



*Circe* Cycles

# Helios Owners Manual

covers all models

Duo

Brut

Omnis

Omnis Plus

Aurora

# Introduction

Congratulations on becoming a new Circe Helios owner. The Helios is an innovative, functional, yet fun product that works brilliantly at many levels. We are confident that it will give you many years of good and enjoyable service. This manual is written to enable you to get the best from your bike. It includes sections on riding, maintenance and safety and we have included some tips learnt from many years of riding and maintaining tandems. The latest version of the manual is always available as a downloadable PDF document on our website - please make sure you read it thoroughly.

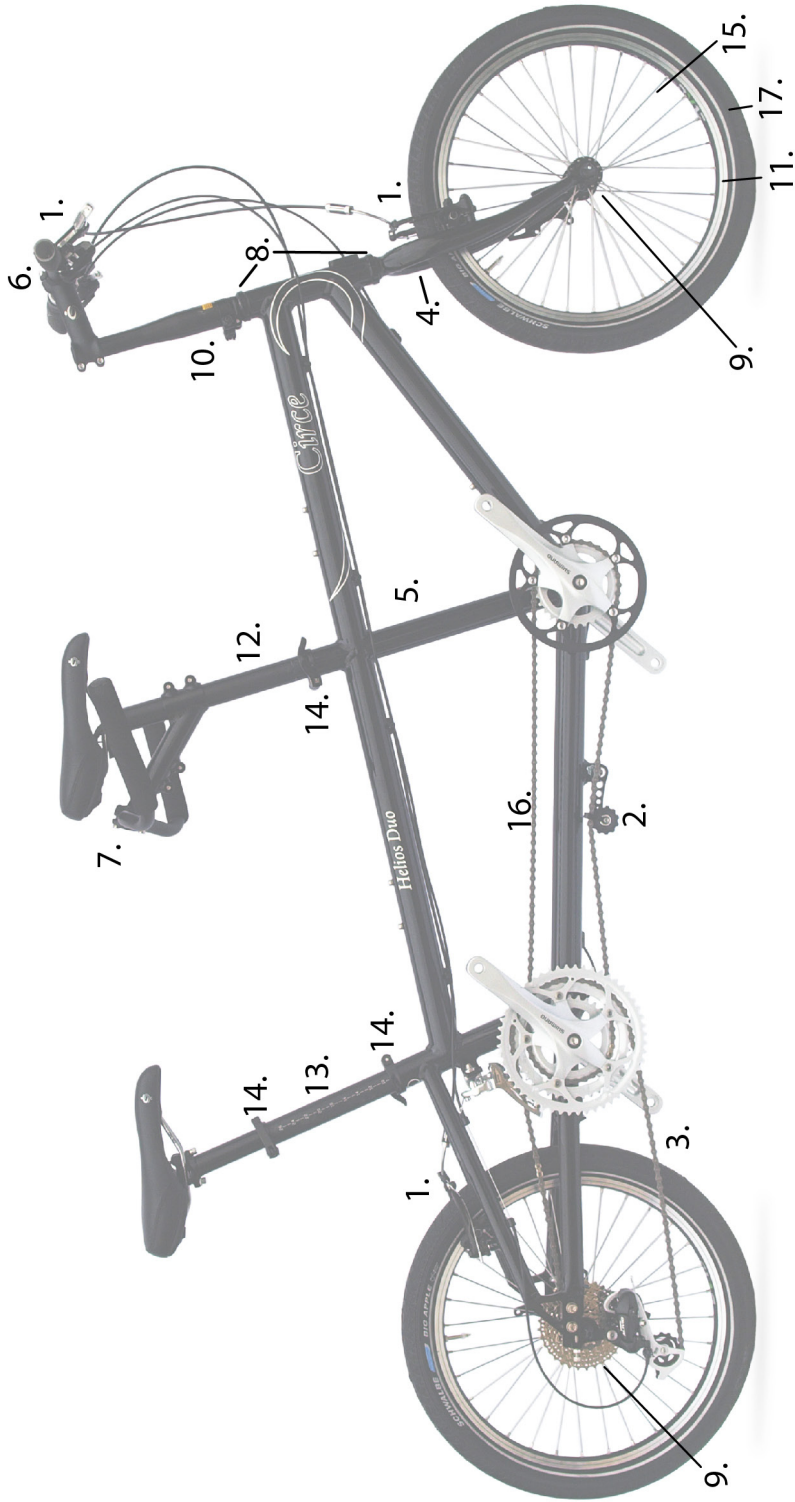
Finally, we get great pleasure everytime we ride our tandem, we hope that you will join us in getting many years of enjoyment from this wonderful bike.

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## Key

1. Brakes
2. Chain tensioner
3. Drive train
4. Fork
5. Frame
6. Handlebar captain
7. Handlebar stoker
8. Headset
9. Hubs
10. Quick release steerer
11. Rim
12. Seatpost captain
13. Seatpost stoker
14. Seatpost quick release
15. Spokes
16. Timing chain
17. Tyres



## **2.0 Riding your tandem**

Like any activity, cycling involves risk of injury and damage. By choosing to ride a bicycle, you assume responsibility for that risk and need to practise safe and responsible riding. The following are points, that if practised, may reduce that risk. It is not intended to be a definitive treatise on the subject and there may be omissions. Consequently, even strict adherence to these points in no way guarantees survival.

### 2.1 Basics

1. Even though our bikes are manufactured and assembled to the highest standard it is essential that a thorough check is carried out by an accredited dealer prior to first use.
2. Prior to riding your bike, it is essential to carry out a mechanical safety and maintenance check - please familiarise yourself with our 'Maintenance Schedule'.
3. It is strongly recommended to wear an approved cycle helmet

### 2.2 Safety while riding

1. You must be thoroughly familiar with the controls of your bike.
2. It is essential that you are familiar with, and observe, the local traffic regulations.
3. Be aware of your speed and never exceed a speed at which you feel safe and have time to stop your bike in unforeseen circumstances.
4. Don't jump with your bike.

### 2.3 Riding at night

1. it is not recommended to ride a bicycle at night, but if you do, it is essential and, frequently a legal requirement, that approved lights be used front and back. These light should be both of sufficient brightness to illuminate the road ahead and so that other road users can clearly see you.
2. Always wear reflective clothing. Reflective vests or bands over the body and bands for the arms and legs are also very effective.
3. Make sure that your bike is well equipped with reflectors.

### 2.4 Wet weather riding

1. Braking performance and stopping distances are very detrimentally affected in wet conditions compared to riding in the dry. It is essential to make appropriate adjustments to your speed and to allow increased distance for stopping.
2. The use of mudguards can help to improve visibility both for you and for anyone following you.
3. It is important to wear appropriate clothing. Waterproofs obviously, but a peak on your helmet or cap can greatly enhance forward vision.

### 2.5 Clothing

1. It is advisable to wear bright highly visible clothing that is not loose enough to catch on the bicycle's moving parts or be snagged by objects at the side of the road.
2. Always wear reflective clothing at night. Reflective bands or vests over the body and bands for the arms and legs are also very effective.
3. Always wear shoes that will stay on your feet and will grip the pedals. It is potentially dangerous to ride barefoot or in open shoes like sandals.
4. Protective eye wear can help to see in bright sunshine and can prevent damage from impacts with insects and road debris.

## **3.0 Fit.**

To ensure that riding your bike is the pleasurable experience it should be, it is essential that attention be paid to correct fit. Ideally this should be done in conjunction with an accredited dealer, but the following points should be observed.

### 3.1 Weight distribution

A tandem generally works better with the heavier rider on the front. This is because the front rider, or 'Captain', is responsible for stabilising the tandem when starting and stopping, for steering, and for braking which particularly on long descents can be very demanding.

### 3.2 Saddle height

This dimension is very important for bio-mechanical efficiency and for protecting joints from injury. As a working rule, with the pedal at the furthest position from saddle and the rider's heel on the pedal, the leg should be straight to very slightly bent. This means that when the foot is in the correct position with the ball of the foot on the pedal axle, the knee will be slightly bent at full extension. The degree of bend is personal, but it is important that, at full extension during the pedalling cycle, the knee is neither overstretched nor too bent.

! Certainly for children we advise the use of adjustable crank shorteners, and anyone outside typical average leg lengths should consider such shorteners or appropriate length cranks.

### 3.3 Saddle angle and position

Ideally the saddle should be adjusted fore/aft so that the centre of the knee joint is vertically above the pedal axle. The saddle top should be approximately horizontal, but care should be taken with the angle of the saddle, particularly so that the nose does not obstruct forward rotation of the pelvis.

### 3.4 Forward extension and bar adjustment

For comfortable riding, the amount of stretch of the back, torso and arms are crucial. An experienced rider should use the positions with which they are normally comfortable, but for first time riders, a good starting position should not be too stretched or bent over. With familiarisation this position can be gradually adjusted. Both front and back positions of the Helios offer considerable adjustment for different rider sizes and riding styles.

## 4.0 Controls and riding technique

Traditionally the front rider is known as the 'Captain' and the rear rider, the 'Stoker'. The Captain steers, has control of the brakes and gears and is responsible for stabilising the tandem when starting and stopping. The Stoker pedals and should otherwise relax and not attempt to steer! For some applications, the Stoker may have an auxiliary drag brake. The Captain should also give some feedback to the stoker as to road conditions, for example, 'bump' and, often, certainly with inexperienced couples, forewarning of gear changes and sudden turns.

### 4.1 Starting and stopping

At start, the Captain will mount the tandem, keeping it stable so that the Stoker can sit on the rear saddle with feet on pedals ready to go. The Captain will then sit, and, keeping the tandem upright with one leg, will, with the stoker, start pedalling. It is important to start in a low gear and for both riders to give a good hard push to get the tandem underway! To stop, the Captain should warn the Stoker and then, as on a single bike, put one leg down to stabilize the bike. The Stoker usually remains seated with feet on the pedals, but must keep still so as not to unbalance the tandem. If the tandem is at rest for a longer period, one or both riders should be prepared to place both feet on the ground.

### 4.2 Brakes and braking technique

The Circe Helios is fitted with excellent brakes that are able to stop the tandem quickly and safely. However, it is important to remember that a tandem is heavy and, consequently, with braking distances being greater than on a single, it is very important to be aware of traffic conditions and not rely on last minute, panic braking. In use, both brakes should be used, but the front brake is the much more effective brake and does the majority of the stopping. Consequently, a lot of heat can be generated in the front wheel braking surfaces and, if long descents in mountainous areas are anticipated, some form of auxiliary braking should be considered. If the tandem is fitted with disc brakes then rim brakes can be added and vice versa if rim brakes are fitted. This enables the different braking surfaces to be alternated and any heat build up to be controlled better.

### 4.3 Gear usage

Your Helios is fitted with a good range of gears, each model having an appropriate gear range for its intended use. It is important to use the gears to find a cadence (leg spin speed) that is comfortable for both riders and, by being aware of road conditions, to use the gears to try and keep within this range. Although mutual comfort is the most important requirement, a cadence of 80-100 is generally considered to give a good bio-mechanical balance, though, obviously this may vary depending on a variety of physical factors, both personal and terrain.

## **5.0 Weight distribution and weight limits**

As previously stated, because the steering is at the front it is better for the heavier rider to be the captain. If luggage is to be carried it is advisable to try and maintain as even a weight balance as possible, possibly using a front rack and panniers to achieve this.

The Helios has a weight limit of 170kg.

### **5.1 Carrying Children**

The Helios is particularly suited to carrying children, but great care must be taken to ensure their safety. It is essential that they wear approved cycling helmets and that they are securely fastened into any child carrying seats. If the Helios rack is used, it is essential that the dedicated fittings are correctly attached and the seat/s securely installed. The tandem should then be safely supported either on its stand or against something solid before the child is placed in the seat. In this configuration, the Helios can take one adult and one or two small children.

The Helios also features a remarkably low rear stand-over height and very configurable stoker bar, so that, with the addition of crank shorteners, a very small child can start riding. With a child or an adult as stoker, it is still possible to have a child seat attached to the seat post or rear rack.

## **6.0 Touring with Helios**

Tandems make great machines for touring. Two riders of unequal strength can ride together and share the joys of cycle travel. The Helios can be equipped with a full touring complement of panniers and bags and with suitable gearing is capable of going anywhere. Remember, it is low gears that are essential for loaded touring; one can always freewheel downhill or with the wind behind you, but you have to pedal up hills and against the wind.

If you are thinking of a full camping tour, we would advise three or even four brakes - two discs and either one or two rim brakes. It is also important to ensure that the luggage weight is well distributed, possibly using both front and rear panniers. The Helios, fitted with its dedicated rear rack, also makes a wonderful single touring bike. The rack can take multiple panniers and is stiff and stable whatever the weight, and with the large profile tyres, immensely strong wheels and wide gear range, you are truly able to go anywhere!

### **6.1 Load carrying**

The Helios is a great load carrier, both for two people touring or shopping, but also as a single bike with its dedicated rack. When loading the Helios, it is important that all bags and luggage are attached securely and that straps are tight and not able to snag on anything. If used as a solo freight carrier it is vital the load be secured carefully, either by making use of the dedicated side frames and/or the use of proper luggage straps

## **7.0 Accessories**

There are a number of recommended accessories for your Helios :-

1. Lights - even if you don't plan on riding in the dark, there is always the chance of getting caught out late and it is essential, and in many countries the law, to have working lights.
2. A good pump, spare tube and puncture repair kit and tool kit. With a tandem, because of the extra weights involved it is essential to have a pump that can reach the necessary high pressures.
3. A good quality stand for parking and loading your tandem. The Helios dedicated stand will be perfect for stabilizing the tandem when loading children or freight.
4. Mudguards.
5. Speedometer.
6. Carrying bags add to the versatility of any bike. The Helios comes with attachment points for racks and bags at the front and back of the bike. Best to discuss with your supplier what works best for your needs.

## 8.0 Maintenance

### 8.1 Service and maintenance schedule

Component	Before every ride	Monthly	Annually	Other
Brakes	x			
Cables		x		
Drive train		x		
Handlebars/stem			x	
Headset			x	
Frame/Fork			x	
Quick releases	x			
Tyres	x			
Wheels			x	

### 8.2 Brakes

Depending on what model of bike you have, it will either have Disc brakes, V brakes or a combination of both. With V brakes you should check that the brake pads have not worn below their minimum wear line and are correctly aligned to the rim and not touching the tyre. If the brake lever pulls all the way to the bar before engaging then you should refer to the cable adjustment section. Or consult a professional mechanic. Disc brakes should also have their pads checked regularly, and if embarking on a long ride it may be worth replacing the pads even before they reach their minimum wear line. The disc also needs regularly checking for damage, alignment and thickness (the minimum thickness is normally specified by the disc brake manufacturer). Note: Brakes on a tandem have to work doubly as hard as on a solo bike, so ensuring they are functioning effectively is critical!

### 8.3 Cables

Cables don't normally need a lot of adjustment. When they are new, they will stretch slightly, and that stretch needs to be adjusted out of the system. Check all cables regularly for signs of damage.

#### Brake cables

To adjust the brake cables, loosen the locking nut on the barrel adjuster at the lever. Screw the barrel adjuster out a little and check the brakes. When squeezing the lever, it shouldn't come too close to touching the handlebar grips. When the lever is released, the wheel should turn freely and not drag on the brakes.

#### Derailleur cables

These are adjusted in the same way as brake cables. There is an adjuster on the rear derailleur, but none on the front. For the front derailleur, it is only necessary to have the cable tensioned slightly when the chain is on the inside chain ring; fine tuning can be done using the adjuster on the left-hand shifter.

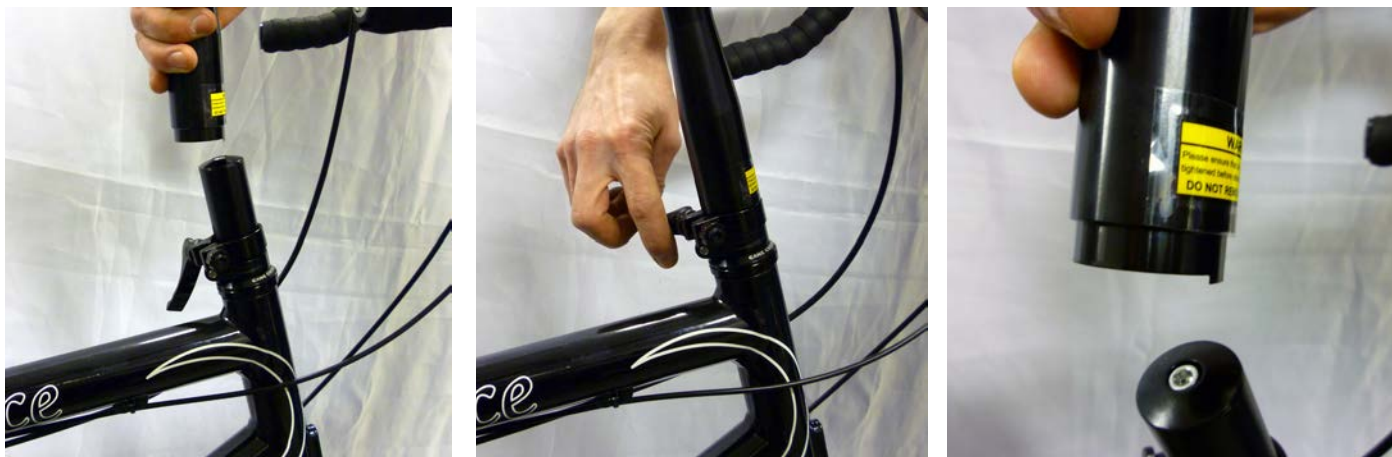
### 8.4 Drive train

Check that the cranks are tight after the first 50 miles of riding. These should be fastened firmly to the bottom brackets, with no play. Even a small amount of movement will cause the joint between the spindle and the hole in the crank to wear, resulting eventually in damage to the chain set.

The rear derailleur idlers tend to collect oil and dirt. Clean them with a dry rag. If they squeak, they can be disassembled and greased. When you lubricate your chain, put a drop of light oil on the moving pivots of the derailleur; they will last much longer. The more you ride your bike, the more used you become to the sounds it makes. If you notice any change in the sound your bike makes, check it carefully; it may be a sign of something needing attention.

### 8.5 Handlebars/stem

Both stoker and captain handlebar arrangements, which include the stem and quick release steerer extender, should be checked before every ride. The careful operation of the quick release steerer extender is critical in ensuring that it continues to function correctly. See pictures 1.1:



Picture 1.1

The steerer extender itself has a tab which locates the handlebars in a forward position. To avoid damaging this tab the bars should only be turned or removed by releasing the quick release, sliding the steerer extender up the inner sleeve, then rotating or removing completely. When reinstalling don't force the steerer extender back into place it should slide in and locate without excess force.

**IT IS CRITICAL THAT THE QUICK RELEASE IS TIGHTENED CORRECTLY TO STOP THE BARS MOVING BEFORE RIDING!**

### 8.6 Headset

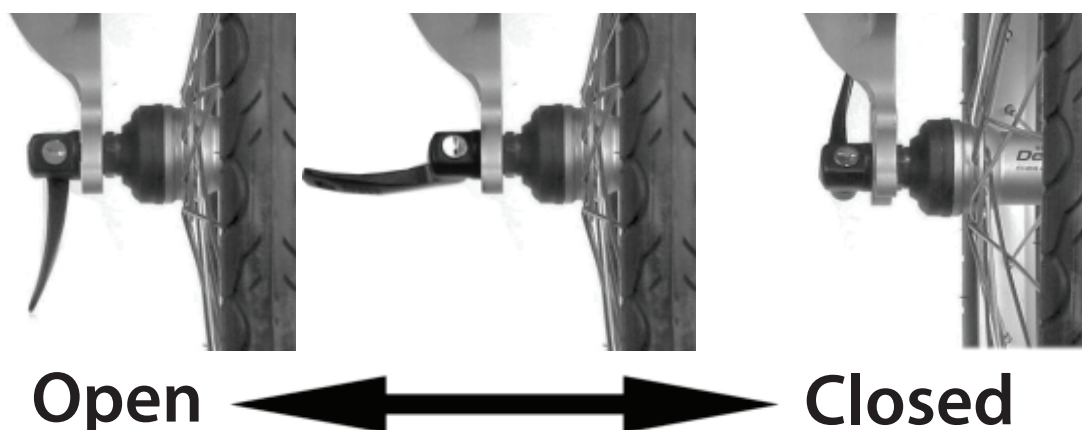
The headset is the bearing which allows the fork to rotate in the frame, it plays a major part in the handling of the bike and should be checked regularly (as per table); that it's both tight (not rocking front and back when front brake is applied and bike rocked backward and forward), or, not turning smoothly. If you are unsure about adjusting your headset, consult a qualified mechanic.

### 8.7 Frame/Fork

The frame of your Tandem is made from high grade aluminium tubing with a powder coat finish. Though Aluminium does not rust like steel, it does still oxidise, so it is worth touching up scratches as they happen to keep the frame in top condition. It is also worth checking the frame periodically for signs of cracking which can occur if the bike has a hard impact. The forks are made from chro moly steel and are also powder coated, scratches should be touched up to prevent rusting. As with the frame, the forks should be checked if the bike sustains a hard impact.

### 8.8 Quick release

Quick-releases are used in a number of places on your bike; it is important that they are tightened correctly. To locate a quick release properly, adjust the quick-release by opening it, holding both ends and turning one 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.





## 8.9 Tyres

Quality tyres are vital for good traction and control while accelerating, turning and braking. Each brand of tyre has its own individual mix of puncture protection, rolling resistance, pressure rating, and durability. Finding the one that suits your riding style best is the challenge. Tyres should always be inflated according to the range marked on the sidewall, never above the maximum recommended, and they should be checked regularly. Worn tyres should be replaced. Lower pressure results in a more comfortable ride, but at the expense of higher rolling resistance. Balloon tyres are now available that combine relatively low rolling resistance, puncture protection, and a smooth ride; they are well worth considering. With two adults on the tandem we recommend having the tyres inflated to the upper limit of the marked pressure range. See tyre pressure table.

NOTE: IT IS IMPORTANT THAT BOTH TYRES ON YOUR TANDEM ARE INFLATED TO THE RECOMMENDED PRESSURE AS PER THE TABLE.

Tyre Model	Pressure range	Recommended with two adults on tandem
Schwalbe Big Apple	30-70PSI (2-5 bar)	70PSI (5 bar)
Schwalbe Marathon	45-70PSI (3-5 bar)	70 PSI (5 bar)
Schwalbe Marathon Supreme	50-80PSI (3.5-6 bar)	80 PSI (6 bar)

## 8.10 Wheels

The wheels on your tandem are made up of three components; the rim which holds the tyre on, and provides a braking surface, the spokes which support the hub in the middle of the rim, and the hub around which the wheel rotates, providing a means to driver, with disc brakes, a means of braking. All three parts should be checked regularly (as per maintenance table), rims should be checked for wear and straightness, spokes that they are all at correct tension and none of them are broken, hub for play in bearings and signs of damage to flange.

## 9.0 Dedicated accessories

The Helios is an incredibly versatile bike and, with our range of accessories, you can make full use of this versatility. If you would like to purchase any of these accessories, please contact your local dealer or call us on +44 (0)1954 782020.



Front stand

Ideal when using the tandem with children or large loads as the stand can be operated from the front of the bike.



Cargo Rack and Cargo Rack Extension

The cargo rack replaces the stoker seat providing a versatile load bed, this can be fitted with a standard rear rack in place. The rack can be further extended using the Cargo Rack Extension which extends the rack over the back wheel of the bike.



Crank shorteners

Machined from high grade aluminium our crank shorteners fit easily to a standard crank arm and offer three new pedal positions at 20mm spacings (on a 170mm crank that would be 150mm 130mm and 110mm). These are great if you intend to take small adults or children on the back of the tandem, and can be easily removed if necessary.



### Junior cranks

The Junior crankset has a 125mm crank arm and comes as standard with a 30T ring and chain guard, but can easily have a 110 BCD middle and outer ring added to make it a triple chain set. It can replace the stoker chain set on the Helios as a more permanent alternative to the crank shorteners. It is also suitable for adults who require, or prefer, a shorter crank.



### Separable Kit

The separable kit can be fitted to any of our Helios models as a retro-fit. The separable kit will allow the Helios to be fitted into the Traveller case, two bags, or two off-the-shelf suitcases. Other useful applications of the separable kit are fitting it into the boot of a car or into a roof box, it is also useful for storage.



### Triplet kit

The triplet kit can be added to any Separable Helios, it then converts from a tandem to a triplet perfect for growing families.



### Thule Stand Off

The Thule stand off allows the Helios tandem to be fitted to a Thule Proride 591 or 598 bike rack. By adding the stand off the Helios can be easily and securely attached to the rack. The stand off is not required if you have the Helios front stand fitted to your bike, though you will need a strap to secure the front wheel.



### Brompton to R&K adaptor

On the head tube of the Helios is a mounting point for a Brompton luggage block, using the Brompton to R&K adaptor converts the bolt pattern to suit the Rixen and Kaul accessory range.

## 10.0 Warranty

Cyclecentric warrants, to the original owner of each new Circe tandem, that the frame is free of defective materials and workmanship for two(2) years from original date of purchase. Component parts are limited to one (1) year from original date of purchase. Warranty is conditional upon the bike 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)
- damage from crashes or jumping
- overloading through excess weight
- incorrect assembly
- modifications to the bike (additional or changed components)
- theft
- use as a power driven vehicle
- failure to follow instructions or warnings in the owner's manual
- activities for which they were not designed.

Bending of frames, forks, handlebars, seat posts or wheel rims can be a sign of misuse or abuse. Cyclecentric 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. Cyclecentric will, at our sole discretion, normally consider compensation for reasonable labour, shipping, and travel costs associated with warranty claims. Cyclecentric shall in no event be liable for incidental or consequential losses, damages or expenses in connection with its bicycle products.

## 10.1 Liability waiver

Taking part in any sporting activity can result in injury or death. Cycling is no different in this regard in many ways. 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 bike. We have no control over how the bike is used or maintained. It's your bike; it is up to you to be responsible for yourself. You need to ensure that the bike 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 bike safely. If you are in any doubt about any of the advice or procedures in this manual, please contact your dealer or Cyclecentric. It is up to you to know and obey traffic laws of the country or state where you will be riding your bike. 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 practising 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.

## 10.2 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.

## 10.3 Contact information

Cyclecentric Ltd  
37 High Street  
Longstanton  
Cambridge  
CB243BP

tel. +44 (0) 1954 782020  
email. [info@circecycles.com](mailto:info@circecycles.com)