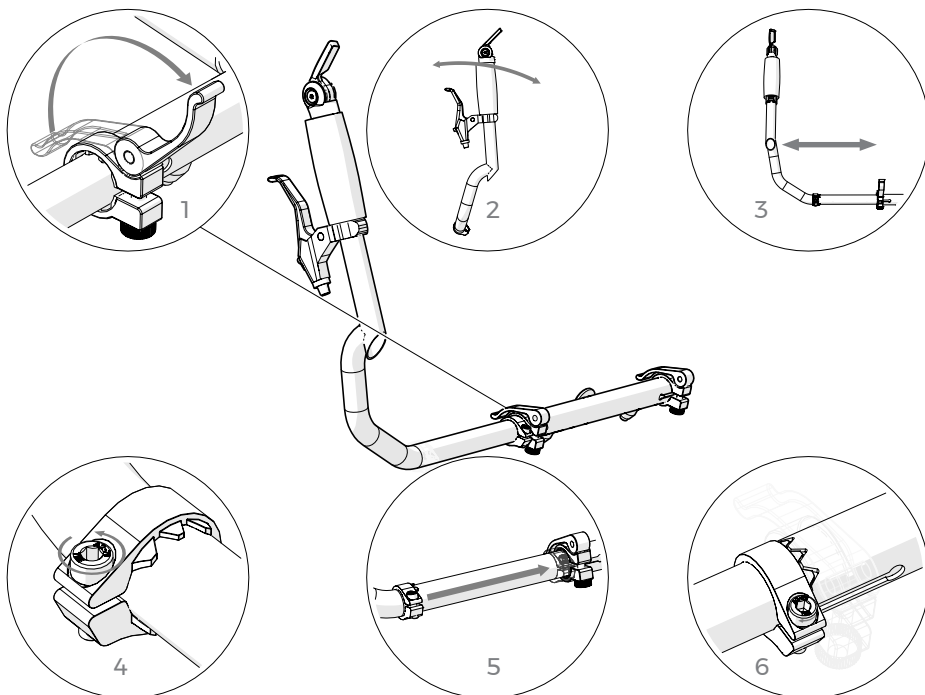
NB. Ensure that nothing touches the handlebars in the new position. Move the handlebars to the maximum left-turn position and then maximum right-turn position, each time checking that the handlebars do not touch:

- The Disc and brake callipers
- The brake levers
- The parking brake
- The front suspension units
- The tyres, except on the Full Fat
- The mudguards / fenders
- Your hands or body

If anything touches you must reposition the handlebars until they are comfortable and safe to ride by following steps one and two on each side.

3. Once you are satisfied with the position and that there is no interference, loosen the handlebar locator clamp (See step 4-6) and slide it towards the handlebar QR, locate the notches and tighten the M5 bolt to 6-8 Nm (53-71 In-Lbf).

N.B. Narrowing the handlebars will restrict the turning circle of the trike.



To change assist level:

1. Use large black buttons on the EP8 system to change assist level.

To change gears:

1. Use the lower set of buttons if fitted to change Di2 electronic gearing. Use the left button for easier gears and the right button for harder gears.
2. If your trike is fitted with an Alfine Di2 hub it can be switched to automatic gear shifting mode by pressing both the lower grey buttons down together.

For more detailed user instructions or if your trike was supplied with a different controller see Shimano's online resources or see the separate instructions supplied with your trike:  
<https://si.shimano.com>

## Operating your Shimano STEPS System

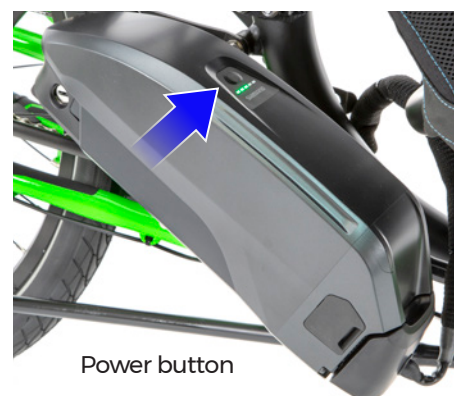
To turn on and off:

1. Switch the system on using either the power button on the battery or the display (if available).
2. Make sure your feet are not on the pedals while turning the system on to allow the torque sensor to calibrate.

## TIPS & WARNINGS

**TIP:**  
The right-hand bar end shifter is fitted so that the rear gears get 'easier' when you push the lever away (forwards). This is so that before coming to a stop you can change down gears by pushing the lever with your thumb while applying pressure to the brake lever with your remaining fingers, allowing you to slow & down shift at the same time.

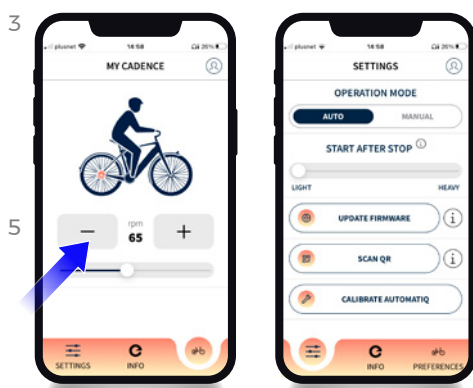
**TIP:**  
Change to an easier gear before you have to. This way you can avoid changing gear when the system is strained.



## Enviolo Automatiq Hub

The Enviolo Automatic Hub can be adjusted to suit your preferred, comfortable pedalling speed from the Enviolo App on your Smartphone.

1. Download, install and open the Enviolo Automatiq App from your App store.
2. To pair the App to your hub, press and hold the small round button on the hub shift box until it turns blue then follow the App's on screen instructions to pair and register your system.
3. Once connected, open the Enviolo App and select '**preferences**'.
4. You can adjust the pedalling speed until you are comfortable, that is all you need to do.
5. Use the + and - buttons to increase or decrease your preferred pedalling speed. (e.g. Press + to increase your pedalling speed or press - to decrease your pedalling speed).
6. Other settings of the Enviolo system are set by ICE to give you the best experience for your specific trike.



## TIPS & WARNINGS

**TIP:**  
To ensure your Enviolo Hub works at its best do not adjust any other parameters in the App.

## Elastomer Pin Locations



### Rear Suspension

The rear suspension can be adjusted to be softer or harder. Do this by replacing the elastomer and swap the elastomer position.

There are three densities of elastomer:

- White (soft)
- Grey (medium)
- Black (hard)

Using the chart found in the Appendix select the elastomer appropriate for your weight and the weight of luggage loaded on your trike. Select the hardest elastomer for your weight.

To access the elastomer:

1. Pull the retraining arm outwards to allow the back end to swing down
2. Lift the trike upwards from the top of the seat frame allowing the backend to swing down, giving access to the elastomers

To swap the elastomer:

1. The elastomer/s are held in place by a shock pin. Do not unscrew the shock pin
2. Push and pull the elastomer to remove it from the shock pin
3. Push the new elastomer onto the shock pin

To change the elastomer's position:

1. Use a 6mm hex key to unscrew the shock pin, which is inside the elastomer
2. Reposition the elastomer
3. Use a 6mm hex key to screw in the shock pin.

Please Refer to Appendix A towards the rear of this booklet for the Rear Suspension Elastomer Chart.

**WARNING:**  
Only use the elastomer positions recommended for the combined weight of you and your luggage. Putting the elastomer in the wrong setting can result in permanent damage.

### Single Elastomer on 20" Trikes



### Dual Elastomer on 26" Adventure and Full Fat Trikes



### Dual Elastomer on Sprint X Tour and Sprint X models with Sprint Wedge Plate



### Front Suspension

The front suspension can be adjusted to be softer or harder. The front suspension works using elastomers. The elastomers are graded soft, medium and hard. Talk to your dealer about changing the front suspension elastomers.

## Steering Damper

If you experience a shaking or shimmying movement of the handlebars or front wheels when you are riding, you can tighten the steering damper grub screw to add a small amount of resistance which will stop any resonance from building.

Do this by turning the grub screw marked 'DAMPER' on the handlebar stem using a 3mm hex key in approximately quarter turn increments.

It would also be wise to check the tracking of the front wheels to ensure they are correctly aligned.

Turn clockwise to make the steering harder  
Turn anticlockwise to make the steering easier.

Do not remove the grub screw.

## Boom Length

With the seat angle and handlebars set, determine the boom position by sitting on the trike and placing your heel on the pedal. Adjust the boom so that your leg is straight when the pedal is at its furthest away from you.

Follow these instructions to change the boom length by up to 10mm. For greater changes in boom length, see "Setting the boom length" in the Assembly Manual.

1. Change gear to the smallest front chainring and rear sprocket.
2. Undo the two clamp bolts under the front boom with a 5mm hex key
3. Slide the front boom in or out by twisting and pulling or pushing
4. Ensure that boom is not extended past the MIN INSERT.
5. Ensure that the boom is vertical and the guide mark on the boom lines up with the sticker on the frame
6. Tighten the two front boom clamp bolts to the correct torque (see appendix B)

## Folding Your Trike (not VTX)

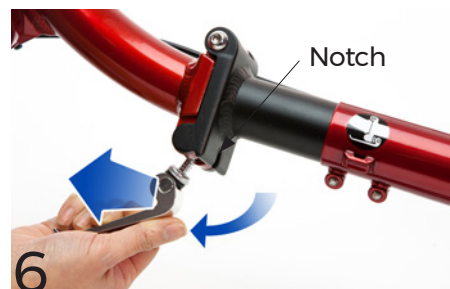
Some models have a hinge in the frame allowing them to fold.

To fold your trike:

1. Open the top QR lever from behind the seat base and push the seat up and forward until you can see the lower seat clamps
2. Open the two QR levers under the seat
3. Slide the QR clamps outwards off of the frame cups and remove the seat
4. Open the QR levers on the handlebars and rotate the handlebars rearwards to a horizontal position. Tighten the QR levers
5. Open the QR lever on the hinge, which is on the right side of the trike
6. Rotate the QR out of the hinge notch, pull the whole QR upwards to unlock the hinge safety catch
7. Lift the chain tube away and lift the back end up and to the left
8. Put the mat between the rear wheel and cruciform frame to prevent damage

To unfold:

1. Hold the chain tube away and unfold the rear end. Lift the QR to engage the safety catch.
2. Put the mat in a safe place
3. Relocate the QR in the hinge notch
4. Tighten the QR lever
5. Open the QR levers on the handlebars and move them to your preferred riding position. Refasten the QR levers or slide the handlebars back into position using your indexed handlebar clamps.
6. Replace the seat, bottom clamps first



## TIPS & WARNINGS

TIP:

If you often need to change the boom length, consider fitting an Easy Adjust Kit. This allows the boom to be adjusted to any length without affecting the chain.



# INSPECTION AND MAINTENANCE

## Overview

Keep your trike clean and well maintained with regular servicing. This is extremely important to ensure the performance and safety of your trike.

## Service Schedule

The following service schedule is a guide based on cycling up to 30 miles (50km) per week in good weather conditions. If you ride your trike more often, or in poor weather, you will need to do maintenance more frequently.

### Before every ride:

- See the "ICE Kite Check" at the back of this manual
- Visual inspection: check the trike and accessories for damage
- Brakes: ensure the front brakes and parking brake (if fitted) work correctly
- Gears: ensure the gear system works correctly
- Wheels and tyres: ensure the tyres are correctly inflated and wheels are fitted correctly
- Seat: ensure the seat is secure and cannot move
- QR levers: ensure QR levers on main hinge, seat, steering, and wheels are tight
- Reflectors: ensure reflectors are clean, in position, and unobstructed

### Monthly Check:

Every month check that all accessories are all still fitted correctly and are not damaged.

After a long ride and at least every three months of regular use:

- The 'Before Every Ride' checks
- Clean, degrease and lubricate your trike
- Inspect the trike and accessories for damage
- Ensure bolts and QR skewers are tightened to the correct torque
- Ensure the hubs turn smoothly
- Ensure there are no loose or broken spokes
- Ensure tyres are not badly worn or damaged.
- Ensure the chain moves smoothly through the chain tube and pulley
- Ensure the seat is still securely attached. Refer to page 15/16

### Every 6 months:

- Check the steering assembly. Refer to page 20
- Inspect Drivetrain for damage.

### Every 12 months:

In addition to the regular maintenance, we recommend that your trike is given a full service every year. Unless you are experienced in trike mechanics, we recommend that you ask your dealer to do this for you:

- Ensure wheels are true
- Change brake and gear cables if necessary
- Inspect chainring and sprockets for wear and replace if necessary
- Check chain for wear and stiff links, clean and lubricate or replace the chain if necessary
- Ensure the headsets move smoothly
- Check bearings in front suspension unit for wear
- Check rear suspension back end for lateral movement and loose vertical movement
- Ensure the pedals are still tight. Refer to page 21

If in doubt, ask your dealer for help.

## TIPS & WARNINGS

### WARNING:

If any part of your trike is damaged or does not work correctly, do not ride it. Ask your dealer to fix the problem and ensure your trike is safe to ride.

### TIP:

Refer to the ICE Kite Check before every ride. The ICE Kite Check should have been provided separately from the manual for easy storage and can also be found in the Appendix.

## Torque Specifications

Torque is the measurement of the tightness of a screw or bolt. It is important to apply the correct torque to parts.

Use a torque wrench to tighten the part and check the tightness. The Appendix B at the back of this manual gives the recommended torque for many parts on your trike.

## Frame

The frame includes the main frame, boom and back end. It is essential to the integrity of your trike.

Inspect the frame for damage before each ride. Scratches, cracks, dents or deformation are signs of damage. If any part of the frame shows signs of damage, do not ride your trike. Ask your dealer for advice on whether to replace the damaged parts.

Use a torque wrench to ensure the cruciform clamp bolts are tightened to the correct torque.

The frame needs no special maintenance, other than keeping it clean. Follow the instructions in the section “How to clean your trike”, and “How to store your trike”.

## Seat Assembly

The seat assembly includes the seat cover, frame and seat brackets that attach the seat to the cruciform.

Inspect the seat brackets every three months for signs of looseness or damage. If the seat or seat cover are damaged, replace them. This is easy, and instructions come with the replacement parts.

The seat assembly needs no other maintenance, other than keeping parts clean.

## Steering Assembly

The steering assembly includes the handlebars, handlebar mid, handlebar QR levers, stem, pivot bolt, dampener bolt, track rods, rose joints and boots, kingposts, and headset.

Inspect the steering assembly for damage before each ride. If any part of the steering assembly shows signs of damage, do not ride your trike. Ask your dealer for advice on whether to replace the damaged parts.

Each time you ride your trike, think about how well the steering is working. If the steering does not feel right, stop riding your trike. Ask your dealer to service the steering assembly.

Every six months, ensure the steering assembly parts are secure, with no slack in the system. The handlebar QR clamps must be tight so that the handlebars cannot move in the handlebar mid. Use a torque wrench to ensure all other bolts are tightened to the correct torque.

The steering assembly needs no other maintenance, other than keeping parts clean. The bearings do not need to be lubricated.

## Tracking

Check that the tracking is true. Uneven tyre wear and poor handling are signs that the tracking may not be correct. The front wheels must be parallel to each other and to the cruciform. This is a difficult job, so we recommend that you ask your dealer for help.

## Gear System

The gear system includes the shifters, cables, and derailleurs or hub gears.

Clean the derailleurs and drivetrain, and re-lubricate before making your inspection.

Inspect all parts for signs of damage. If any part is damaged, do not ride your trike. Ask your dealer for advice on whether to replace the damaged parts and service the gear system.

Ensure the gears can change smoothly by moving through the full range of gears.

If the gears do not change smoothly the derailleurs may need to be adjusted.

## Brake System

The brake system includes the brake levers, brake cables and drum or disc brake mechanisms.

The brake system allows you to slow and stop your trike. This is critical to your safety.

Ensure the front brakes and parking brake (if fitted) work correctly before every ride.

Inspect all parts for signs of damage. If any part is damaged, do not ride your trike. Ask your dealer for advice on whether to replace the damaged parts and service the brake system.

Ensure that all bolts are tightened to the correct torque by using a torque wrench.

## Brake Levers

Ensure that you can reach and use the brake levers easily.

If you cannot reach the brake lever, or if when fully applied the lever is closer than 15mm (5/8”) to the handle, the brakes need adjusting. This is moderately difficult and effects the safety of your trike, so we recommend your dealer adjusts the brakes.

## TIPS & WARNINGS

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### TIP:

Repaint minor scratches with metal primer and touch-up paint to prevent the frame from deteriorating.

## Cables

Ensure the cables and cable outers are not damaged. Inspect for rust, kinks, frayed ends and wear. If the cables or cable outers are damaged, replace them. This is a difficult job and affects the safety of your trike, so we recommend that your dealer replaces the cables.

## Drum Brakes

Drum brakes are enclosed parts and require no special maintenance, other than surface cleaning.

Ensure the brakes stop your trike correctly. If they do not work, do not ride your trike. Ask your dealer for advice or to service the drum brakes. Drum brakes will wear overtime and become less effective.

## Disc Brake

Disc brakes use callipers to press two pads against a rotor, which slows and stops the wheel.

Ensure the brakes stop your trike correctly.

If the disc brakes do not work correctly, do not ride your trike. Ask your dealer to service the disc brakes.

## Wheels

The wheels include the tyres, inner tubes, rims, spokes and hubs. Their attachment and integrity are important for your safety and the performance of the trike.

Inspect the wheels for damage and ensure they are correctly attached in the frame before every ride.

## Hubs

Lift the wheel off the floor. Gently spin the wheel to check that they turn smoothly.

Then, hold the wheel and push it from side to side. If the wheel clicks or moves sideways, do not ride your trike. Ask your dealer for help.

## Spokes

Ensure that the spokes are not loose or damaged. Press each spoke to check for movement. Ask your dealer for help to tighten loose spokes and replace broken spokes.

## Rims

Lift the wheel off the floor. Gently spin the wheel to check for lateral and vertical movement. If the wheel moves sideways or eccentrically, do not ride your trike. Ask your dealer for help.

## Tyres

Tyre pressure is important for comfort and safety.

Ensure your tyres are correctly inflated before every ride. The recommended pressure range is given on the side wall of the tyre.

## Removing a Wheel

If you need to remove a wheel, follow the instructions in the Assembly Manual or ask your dealer for help.

## Drivetrain

The drivetrain includes the pedals, cranks, bottom bracket, chain rings, chain, chain tube assembly and cassette. This system transmits power from the rider to the rear wheel of the trike.

Clean the derailleurs and drivetrain, and re-lubricate before making your inspection. Inspect all parts for damage every six months.

## Bottom Bracket and Cranks

Use a torque wrench to ensure the crank arms are bolted to the bottom bracket to the correct torque.

Ensure the bottom bracket is working correctly:

1. hold one crank arm with each hand
2. try to move the crank arms from side to side
3. then turn the crank arms

If the crank arms have any noticeable free play, or if they creak do not ride your trike. Ask your dealer to service the bottom bracket and tighten the crank arms. The bottom bracket may need to be replaced.

## Chainrings and Cassette

Inspect the chain rings and sprockets on the cassette for damage. If the teeth are bent, broken or worn, do not ride your trike. The damaged parts must be replaced. This is a difficult job, so we recommend that your dealer replaces the parts.

## Pedals

Use a torque wrench to ensure the pedal is tightened to the correct torque.

Ensure the pedal bearings are robust:

1. hold the crank arm with one hand
2. try to move the pedal up and down
3. then turn the pedal

If the pedals move on the crank-arm or do not turn smoothly, do not ride your trike. Ask your dealer to service the pedals.

---

## TIPS & WARNINGS

### TIP:

It is normal for disc brakes to squeal. This noise changes when they change temperature or dampness. Hot dry brakes are quieter than cold damp brakes.

### TIP:

Lower tyre pressure will give a more comfortable ride but requires more pedalling effort. Higher tyre pressure will give a harsher ride but is more efficient. Inspect the tyres for wear every three months. If the tyre is worn, replace it.

## Chain

Inspect the chain for stiff links. Turn the pedals and watch as the chain runs over the rear derailleur jockey wheels. Stiff links won't run over the jockey wheels smoothly. Flex stiff links from side to side and add lubricant to loosen the joints. If this does not work, ask your dealer for help.

Use a chainwear indicator tool to check the chain every year as part of the annual service. If the chain has stretched it must be replaced by following the instructions in the Assembly Manual. This is a difficult job, so we recommend your dealer changes the chain.

## Chain Tube Assembly

The long chain is kept in place by the chain tube assembly. This includes the chain tubes, pulley and pulley plate.

Ensure the chain can move freely through the chain tube.

Ensure the pulley plate is secure on the trike. Use a torque wrench to ensure the bolts are tightened to the correct torque.

Ensure the pulley can turn and is secure on the pulley plate. If the pulley is not secure, tighten the bolt to the correct torque.

## Reflectors and Lights

Inspect the reflectors and lights before every ride. Ensure that they are clean, correctly positioned, and the attachment bolts tightened. Ensure the lights' batteries are sufficiently charged.

## Front Suspension

The front suspension includes the suspension unit, elastomer and gaiter. The system gives a smoother ride over rough roads.

Inspect the front suspension for signs of damage. If there is any damage, do not ride your trike. Ask your dealer to service the front suspension unit and replace parts where necessary.

Ensure the gaiter is in position over the elastomer.

The front suspension unit needs no special maintenance, other than keeping it clean. The bearings do not need to be lubricated. If the bearings show signs of wear, remove and replace them. Instructions showing how to replace bearings are included with the replacement parts.

## Rear Suspension

Trikes with rear suspension have a hinged back end, and elastomer damping. The system gives a smoother ride over rough roads.

Inspect the rear suspension for signs of damage. Push down on the seat back to check that the unit moves easily.

Then, inspect the inside of the system:

1. Lift the back end of the trike off the ground.
2. Pull the retaining arm outwards to allow the back end to swing down.
3. Try to move the suspension from side to side, checking for looseness
4. Inspect all other parts for wear or damage.

If there is any damage, do not ride your trike. Some problems can be fixed easily by replacing parts, but some problems are more complex and you should ask your dealer for help.

If the back end is loose, adjust the tension on the bearings. Use a 5mm hex key to tighten the bolts under the bearings. Only tighten until the looseness is removed. If the back end is still loose please see your dealer.

There must not be any sideways movement and vertical movement should have a little resistance. Tightening the bolts too much will make the suspension stiff and damage the bearings.

If adjusting the bolts does not work, replace the bearings. Instructions showing how to do this are included with the replacement bearings. This is moderately difficult, so you may want to ask your dealer for help.

If the elastomer is damaged, replace it. This is easy and instructions come with the part.

The rear suspension unit needs no special maintenance, other than keeping it clean. The bearings do not need to be lubricated.



## TIPS & WARNINGS

**TIP:**  
Front suspension can be retro-fitted to your trike. You will need to purchase a front suspension retro-fit kit. Instructions showing how to fit the front suspension are included with the kit, but it is a difficult job. We recommend that you ask your dealer to retro-fit front suspension to your trike.

**TIP:**  
Rear suspension can be retro-fitted to your trike. You will need to purchase a new suspension back end and associated parts. The parts do not come as a kit with instructions, so we recommend that you ask your dealer to order the parts and fit them to your trike.

## Accessories

Your trike may be fitted with accessories, such as mudguards or a rack. Inspect the attachment bolts every month to ensure they are tightened to the correct torque.

## Chain

Lubricate the chain every three months, every time you have cycled in wet weather, and every time you wash your trike. Wipe the chain with a dry cloth then apply a small amount of lubricant. Wipe off the excess with a rag.

## Derailleurs

Lubricate the derailleurs every three months. This includes the pivot points and pulleys on the front and rear derailleurs.

## Hub Gears

Please refer to manufacturers instructions.

## Pedals

Replace the grease on the pedal axles where they thread into the crank arms every year. Remove the pedals from the cranks arms then apply a thin layer of grease on the threads. Replace the pedals and tighten to the correct torque.

The pedal bearings must be re-greased every year. Do not service the pedal bearings yourself. This job requires special tools and training, and should only be done by your dealer.

## Brake Levers

Lubricate the brake lever pivots and brake arm pivots every three months.

## Sealed and Dry Bearings

The stem, bottom bracket, headset, wheel, and pulley bearings are pre-lubricated and sealed, and do not need to be lubricated. The suspension and steering ball joints use dry bearings, and must not be lubricated.

## How to Clean Your Trike

Keep your trike clean to maximise performance:

1. Use warm water and detergent to remove mud and dirt. Rinse with clean water.
2. Clean the chain using a chain cleaning tool and detergent.
3. Use polish and a clean soft cloth to polish and protect the frame.
4. Use surface conditioner to polish and protect hard black parts, including back of mirrors, cable outers, gear shifters and chain tubes. Do not allow surface conditioner to contaminate the brakes.
5. Lubricate the trike

Clean the seat cover as required. Hand-wash the cover in warm soapy water, rinse well and hang to dry. Do not machine wash or tumble dry the seat cover. Do not dry clean the seat cover.

## How to Store Your Trike

Store your trike in a dry, ventilated place. If you are storing your trike for a long time:

- Clean and lubricate the trike
- Set the gears to the smallest sprocket and chainring.
- Inflate the tyres. Check them regularly and re-inflate if necessary
- You may cover your trike with a light cotton sheet. Do not cover your trike with a non breathable or heavy cover as this can cause corrosion.
- If possible, hang your trike

After storing for a long time, service your trike fully before riding it again.

## Tools and Spares

Basic tool kit (suitable for day rides):

- Tyre levers
- Spare inner tube
- Puncture repair kit
- Mini pump
- Small adjustable spanner (wrench)
- 3, 4, 5, 6mm Hex keys
- Small Phillips screwdriver
- Spare chain link
- Chain tool

Touring tool kit (suitable for multi-day rides):

- Basic tools
- 8mm spanner (wrench)
- 9mm spanner (wrench)
- 10mm spanner (wrench)
- 13mm spanner (wrench)
- 8mm Hex key (for the chainset)
- Chain link extractor tool
- Spare gear cable

Advanced tool kit (for home maintenance):

- Torque wrench with lb-in or Nm graduations
- 2mm Hex key
- 2.5mm Hex key
- 15mm box end wrench
- Sprocket wrench with 14mm and 15mm sockets
- T25 Torx wrench
- Spoke key

## TIPS & WARNINGS

### WARNING:

Take care not to put lubricant on the rims and brakes. Lubricant on the rims or disc brakes will stop the brakes working correctly. After lubricating your trike clean the rims, disc brakes and pads to ensure they are not greasy.

### TIP:

Lubricants are made for specific conditions. Ask your dealer for the best lubricant to suit the conditions you cycle in.

### WARNING:

Do not use a pressure washer to clean your trike.



# ASSEMBLY MANUAL



## UNPACKING

Take care when cutting cable ties. We recommend using a set of cable cutters for your safety and to avoid damaging your trike. It is always best to place the trike on a piece of cardboard or carpet to avoid scratching the paint.

### Important note

Only cut yellow or white zip ties when unpacking the trike. Do not cut black zip ties.

## UNFOLDING YOUR TRIKE



Swing the rear section of the frame up and to the left and then down to the unfolded position.



Tighten the QR on the hinge. If the QR is loose, the adjusting nut may be tightened slightly.



Lift the QR (Quick Release) latch to retract the safety pin, and close the hinge.

Make sure the safety pin is properly engaged.



Set the handle bars upright as shown in the picture. Fine adjustment will happen later. Refer to the Owner's Manual



Swing the QR and its connecting pin forwards 90 degrees into the slot on the front part of the hinge.

## TIPS & WARNINGS

### WARNING:

Do not cut or remove any black zip ties when unpacking.

## VTX FRAME ASSEMBLY

If you have the VTX non folding trike then carefully insert the Back End into the back of the cruciform up to the guide mark on the frame tubes.

See Appendix B for Torque Settings.

Clamp the Back End upright by tightening the two M6 bolts.



## FITTING YOUR DERAILLEUR

On 20" trikes the derailleur is attached to its cable. Fit the rear derailleur to the rear dropout using a 5mm hex key, making sure the b-adjust screw is clear of the rear derailleur dropout tab. Tighten the 5 mm hex hanger bolt (see appendix B).

On 26" trikes the derailleur is attached to its cable and the rear dropout which has been removed for shipping. Fit the rear dropout using a 3mm hex key (see appendix B).

On the VTX the derailleur inner cable is not attached, it must be threaded through the hole in the back of the rear pulley chain keeper. See bottom left picture. Before passing it through the stop on the frame and into the short length of outer cable then to the rear derailleur.

The derailleur stop screws have already been pre-adjusted in the factory. If you feel the derailleur needs to be re-adjusted, then please refer to the manufacturer's instructions sheets packaged with the derailleur.

For Shimano Cues derailleurs, both mechanical and Di2, please refer to the supplied fitting and set up instructions.

Please note the Shimano Cues system is set up in a specific way that differs from other systems you may be used too.

## TIPS & WARNINGS

### TIP:

Please note the Shimano Cues system is set up in a specific way that differs from other systems you may be used too.

For Shimano Cues derailleurs, both mechanical and Di2, please refer to the supplied fitting and set up instructions.

## PARKING BRAKE - V-BRAKE

ICE Sprint and Adventure trikes may come with V-brake parking brakes.

The V-brake parking brake is factory set. If you have a trike with a 26 inch rear wheel, you will need to undo the V-brake to fit your rear wheel.

Make sure your parking brake lever, located on the left handle bar is in its 'open' position, shown here.

Pinch the V-brake callipers together and remove the cable noodle letting the callipers open fully.

Fit your rear wheel then pull the V-brake callipers back together and re-seat the cable noodle.



## FITTING YOUR REAR WHEEL (DERAILLEUR SYSTEM)

If you have ordered a trike model with a 26 inch or 700c rear wheel, the wheel will not be fitted.

The wheel's quick release skewer will be cable tied to the spokes. Cut the cable tie and fit the wheel's quick release skewer by removing the nut and spring, then feeding the quick release through the wheel's axle and replacing the nut.

(If your trike has a disc brake parking brake, you must fit the disc brake rotor to your wheel according to the disc instructions on the next page before continuing).

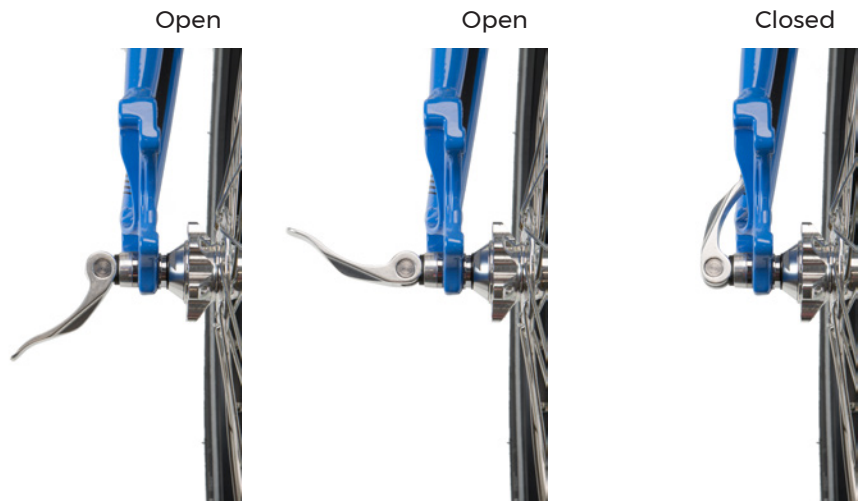
Now place your wheel fully into the frame and tighten the quick release lever.

Quick-releases are used in a number of places on your trike; it is important that they are tightened correctly. A quick-release that isn't fully and properly closed can result in parts coming loose or moving while riding. This could cause a serious accident. A quick-release system consists of two basic parts: a lever that provides the clamping force and an adjusting nut that alters the clamping tension.

With the part you are clamping located properly, adjust the quick-release by opening it, holding both ends and turning clockwise until, when you close the lever, you feel some resistance. At this point, try to close the lever fully. The adjustment is correct when you can fully close the lever, but with some effort (the lever should leave its impression in the palm of your hand).

If you can only close the lever part way, open it, unscrew the adjusting nut slightly and try again. If it closes too easily, tighten it up a tiny bit and try again. Do not try to tighten the quick-release by winding the lever around; it will not tighten enough to be safe.

You should have to push hard on the lever to correctly close it.



### TIPS & WARNINGS

#### TIP:

When assembling your trike, please refer to the table in the appendix for the proper tightening torques for all fasteners. Do not over-tighten.

## FITTING ALFINE MECHANICAL HUB

Fit the wheel as described on page 29 for the derailleur system, making sure the non turn washers are seated in the dropouts.

See appendix B for torque settings.

The cable is pre-set at ICE to the correct length, simply connect it to the hub. When cabling up the Alfine, fit the clamp nut into its slot first, then fit the outer cable into its housing.

If the shifting is not clean or there are grinding or clunking noises from the hub, ensure the yellow dots on the hub are aligned in gear 4 by adjusting the cable tension with the barrel adjuster at the handle bar.

If you have any issues with setup or use of the Alfine system please contact our customer support team who will be happy to help you.



## FITTING ENVIOLLO AUTOMATIQU HUB

Fitting instructions for the Enviolo Automatiq Hub are supplied with all Enviolo equipped trikes. Instructions are also available separately upon request. Email: [info@icetrikes.co](mailto:info@icetrikes.co)



### TIPS & WARNINGS

TIP:  
You can download Shimano user manuals here: <https://bike.shimano.com/en-EU/product/component/alfine-s7000s700/SG-S7000-8.html>

<https://www.rohloff.de/en/service/>

## FITTING ALFINE Di2 HUB

Fit the wheel as described on page 29 for the derailleur system, making sure the non turn washers are seated in the dropouts.

See appendix B for torque settings.

Plug in the Di2 cable from the Shimano steps system to the shift box on the right side of the hub using the cable installation tool provided.

The gears can now be controlled through the steps display unit and switches, including adjusting the shifting if it becomes out of alignment using the setting menu option.

If you have any issues with setup or use of the Alfine system please contact our customer support team who will be happy to help you.



Di2 cable installation tool



Selector shaft

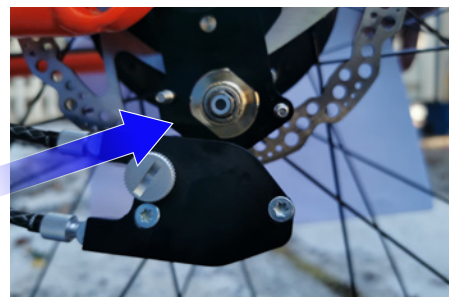
## FITTING ROHLOFF HUB

Fit the rear wheel as described on page 29 for the derailleur systems, make sure that the plate on the left side of the hub engages with the bolt or "Monkeybone" disc brake attachment to ensure it is not able to turn.

The cable lengths are set at ICE, they do not need to be adjusted. Fine adjustments can be made via the barrel adjuster. Connect the shift box to the hub using the silver thumb screw to tighten it in place.

If you have any trouble with the fitting of your Rohloff system please contact our customer service team who will be happy to help.

If your Rohloff system allows fewer than 14 gears (13 clicks) you can reset the system by removing the shift box and using an 8mm spanner to turn the selector shaft (labelled in photo) fully counter clockwise and select gear 14 at the shifter then re-assemble.



## FITTING YOUR FRONT DISC WHEELS

Disc wheels must have their brake rotors fitted before the wheel is fitted to the trike. Identify the left and right hand wheels (this will be marked on the rim). Fit the rotors to each wheel using the bolts provided and a T25 Torx key. Make sure the directional arrows on the rotors are correct for each side.

Locate your front axles. Lightly grease them before continuing. Slide the axle into the hub from outside (non-disc side) of the wheel but stop before the axle appears on the inside. Put the wheel up to the king post and carefully slide the disc rotor into the brake calliper between the brake pads.

Line up the axle with the hole in the king post, then push the axle through. Using 5 and 6mm hex keys tighten the bolt and cup washer into the axle until the wheel is secure and tight.

See Appendix B for Torque Settings.



## TIPS & WARNINGS

**WARNING:**  
Please refer to the manufacturers fitting/  
installation instructions when fitting/adjusting  
your disc brake callipers!

# FITTING YOUR FRONT DRUM WHEEL

Identify the right-hand and left-hand wheels (there are "L" and "R" stickers on the rims). Locate the front wheel axles. Lightly grease the axles before fitting. Slide the axle through the hub from the outside of the wheel (the side without the braking surface).

There is a small spacer fitted into the brake back plate here at the factory, ensure this is still in place, if not, slide it onto the axle now as shown in the first image. Slide on the brake plate assembly onto the axle making sure that the left brake plate goes on the left wheel. The brake plates are marked with Left and Right to make this easier. When fitted the lever arm on the brake plate should be at the front and point down. As shown in the bottom image.

Slide the complete wheel assembly into the kingpost locating the single hole onto the brake pin as shown in the second image.

Put the cup washer onto the M8 Bolt and tighten into the axle from the inside of the kingpost. Using 5 and 6mm hex keys. After the first time the M8 bolt has been installed and removed, the 5mm hex key will not be necessary; you can lock the axle in place by gently leaning on the wheel. Before tightening the axle bolt (see table in Appendix B for torque setting), check that the drum pin is properly located. It is important that these bolts are tight; you will not damage the bearing by tightening to the required torque.

Repeat the fitting procedure for the other wheel.

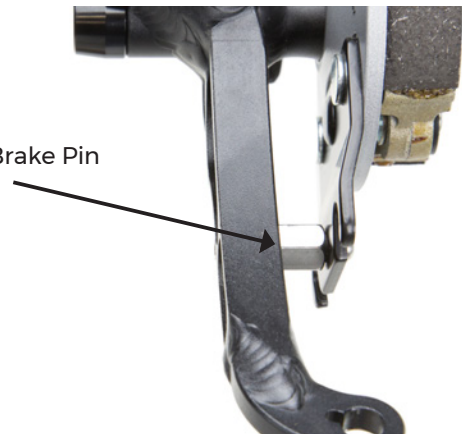
Slide the brake cable adjuster into the lower slot in the brake plate. The brake cable clamping barrel has been installed onto the brake cable and factory adjusted. Hook the barrel over the actuating arm and make fine adjustments if needed.

See Appendix B for Torque Settings.

Adjust the brake by screwing out the adjuster until the wheel starts to drag slightly when spun. Screw in again slightly until the wheel runs freely. Screw down the locking ring tightly.



Drum Brake Pin



Brake Cable Clamping Barrel

Brake Cable Adjuster



## TIPS & WARNINGS

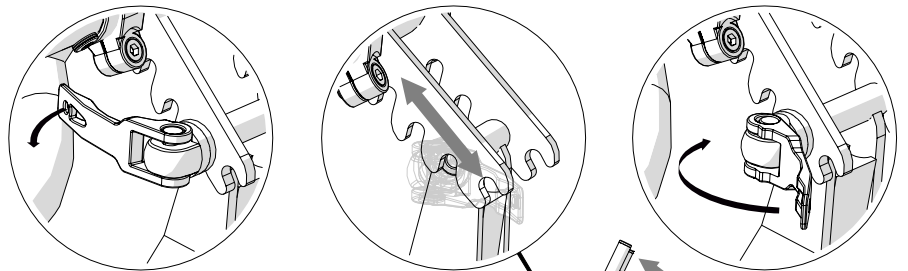
**CAUTION:**  
Make sure the brake plate is located on the pin as this stops the plate rotating. This is essential for proper operation of the brake.

## FITTING YOUR SEAT

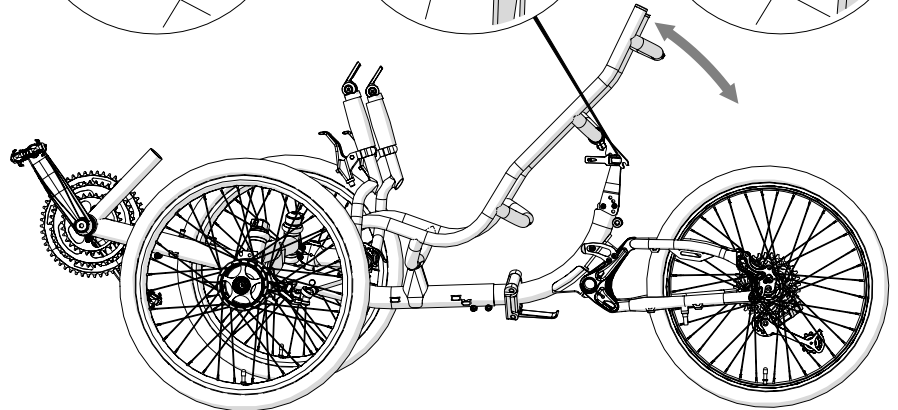
### Adventure, Adventure HD, Sprint X Tour, Sprint X and Full Fat Seats

Your trike will have been supplied with a Ergo-Flow, Ergo-Luxe or Air-Pro seat. There will be 2 Quick Release clamps on the tube on the underside of the seat, and a top seat mount clipped to the back face of the seat near the top.

If you have an Adventure or Full Fat, you will need to raise the 'T' Top seat mount extension. Put the mounting bolts in the position shown in the photo below, and tighten.



The Ergo-Flow and Ergo-Luxe seats are supplied with the cover installed, but not tightened. Tighten the bottom 5 straps so they are tight. The rest of the straps can be adjusted to your preference after you sit on the trike. A good starting point is to tighten them gently by pulling the strap held only between your thumb and forefinger. Be careful about over-tightening the straps on the back of the seat; too loose is more comfortable than too tight. When all the straps are adjusted, press the loose tails onto the velcro so they don't flap about.



### Fitting the Seat

1. Put the seat on the frame
2. Ensure the seat base sits in the frame cup
3. Slide the seat clamps over the frame cup
4. Tighten both seat clamps under the seat
5. Ensure the top seat bracket is fitted over the QR skewer and tighten

If you find your back is rubbing against the seat clamps you will need to tighten the straps on the back of the seat further.

### TIPS & WARNINGS

#### WARNING:

The Ergo-Luxe and Ergo-Flow seats will arrive with the adjustment straps loose, these must be adjusted before use.

#### TIP:

To adjust the comfort on a Ergo-Luxe and Ergo-Flow seats, tighten or loosen the straps.

## FITTING YOUR BOOM

### VTX Seat

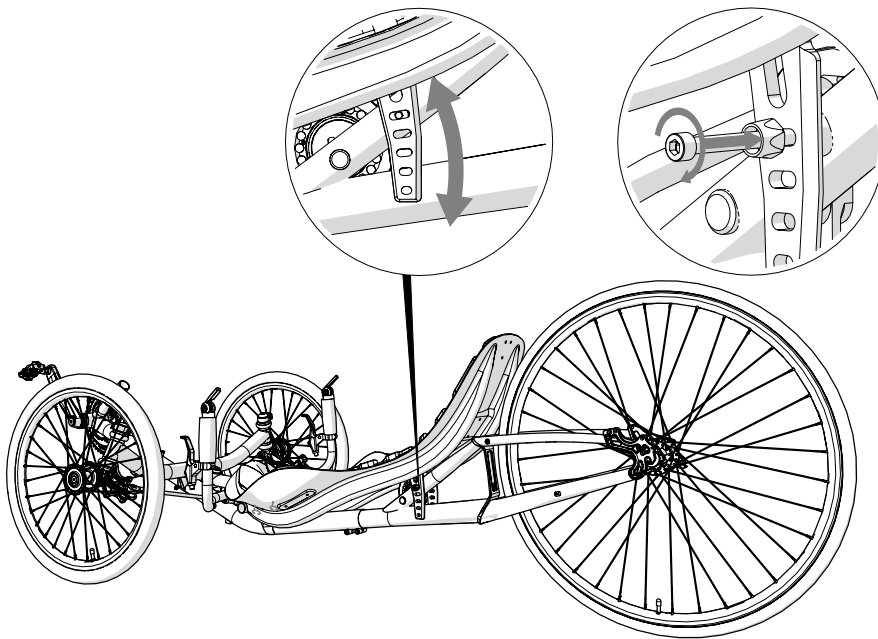
1. Fit the seat bracket to the Air-Pro seat using the instructions supplied with the bracket.
2. Ensure the seat base tube sits in the frame cup
3. Slide the clamps over the frame cup and tighten the bolts
4. Replace the bolt in the seat adjustment bracket and tighten to the correct torque (see appendix B and image below).

If you have bought an easy adjust kit fit it now using the instructions included.

To fit your boom remove all the packing materials from the main frame and carefully slide the boom into the frame. Take care not to damage the frame shim located inside the frame. Adjust the boom by twisting and pushing or pulling.

To see how to set your boom length, refer to the owner's manual.

If the trike is fitted with a Shimano STEPS electric assist system, please refer to the separate STEPS instruction book which came with your trike.



## FRONT DERAILLEUR CABLE

The front derailleur cable can be identified by the cable guide tube (chromed "noodle"). Pass the cable guide through the rear (larger) hole on the underside of the front boom, so that it pokes out of the hole on the top face of the boom. NOTE - the "noodle" appears to sit at an odd angle but this is correct and angles the cable towards the derailleur.

How the cable connects to the front derailleur will depend on the model fitted to your trike. Pull through any slack cable. While holding the cable taut, turn the shifter through its range of movement to check the cables moves smoothly and that the cable is properly seating inside the shifter. Run the cable under the cable anchor washer and hold taut. Tighten the anchor bolt. Be careful not to crush or deform the cable. Refer to the manufacturer's manual when needed which can be found online if not provided.



## TIPS & WARNINGS

**TIP:**  
Do not trim any cables until you are happy with the various settings of the front boom and gears. The loose end of the cable can be tightly coiled so that it is out of the way.

## FITTING YOUR CHAIN

You will need a chain rivet tool for this job. Before you connect your chain you must have your boom length set correctly.

To see how to do this, refer to your owner's manual.

If you have an easy adjust kit, refer to the provided instructions for fitting your chain.

Check the top chain tube, which is the chain tube coming directly from the pulley at the front, is not touching the front derailleur. This can happen with shorter boom lengths. If it does touch, cut the top chain tube so it stops approximately 25mm (1") away, as shown in picture 1.

Make sure your gears are set to the smallest sprocket at the back and the smallest chainring at the front.

At the front of the trike, pull the top chain through the top chain tube. (Your top chain is the one that passes around the pulley).

Pass the chain through the front derailleur cage, around the small chainring and then connect it to the lower return chain at the front using one of the quick links. (Your quick links are located in a bag cable tied to the pulley plate).

Pull the top chain through the chain tubes at the back so the unconnected end of the top chain is longer than the return chain. As shown in picture 3.

Ensure the chaintube does not touch the front derailleur or chainring.

1



2



3



Thread the chain around the smallest cassette sprocket and down through the derailleur or chain tensioner making sure the chain is the correct side of the tab between the two jockey wheels. As shown in picture 4

Bring the two loose ends of the chain together and pull the chain to slowly put the rear derailleur under tension until it is no longer collapsed on itself. Keep pulling until you match the narrow end chain link to the first wide chain link and then split the chain here. As shown in picture 5

Join the chain with the second quick link. Your rear derailleur should now sit like this. As shown in picture 6

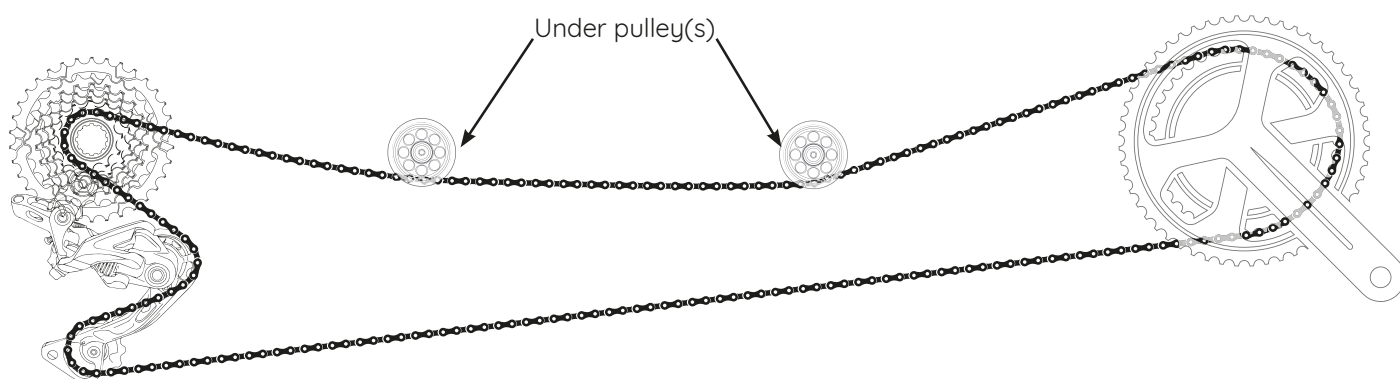


Now turn the cranks by hand and change gear up to the largest/top chainring at the front. Then, one gear at a time, change up the sprockets at the back stopping one cog before the top. As shown in picture 7

Check the rear derailleur cage still has movement forwards/upwards. If it does you can change gears up to the top sprocket and your chain length is now set. If it has no more movement the chain is too tight and needs a link replacing.

Remember that any change in boom length will affect your chain length.

**NOTE** - ONLY the top chain tube should be through the Velcro loop located on the fold pivot. Putting both chain tubes through will cause damage to the chain tubes. As shown in picture 8



## CHECK THE GEAR SHIFTING

(Derailleurs only). While pedalling, shift the chain up and down the chainrings and sprockets several times to take out initial slack in the cables. Any slack can be removed by pulling the cable through the clamp and re-tightening.

Shift the chain to the smallest rear cog. While turning the pedals, move the shifter up 1 click, to the second smallest sprocket. If the chain hesitates or does not shift to the second cog, increase the cable tension by turning the adjuster counter clockwise. If the chain shifts beyond the second cog, decrease the cable tension by turning the adjuster clockwise.

Repeat the two former steps until shifting and cable tension is accurate.

It is not enough that the chain should run quietly in each gear, it should also move smartly from one sprocket to the next, without clattering or jamming.

Now check for smooth changing up through the range, checking one pair of sprockets at a time (8-7, 7-6, etc.) Make any minor adjustments by turning the adjuster. Finally, check that the chain cannot jump off the cassette, either on the inside into the spokes, or on the outside onto the dropout. This is adjusted using the high and low limits screws as shown in the manufacturer's supplied instructions.

Cut the cable off leaving about 2" (50mm) past the cable clamp, and crimp the cable end cover onto the cable end.

### Adjusters



## FIT THE MIRROR

The mirror comes with instructions showing how it is to be assembled. If you have grip shifters the mirror is mounted in the top of one of the handlebars (right handlebar if you drive on the left, left handlebar if you drive on the right). A plastic plug is provided for the opposite handlebar. Many people prefer to ride with a mirror both sides.

If you have bar-end shifters, your trike would have come with a mirror mount, you will need to fit this first. Insert the mirror into the end of the mirror mount and tighten.



## FIT THE FLAG

### Ergo-Flow and Ergo-Luxe

Place the flag in the flag holder hole in the left or right side at the top of the seat frame. You may need to wiggle the flag pole as you insert it. This will help you locate the hole in the top of the seat tube for the flag pole to slide into.

### Air-Pro

Place the flag in the flag holder tube on the left or right side at the top of the seat.



## BELL AND REFLECTORS

Reflectors and a bell are supplied with your trike. The bell can be mounted anywhere on the handlebars where it can be reached easily and doesn't interfere with steering the trike. The reflectors have brackets which allow the front reflector to be mounted on the front derailleur post, and the rear reflector to be mounted on the top rail of the seat.

## CHECKING ALL THE NUTS AND BOLTS

Generally, check all nuts, bolts and quick-releases to make sure everything is tight. (See appendix B)

## FIT THE PEDALS

(Your own if not ordered from us) - Note: the pedal threads are handed. The right hand pedal tightens in the normal direction; the left-hand pedal has a left hand thread, and tightens in the opposite direction to normal. Tighten the pedals to the torque shown in Appendix B.

A photograph of two people riding recumbent trikes on a gravel path. The person on the left is a man wearing a black and red long-sleeved shirt, black shorts, a grey helmet, and sunglasses. The person on the right is a woman wearing a light blue short-sleeved shirt, dark pants, a grey helmet, and sunglasses. They are both smiling and looking towards the camera. The path is made of gravel and leads into a lush green landscape. In the background, there is a river or stream flowing through a valley, surrounded by green fields and trees. A large tree trunk is visible on the left side of the path. The overall scene is bright and sunny, suggesting a pleasant day for outdoor activities.

# OTHER INFORMATION

## ONLINE COMMUNITY

Now that you have your new trike, why not share your good experiences with other riders and ICE? And don't forget to tag #icetrikes in your social media trike riding posts.

Official ICE Pages

## Facebook

Find "ICE Trikes" on facebook and "Like" our page to keep updated with everything that's going down at ICE HQ as well as letting us and others know what you are up to on your ICE Trike.

[www.facebook.com/icetrikes](http://www.facebook.com/icetrikes)

X- (Twitter)

Follow us on Twitter for news, updates and what's going on from ICE.

[www.x.com/icetrikes](http://www.x.com/icetrikes)

## Strava

ICE encourages all trike riders to join our Strava Club and to share their rides with a worldwide community of trike owners & riders.

[www.icetrikes.co/community/strava-club](http://www.icetrikes.co/community/strava-club)

YouTube

We love our short films and we think you will too, so why not visit our YouTube channel “ICE Trikes” where you can find loads of recumbent related videos filmed by ourselves.

[www.youtube.com/icetrikes](http://www.youtube.com/icetrikes)

Vimeo

If you're a fan of our short films but not so much of the adverts YouTube throws at you, check out our Vimeo page for uninterrupted viewing.

[www.vimeo.com/icetrikes](http://www.vimeo.com/icetrikes)

## Instagram

Check out our Instagram feed for a behind the scenes look at the daily workings of ICE. You may even be able to spot your trike being built.

[www.instagram.com/icetrikes](http://www.instagram.com/icetrikes)

## ICE Trike Owners

An independent ICE Trike owners group page for people who are interested in ICE Trikes.

Search Facebook, Twitter and Instagram for ICE  
Trike Owners

## Bent Rider Online

The BentRiderOnline website is a valuable source of information. They operate a message board (forum) that is moderated and is free to join. You will need to register before you can post a message, but the forum is available for anyone to read.

[www.bentrideronline.com](http://www.bentrideronline.com)

## Laid Back Bike Report

An online recumbent website that produces and reports on recumbent industry news, videos and reviews

www.laidbackbikereport.com

## Recumbent Clubs

There are many other clubs that specialise in recumbents around the world; here are some of the clubs we know of:

British - [www.bhpc.org.uk](http://www.bhpc.org.uk)  
 America - [www.ihpva.org](http://www.ihpva.org)  
 Netherlands - [www.ligfiets.net](http://www.ligfiets.net)  
 Australia - [www.ozhvp.org.au](http://www.ozhvp.org.au)  
 Germany - [www.hpv.org](http://www.hpv.org)  
 France - [www.afvelocouche.fr](http://www.afvelocouche.fr)

## LIABILITY INFORMATION

Taking part in any sporting activity can result in injury or death. Cycling is no different in this regard, and recumbent tricycles are no different from upright bicycles. In many ways, recumbent trikes can be much safer than standard bicycles. Nevertheless, the rider (that's you) is expressly assuming the risk for any injury and/or property damage that may result from using our product, as well as for any and all injuries and/or property damages caused by someone riding your trike.

We have no control over how the trike is used or maintained. It's your trike; it is up to you to be responsible for yourself. You need to ensure that the trike is safe each time before you ride it. You need to ensure that it is maintained to a proper standard. Read and understand this manual; it has warnings and suggestions that will help you to use the trike safely. If you are in any doubt about any of the advice or procedures in this manual, please contact your dealer or ICE. It is up to you to know and obey traffic laws of the country or state where you will be riding your trike. Pedal cycles are regarded in most countries as vehicles when on the road and are subject to the same rules as motor vehicles.

If you are not comfortable on the road, or have little experience riding in traffic, try practicing riding on quieter streets, at least until you develop the necessary skills and road awareness. Many bike shops can offer instruction on advanced riding techniques. Inspired Cycle Engineering shall in no event be liable for incidental or consequential losses, damages or expenses in connection with its tricycle products.



## WARRANTY INFORMATION

Your warranty should be submitted online within the first 30 days of ownership. (Information on how to activate your warranty can be found inside of the front cover).

Inspired Cycle Engineering warrants, to the original owner of each new ICE tricycle that the frame, seat, and steering components are free of defective materials and workmanship for ten (10) years from original date of purchase. Component parts are limited to one (1) year from original date of purchase. Warranty is conditional upon the trike being operated under normal conditions and being properly maintained. Warranty is offered to the original owner only, and is not transferable. This warranty does not apply to:

- Damage through normal wear and tear
- Neglect (inadequate care and maintenance)
- From crashes or jumping
- Overloading through excess weight
- Incorrect assembly
- Modifications to the trike (additional or changed components)
- Theft
- Use as an non ICE-approved power driven vehicle
- Failure to follow instructions or warnings in the owner's manual
- Activities for which they were not designed

Bending of frames, handlebars, seats or wheel rims can be a sign of misuse or abuse.

Inspired Cycle Engineering reserves the right to make sole determination of whether any failure or damage claimed under warranty was caused by material or manufacturing defect, and reserves the sole discretion to repair or replace any parts covered by this warranty.

The owner shall be responsible for all labour, shipping, and travel costs connected with the repair or replacement of warranted parts. Inspired Cycle Engineering will, at our sole discretion, normally consider compensation for reasonable labour, shipping, and travel costs associated with warranty claims.

Inspired Cycle Engineering shall in no event be liable for incidental or consequential losses, damages or expenses in connection with its tricycle products.

In practice, if you think you have a warranty claim, contact your dealer or us. We are passionate about our product, and want you to be too. If it is our problem, then we will do our best to put it right.

## LEGAL REQUIREMENTS

Legal requirements vary from country to country and you should always comply with them.

The important areas you need to consider are lighting, and helmet use. Consult your local bike dealer for information about what is required in your area. Please also remember that even if not required by law, some equipment (such as helmets and lights) can increase your personal safety and should be carefully considered.

## SERIAL NUMBER

The serial number is marked on the underside of the main cross joint.



## CONTACT US

Your first point of contact should be your local dealer. They will be able to answer most of your questions and can provide you with the full line of ICE accessories. If you need to speak to us directly, we can be contacted in a number of ways:

In person;

Inspired Cycle Engineering Ltd  
Unit 25, Tregoniggle Industrial Estate  
Falmouth  
Cornwall  
TR11 4SN  
England  
UK

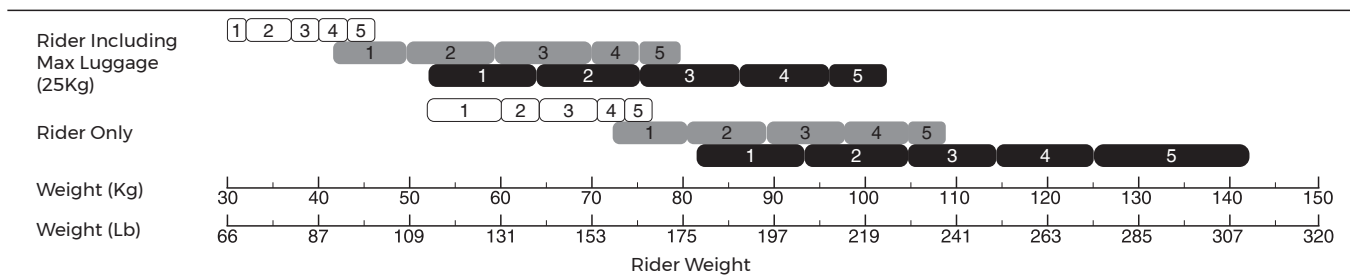
Telephone: 01326 378848  
(+44 1326 378848 outside UK)

E-mail: [sales@icetrikes.co](mailto:sales@icetrikes.co)

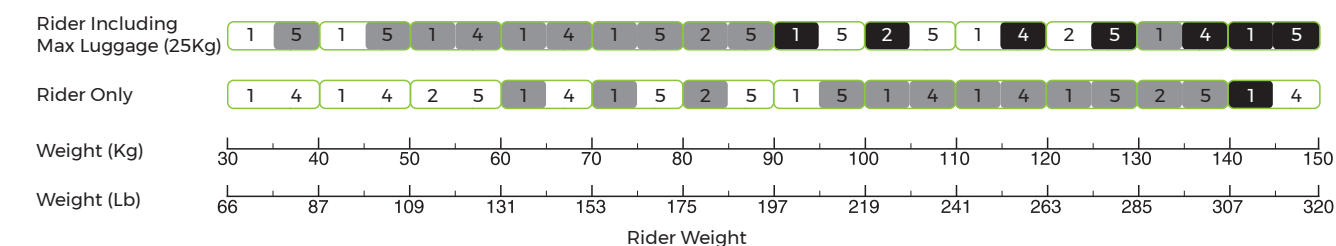
Website: [www.icetrikes.co](http://www.icetrikes.co)

## APPENDIX A

### 20" Rear Suspension Elastomer Selection Table



### 26" Rear Suspension Dual Elastomer Selection Table



| Key                                                                                 |                    | Elastomer Colour                                                                    |                                                                                     | Elastomer Pin Location |
|-------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|
|   | Pair of Elastomers | Old                                                                                 | New                                                                                 | Top                    |
|  | Soft Elastomer     |  |  | 5                      |
|  | Medium Elastomer   |  |  | 4                      |
|  | Hard Elastomer     |  |  | 3                      |
|                                                                                     |                    |                                                                                     |                                                                                     | 2                      |
|                                                                                     |                    |                                                                                     |                                                                                     | 1                      |
|                                                                                     |                    |                                                                                     |                                                                                     | Bottom                 |

### Elastomer pin locations



## Single Elastomer on 20" Trikes



## Dual Elastomer on 26" Adventure and Full Fat Trikes



### Dual Elastomer on Sprint X Tour and Sprint X models with Sprint Wedge Plate



# APPENDIX B

## Tightening Torques

| Fastener                           | Uses Hex Key (mm) | nm      | In-Lbf  | Loctite |
|------------------------------------|-------------------|---------|---------|---------|
| Steerer bolt                       | 10                | 50      | 442     | Y Blue  |
| A-Head top clamp                   | 5                 | 8       | 71      |         |
| Ball joint bolt assembly           | 5                 | 5-8     | 44-71   | Y Blue  |
| Stem bolts                         | 5                 | 8       | 71      |         |
| Front derailleur clamp bolt        | 5                 | 3-5     | 27-44   |         |
| Front derailleur cable clamp bolt  | 5                 | 5-7     | 44-62   |         |
| Main frame clamp bolts             | 5                 | 13      | 115     |         |
| Pedals                             | 6                 | 35      | 310     |         |
| V-brake mounting bolt              | 5                 | 6-8     | 53-71   | Y Blue  |
| Axle bolt **                       | 5-6               | 20      | 177     |         |
| Alfine hub nut                     | 15 Spanner        | 30-45   | 265-398 |         |
| Enviolo axle nut                   | 15 Long Socket    | 30-40   | 265-354 |         |
| Brake lever clamp bolt             | 4-5               | 6-8     | 53-71   |         |
| Rear main frame joint              | 5                 | 13      | 115     |         |
| Elastomer bolt & spacer            | 6                 | 8       | 71      |         |
| Rear mech hanger                   | 3                 | 3-5     | 27-44   | Y Blue  |
| Rear derailleur mounting bolt      | 5                 | 10      | 89      |         |
| Rear derailleur cable clamp bolt   | 5                 | 4-5     | 38-44   |         |
| Disc rotor bolts                   | T-25              | 6.2     | 55      | Y Blue  |
| Mechanical caliper mounting bolts  | 5                 | 9-10    | 80-89   | Y Blue  |
| Pulley bolt                        | 5                 | 10-12   | 89-106  | Y Blue  |
| Drum brake cable clamping barrel   | 4                 | 1.5-2.5 | 22-27   |         |
| Top seat mount bolts               | 4                 | 5-7     | 44-62   |         |
| Drum bake pins                     | 4/10 Spanner      | 13      | 115     | Y Green |
| Rohloff Disc rotor bolt            | 5                 | 7       | 62      | Y Blue  |
| Rohloff M4x25 retaining plate bolt | T-20              | 3       | 27      |         |
| Chainring bolts                    | 5-6               | 7-9     | 70-95   | Y Blue  |
| Track rod ball joint bolt (Stem)   | 4                 | 10      | 89      | Y Blue  |
| Deore & STEPs crank arm bolts      | 5                 | 13      | 115     |         |
| Enviolo tensioner body bolt M5x20  | 4                 | 1.2-2.0 | 10-17   | Grease  |
| Enviolo tensioner M8x50            | 6                 | 8       | 71      |         |
| All other M4 bolts                 | 4                 | 5-6     | 44-53   |         |
| All other M5 bolts                 | 5                 | 6-8     | 53-71   |         |
| All other M6 bolts                 | 6                 | 8-10    | 70-89   |         |

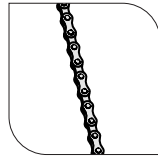
\* The parameters for tightening components are unique to each model therefore we advise searching the manufacturer of your components web-site for an answer.

\*\* This setting is for current axles, fitted with 5 and 6mm allen keys only, for all other axle types please contact ICE.

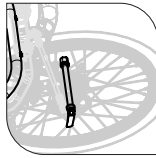
## NOTES

[illegible]

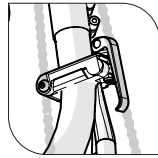
## WALK AROUND CHECKS TO BE DONE BEFORE GETTING ON YOUR TRIKE



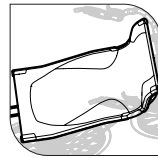
1. Chain is lubricated and has free movement



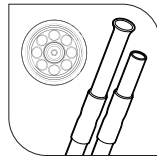
2. Quick release wheel levers are correctly clamped, condition and pressure of tyres



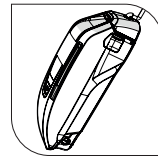
3. Trike fold hinge quick release lever is correctly clamped



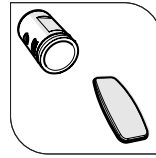
4. Seat mount quick release levers are correctly clamped



5. Pulley and chain tube rubber sections are operating correctly



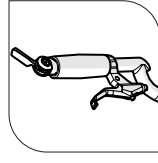
6. STEPS battery is correctly mounted and locked



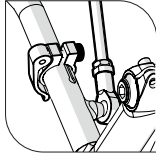
7. Lights, flag and reflectors are correctly fitted



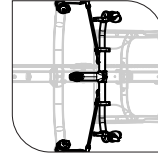
## CHECKS TO BE DONE SITTING ON YOUR TRIKE



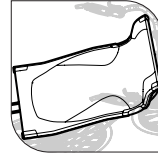
8. Ensure brakes operate correctly



9. Handle bar is correctly positioned and clamps are tight and correctly seated

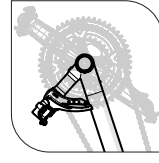


10. Steering operates freely with no excessive play or cable obstruction



11. Ensure pedals, seat, neck rest and wrist rests are positioned correctly for comfort

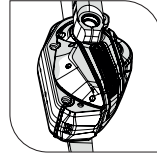
## CHECKS TO BE DONE IN THE FIRST FEW METRES OF YOUR RIDE



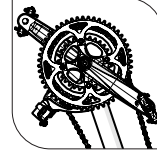
12. Gears operate correctly



14. Chain moves smoothly and quietly



13. STEPS motor operates correctly



15. Listen for any strange noises, vibrations and investigate

## TRIKE KITE CHECK



Watch on YouTube or our website:  
[www.icetrikes.co/kite-check](http://www.icetrikes.co/kite-check)

# PRE-DELIVERY INSPECTION

Completion of this document signifies that this trike has been subject to a full Pre Delivery Inspection (PDI). The checks to be carried out are detailed in the table below. The mechanics' name and the date of the PDI are also detailed for your easy reference.

|                      |           |
|----------------------|-----------|
| Model:               | Frame No: |
| Motor Serial Number: |           |
| Equipment:           |           |

## Complete Checks

|                                                                                             |  |                                                                                                                      |  |
|---------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------|--|
| Check frame condition                                                                       |  |                                                                                                                      |  |
| Check that back end and front boom are upright and frame bolts are torqued.                 |  | Check frame fold hinge for smooth operation.                                                                         |  |
| Functional check on steering, no binding.                                                   |  | Check seat fitted correctly and straps are tight.                                                                    |  |
| Check track rod lock nuts are tight, if loose then check tracking.                          |  | Check correct installation and tightness of all QR levers.                                                           |  |
| Check hubs have no side play, rotate freely and the axles are torqued.                      |  | Ensure all reflectors, bell, mirror and flag are fitted and orientated correctly.                                    |  |
| Check wheels, true if necessary. Ensure tyres are seated. Inflate as indicated on sidewall. |  | Pedal threads lubricated and correctly torqued.                                                                      |  |
| Check chain line is correct. Velcro strap fitted to top tube only. Pulleys running free.    |  | Ensure all accessories are fitted as per manufacturers' instructions.                                                |  |
| Check brake callipers. Blocks/pads correct type, position and fixings torqued.              |  | Manufacturers' specification/reference material used.                                                                |  |
| Brake/gear lever position and torque. Cables and hoses' routed correctly.                   |  | Test ride and complete all documentation. Attach to trike.                                                           |  |
| Check and torque brake cable pinch bolts.                                                   |  | <b>CHECKS/SETUP TO BE COMPLETED WITH CUSTOMER PRESENT.</b>                                                           |  |
| Check bottom bracket for free rotation / no play.                                           |  | Set boom to length / front derailleur cable length and chain length.                                                 |  |
| Functional check of all brakes. Ensure smooth operation.                                    |  | Set Seat angle.                                                                                                      |  |
| Check chain rings run true. Check crank arm bolts are tight.                                |  | Set the handle bars to suit the customer and check that the handle bar QR clamps are tight and the bars do not slip. |  |
| Rear derailleur torqued. B screw and high/low stops set.                                    |  | Adjust seat straps if required.                                                                                      |  |
| Check front derailleur, position, fixing bolt torqued and high/low stops set.               |  | Adjust accessories for customer i.e. neck rest.                                                                      |  |
| Check and torque front and rear gear cable pinch bolts.                                     |  | Adjust rear suspension to suit rider weight and riding style.                                                        |  |
| Functional check on all gear shifting. Ensure smooth operation.                             |  | Direct customer to maintenance and safety information, website and manual.                                           |  |

|                |                     |
|----------------|---------------------|
| Dealer Name:   | Date of PDI:        |
| Mechanic Name: | Mechanic Signature: |

| Dealer Signature | Customer Signature | Warranty Activated |    |
|------------------|--------------------|--------------------|----|
|                  |                    | Yes                | No |



# ICE



[WWW.ICETRIKES.CO](http://WWW.ICETRIKES.CO)



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