

ARCC

Abington + Rosemont

USER GUIDE





ARCC

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A modern twist on a classic style

Meet the Abington and Rosemont. Designed and made in the UK, these sleek town bikes combine the elegance and poise of a bygone era with state-of-the-art engineering.

Their flowing lines are crafted from custom-drawn Reynolds Technology steel tubing, and are hand brazed in Cambridge, UK. Machined stainless steel dropouts allow for a variety of drivetrain options, and combine with large 650b x 38 tyres to provide a wonderfully comfortable, yet responsive ride.

Available with or without ARCC's renowned e²-pod Intelligent Drive System and in a range of colours, there is a configuration to suit all riders.

The ARCC e²-pod Intelligent Drive System has been designed by ARCC Innovations to provide unique intelligent bike power and is available for all ARCC frames.

It combines variable power levels with automatic hill/gradient compensation and launch control. This allows commuting cyclists to choose the amount of effort both they and the motor provides, automatically compensates for hills and gradients, and provides 'launch control', for safety when moving away from traffic lights and crossings in heavy traffic.

Your ARCC bike equipped with the ARCC e²-pod Intelligent Drive System is ideal for commuting or fast on road riding, delivering a well-tuned, responsive ride everywhere you go.





Safety

Introduction

Before using your ARCC bike please read this manual, noting the sections on safety in particular. While this manual is intended as a guide to the bicycle, it is not a comprehensive guide to cycling or bicycle maintenance.

If you carry out any adjustments or maintenance work yourself, please read the relevant sections of this manual along with any other accompanying documents first, in order to avoid damaging your bike.

This manual contains some tips and advice for using your ARCC bike but if you are ever unsure of how to maintain your bike, please contact the retailer where you made your purchase or call ARCC for expert advice.

For all torque settings please refer to the 'Torque Settings' section of this manual.

Intended use

The bike is designed for use on roads and well-made paths, carrying a maximum load not exceeding 120kg (rider and luggage weight included). If you choose to fit a child seat or luggage rack, ensure that both are fitted in accordance with the manufacturers instructions whilst also ensuring that the child seat complies with EN 14344.

The bike is not intended for drops of more than 100mm, stunts, cross-country riding or extreme sports. Misuse may lead to failure of some components and void your ARCC warranty.

Specification

This bike and manual conforms to ISO 4210-2 and EN 15194. For electric bikes, the motor assistance is limited to a maximum continuous power rating of 0.25 kW (250 W) and a maximum speed of 25km/h, (15.5mph). The A-weighted emission sound pressure level at the driver ears is less than 70dB(A).

For your safety

Before riding your ARCC bike please consider the following:

- Take the time to familiarise yourself with the operation of the bicycle in a quiet place away from traffic and hazards, before riding your ARCC bike on open roads.
- We recommend the use of an approved cycling helmet.
- Read and follow the national legal requirements of the country where you are riding, and comply with all applicable traffic laws.
- Check brakes, tyres and steering regularly.
- Keep brakes and gears properly adjusted and operating cables in good condition.
- In rainy conditions, roads may be more slippery and the brakes less effective so ensure to brake sooner.

- Check that all wheel nuts are properly tightened (see 'Torque settings').
- Note that in the UK, the left hand brake lever operates the rear brake and the right hand lever operates the front brake, but this varies from country to country.
- When riding in the dark, ensure you wear reflective clothing and use front and rear lights; check to ensure that your lights comply with local laws.
- Ensure that the seat post clamp is secured (Torque 8Nm) and the saddle is at the correct height (see 'Basic adjustments/maintenance').

On electric models:

- Ensure you do not drop the battery as it could cause damage to the battery itself.
- Please fully charge the battery before the first use.
- Ensure the battery is properly secured before using the bike.
- Read and follow the national legal requirements of the country where you are riding in relation to cycling, bicycles, and electric assisted bicycles, and comply with all applicable traffic laws.
- Do not use the bike if there is any problem with the e²-pod Intelligent Drive System. Organise for the bike to be taken to ARCC Bikes or to the retailer from which you purchased your bike, for inspection.

Warning

As with all mechanical components, bicycles are subjected to wear and high stresses. Different materials and components may react to wear or stress fatigue in different ways. If the design life of a component has been exceeded, it may suddenly fail, possibly causing injuries to the rider. Any form of crack, severe scratches or change of colouring in highly stressed areas indicate that the life of the component has been reached and it should be replaced.

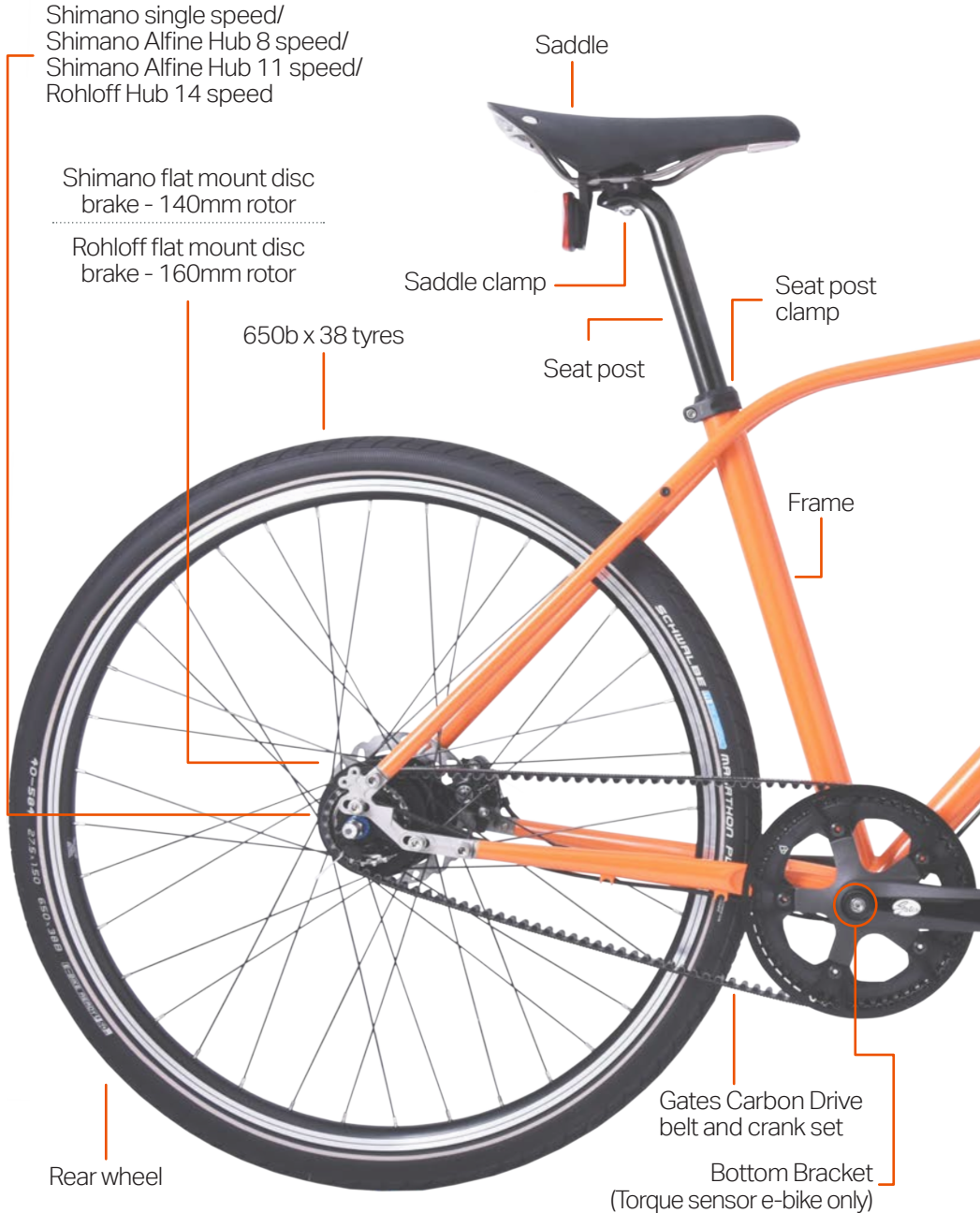
If the bicycle is fitted with an e²-pod, the electrical system including the software should not be modified or tampered with. The hub-motor, Bluetooth controller and e²-pod should not be opened, tampered with or modified in any way, doing so will invalidate your warranty.

You should stop using the bike immediately and have the bike inspected by a bicycle technician if it has been subject to a crash or impact. Damaged components should be replaced before the bike is ridden again.

Note: We recommend that genuine replacement parts are used for safety-critical components. See 'Specification list' for details.

Please call us for expert advice if you are uncertain on any of the above.

Component names



Shimano single speed/
Shimano Alfine Hub 8 speed/
Shimano Alfine Hub 11 speed/
Rohloff Hub 14 speed

Shimano flat mount disc
brake - 140mm rotor

Rohloff flat mount disc
brake - 160mm rotor

650b x 38 tyres

Saddle

Saddle clamp

Seat post

Seat post
clamp

Frame

Rear wheel

Gates Carbon Drive
belt and crank set

Bottom Bracket
(Torque sensor e-bike only)



Unboxing and using your bike

For all torque settings please refer to the 'Torque Settings' section of this manual.

1. Fitting the pedals



1. Identify the correct pedal from the 'L' and 'R' indicators found on the pedal stem. The 'L' refers to the left pedal and the 'R' refers to the right pedal when viewed from the riding position.



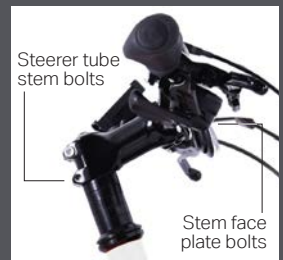
2. Place and rotate the stem of the pedal into the crank arm and rotate. Rotate the left pedal anti-clockwise to tighten and the right pedal in a clockwise motion to tighten.



3. Use a 15mm spanner to tighten the pedal in place.

2. Adjusting the handlebars

Rotate the handlebar stem so that it is in line with the front wheel facing forward. Once you have tightened the two steerer tube stem bolts, loosen the four stem face plate bolts. This will allow you to rotate the handlebars to a desired position - it is important to tighten the stem face plate bolts evenly once you are happy with the adjustment.



3. Tyre pressures

Tyre pressure is important for both comfort and safety. Please note the following tips for ensuring a safe and comfortable ride.

- It is important to keep your tyres correctly inflated; soft tyres increase pedalling effort, wear down quickly and have an adverse effect on handling. Low tyre pressure will also affect the performance of the e²-pod on electric bikes. Keeping your tyres well inflated is highly recommended.
- The most appropriate pressure depends on your weight and preference. On rough roads, it's often more comfortable to keep the pressures near the lower end of the ranges. However, for minimum pedalling effort, higher pressures are ideal.
- For best performance with the e²-pod we recommend high pressure tyres.
- You can use a standard foot/track or hand-pump to inflate your tyres.

The following table shows recommended tyre pressures for your ARCC bike.

Marathon Plus

	Minimum Tyre Pressure	Maximum Tyre Pressure	Recommended Tyre Pressure
Front	55 PSI / 4 BAR	95 PSI / 6.5 BAR	80 PSI / 5.51 BAR
Rear	55 PSI / 4 BAR	95 PSI / 6.5 BAR	80 PSI / 5.51 BAR

4. Gears

Your ARCC bike uses either a Shimano single speed hub, 8-speed Shimano Alfine hub, 11-speed Shimano Alfine hub or Rohloff Speedhub 500/14 14-speed dependant on the model you selected when ordering. Please refer to the 'Gears' section of this user guide and the documentation supplied from Shimano or Rohloff for gearing information.

5. Brakes

You should adjust your brakes on a regular basis as they are critical to your safety. The time between adjustments will vary dependant on how often you use your ARCC bicycle; if your brake lever touches the handle bar when you pull on it, your brakes need urgent adjustment. If you are unsure of how to adjust your brakes, have them adjusted by a qualified bicycle technician. For further information please see the 'Brakes' section of this user guide.

6. Lubrication

We recommend lubrication of only the headset on your ARCC bicycle. Ensure this is done by a trained professional during your general service.

7. Initial service

Within the first 6-8 weeks of owning your ARCC bicycle, we recommend an initial service performed by an expert at ARCC Bikes, free of charge or alternatively by a qualified bicycle technician at your local bike shop.

8. General services

We recommend that your bicycle is serviced every six months by a qualified bicycle technician to ensure that it is as safe to ride as possible.

Basic adjustments / maintenance

1. Saddle height adjustment

Saddle position is a personal choice meaning one saddle cannot suit everyone, but with some adjustment, a comfortable saddle position can be found for any user.

Vertical adjustment

- To check for the correct saddle height to suit you, sit on the saddle with one heel on a pedal and the crank arm positioned at the bottom of the stroke parallel to the seat post. If your leg is not completely straight, your saddle height needs to be raised.
- When riding normally, with the ball of your foot on the pedal, your knee should be slightly flexed at the bottom of the pedal stroke.
- Once positioned, tighten the seat post clamp bolt to the correct torque.
- The seat post must not be extended beyond the minimum insertion point marked on the seat post.

2. Saddle fore and aft adjustment

The saddle can be adjusted forwards or backwards to help achieve the optimal position on the bike. Move the saddle forwards to get closer to the handlebars and backwards to increase the reach. Always tighten the saddle clamp bolt before riding your ARCC bike.

3. Saddle angle adjustment

Whenever you adjust the saddle angle, always tighten the saddle clamp bolt to the correct torque before riding your ARCC bike. Refer to the 'Saddle Position' section of this manual for more information.

4. Handlebar position

The handlebars can be tilted towards and away from the rider. Whenever you adjust the handlebars, always tighten the four stem face plate bolts evenly to the correct torque before riding the bike.

5. Routine replacements

Routine replacements are advised to ensure both safety and good performance. The suggested intervals between replacements are for bicycles subjected to normal use; the most appropriate timing depends on the conditions of use and riding style. We recommend only genuine replacement parts for safety-critical components.

- **Brakes cables** do not have an indefinite life and should be checked and replaced if damaged. New outer cables should be exactly the same length as the original; ensure to check the 'Specification list' and have them fitted at ARCC Bikes or by a certified bicycle technician. Cables that are the incorrect length could affect the safety and performance of your bicycle.

- **Gear cables** should be replaced at the same interval as brake cables. Have them fitted at ARCC Bikes or by a certified bicycle technician. Cables that are the incorrect length could affect the safety and performance of your bicycle.
- **Disc brake pads** should be regularly inspected to check that there is a minimum of 1.5mm of pad visible on either side (2 pads in total).
- **Tyres** become increasingly likely to get punctures as the tyre tread starts to wear away. Once you notice your tyre tread wearing thin, replace the tyre. This will reduce your chances of puncture and increase pedalling efficiency.

5. Belt tensioning

Please refer to the Gates Carbon Drive documentation for information on belt tensioning.

Gears

Shimano features

- A two-way self-returning lever
- Gear indicator window helps you to see which gear to select
- Available in single speed, 8-speed and 11-speed

Using the Shimano gearing

The shifter uses a simple-to-use self-returning lever to change between gears. Pushing it down with your thumb will shift into a lower gear and flicking the lever upwards with the back of the thumb will shift into a higher gear. It is important to stop pedalling or back pedal slightly when changing gear. The indicator window shows you which gear is selected.

Rohloff features

- A smooth twist motion to change gears (Grip Shift)
- Gear indicator markings are clearly marked on the shifter
- 14-speed

Using the Rohloff gearing

The shifter is manually operated using a twisting motion to switch between gears. It is important to stop pedalling or back pedal slightly when changing gear. The marks on the grip shift indicate which gear is selected.

Shimano



Rohloff

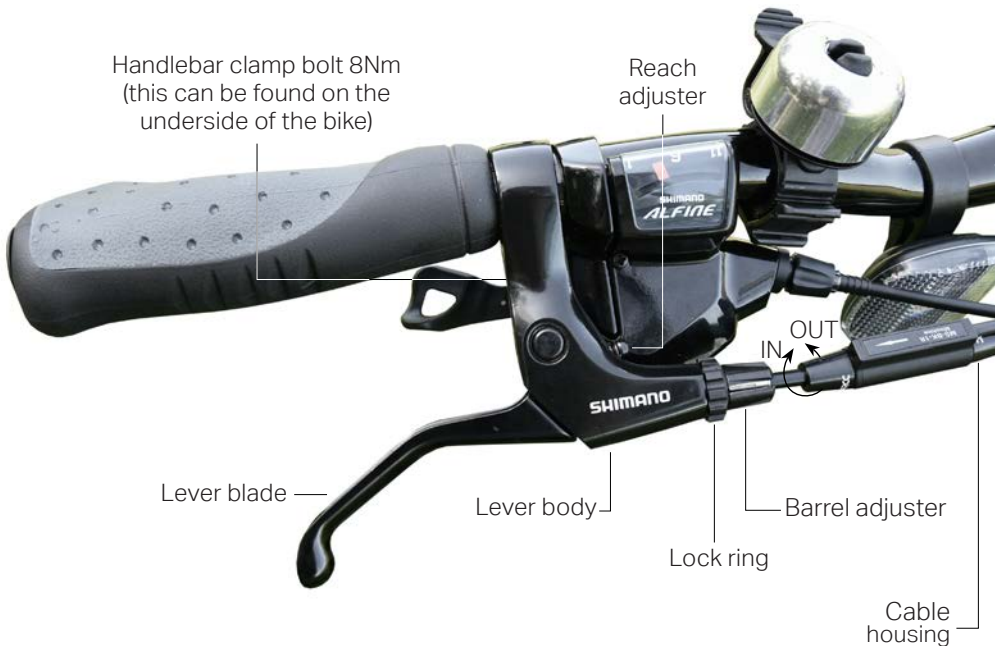


Brakes

You should adjust your brakes on a regular basis as they are a critical component for safety on your bike. The time between adjustments will vary dependent on how often the bike is used. If the brake lever touches the handlebar when you pull on it, this is an indication that your brakes need urgent adjustment. The brakes should be set so that there is a 1.5mm gap on either side of each brake pad. Adjustment is carried out using the threaded cable stop on the brake lever. If you are unsure of how to do this, have it adjusted by a qualified bicycle technician or at ARCC Bikes.

Brake lever adjustment

In order to achieve a comfortable and safe brake lever position, it is important to spend time ensuring that the lever is correctly adjusted. You can adjust the distance of the lever from the bar based on your hand size; the lever can be operated by one, two or three fingers.



Brakes

Lever angle

The range of lever angle adjustment is restricted by the cable exit path, if the lever is angled too high it will cause problems for the operation of the brakes.

Lever position

The position of the lever on the bar can be adjusted to move the lever closer or further from the end of the handlebar grip. This adjustment will allow the lever to be positioned for one, two or three finger braking.

Positioning the lever for one finger braking will give a more secure grip on the bar but allow you to apply less braking force. Three finger braking will allow the application of maximum braking force but reduce bar grip.

Reach adjuster

Lever reach adjustment is controlled by the grub screw on the side of the lever body.

Screwing the reach adjuster into the lever body will bring the lever closer to the handlebar.

When the lever reach is adjusted closer to the handlebar it will cause the brake pads to move closer to the disc rotor. It may be necessary to adjust the lever bite point (engagement position) in order to give sufficient pad clearance, this can be achieved by screwing the barrel adjuster into the lever body.

If there is not enough adjustment at the barrel adjuster to give sufficient pad clearance and a satisfactory lever bite point, you may need to loosen the cable camp bolt situated on the brake calliper to allow some cable to be pulled through. Be sure to re-tighten this bolt to 8Nm and ensure the cable is properly secured before using the bike.

Bite-point adjustment

Lever bite-point (engagement position) adjustment is controlled by the barrel adjuster. Screwing the barrel adjuster into the lever body will bring the lever-bite-point closer to the handlebar. Screwing the barrel adjuster outward from the lever body will move the bite point further from the handlebar.

The barrel adjuster uses a lock ring to secure it into position; this should be loosened before adjustment and tightened once the barrel adjuster is correctly positioned.

If you are unsure about any of the adjustments, please consult a qualified bicycle technician.





Saddle position

Both the angle and the fore-aft position of the saddle can be adjusted. To establish the most comfortable position you should start by adjusting the saddle into a neutral position, you can then work from there to find the best position to suit your needs. First loosen the seat clamp bolt using a 6mm hex key until the saddle can be moved with little force. Be careful not to loosen this bolt too much as it will make adjustment more difficult.

Move the saddle rails in the clamp so that they are roughly centred (half way between maximum fore and aft position). Adjust the saddle into a level position, so that the top surface of the saddle is roughly level between the front and rear edge (Fig.1). Once the saddle is in a neutral position, tighten the seat clamp bolt to 22Nm. Test the saddle position, you can adjust to make it more comfortable.

Angle

If the nose feels like it is pointing up or as though the back of the saddle isn't giving enough support, you can angle the saddle forward. Once you have adjusted the saddle, tighten the saddle clamp bolt, test by riding, and then readjust if necessary.

Fore-aft position

Moving the saddle back and forth from the neutral position will not only affect the reach to the handlebars but also the position relative to the pedals. By moving the saddle back, you will increase the reach to the handlebars, moving the saddle forward will decrease the reach to the handlebars and force a more upright rider position.



Washing and cleaning your bike

When cleaning your bike - electric or non-electric - **do not** use a jet wash or high pressure hose to clean the bike, e²-pod, battery, motor, bottom bracket or rear hub (indicated by fig.2) as this will force water inside of it, removing the grease and/or damaging any electronics, causing premature failure. You should hand wash only with a suitable bike cleaner or warm soapy water and a damp cloth.

Whilst the e²-pod Intelligent Drive System has been designed for use in all weathers, the electrical components of the bicycle such as the motor, bottom bracket, battery and the e²-pod must not be submerged in water.

Battery and charger

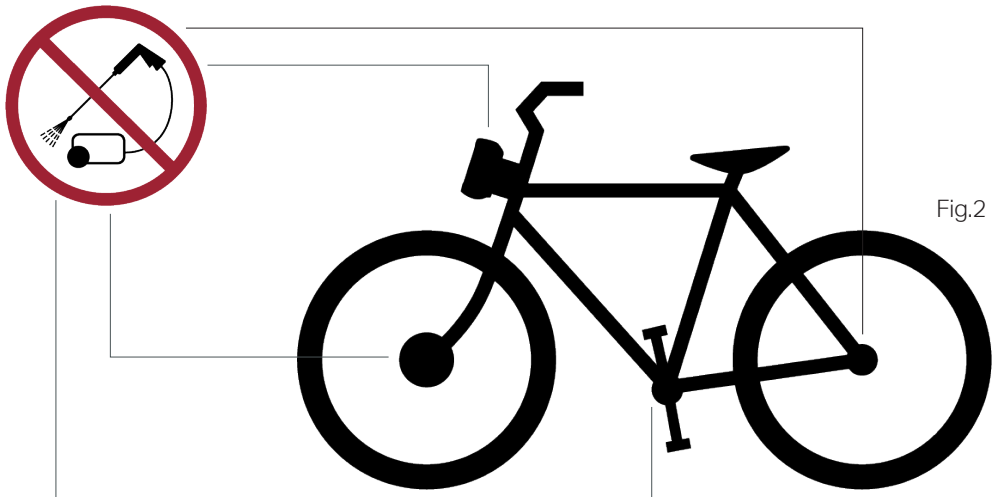
See the accompanying Bosch battery and charger manuals for recommendations on cleaning.

The charger must be unplugged from the mains outlet socket before cleaning.

Bike frame and components

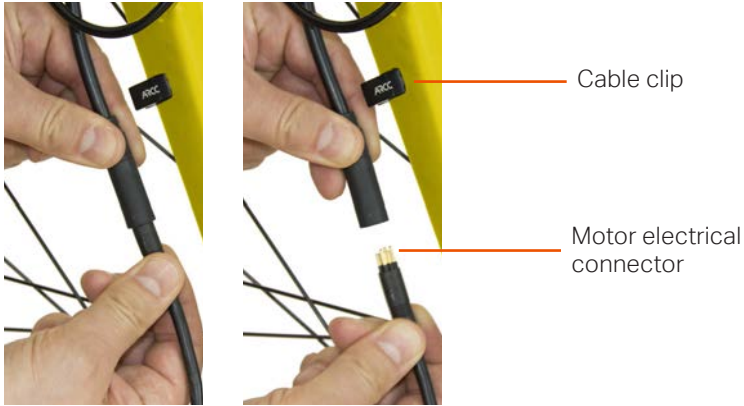
The battery should be removed before cleaning the bike frame and its components.

After cleaning allow all components to dry off completely before attempting to fit the battery to the bike.



Front wheel removal

Electric



1. Remove the electrical cable from the lower cable clip. Locate the motor electrical connector on the bicycle forks. Hold each side of the connector and pull apart in a straight line, ensure you do not twist or over-strain the connectors.



2. Loosen the two wheel nuts from both sides of the fork, and drop the wheel away from the frame.



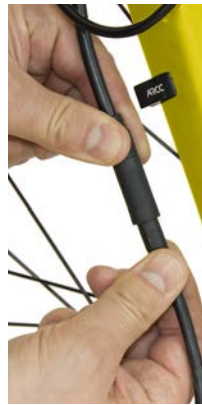
Front wheel fitting

Electric



Drive washer

1. Ensuring the drive washer and motor cable exit are facing down, slot the wheel back into the forks.



2. Tighten the two wheel nuts to the correct torque. Then, ensuring that the two marked arrows are aligned, reconnect the motor electrical cable and fix back into cable clips.

Front wheel removal

Non-electric

To refit the wheel, simply reverse the following instructions.



1. Locate the black lever on the side of the forks. Pull and rotate to face down.



2. On the opposite side of the fork, loosen the wheel nut.



3. Drop the wheel away from the frame.

Rear wheel removal

Shimano Alfine hub



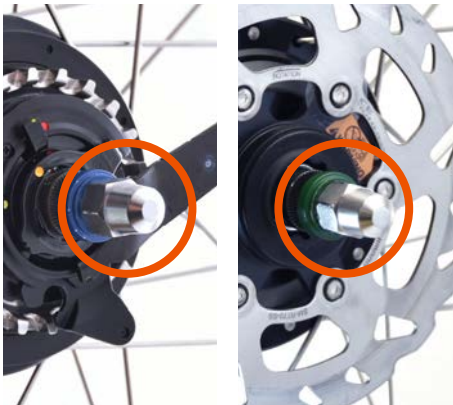
1. Rotate the gear arm until the gear cable is slack.



2. Whilst holding the gear arm in position, slide the cable from under the gear retainer.



3. Continuing to hold the gear arm in position, pull gently on the cable to remove the cable clamp from the gear arm.



4. Loosen both wheel nuts on either side of the wheel.



5. Drop the wheel away from the frame.

Rear wheel fitting

Shimano Alfine hub

1. To fit the rear wheel, simply reverse the 'Rear Wheel Removal - Shimano Alfine Hub' instructions ensuring the blue and green washers are in the correct place - indicated in steps 2 and 3 below.



2. Ensure the blue washer is situated on the sprocket side.



3. Ensure that the green washer is situated on the disc brake side.

Rear wheel removal

Single Speed Shimano

To refit the wheel, simply reverse the following instructions.



1. Locate the black lever on the side of the frame. Pull and rotate to face up.



2. Drop the wheel away from the frame.

Rear wheel removal

Rohloff hub



1. Use an allen key to loosen and remove the snubber arm bolt.



2. Ensure that you have selected gear fourteen. Then by hand, loosen the knurled head screw on the cable box.



3. Pull the cable box away from the bike.



4. Loosen the wheel nuts on either side of the wheel and drop the wheel out.

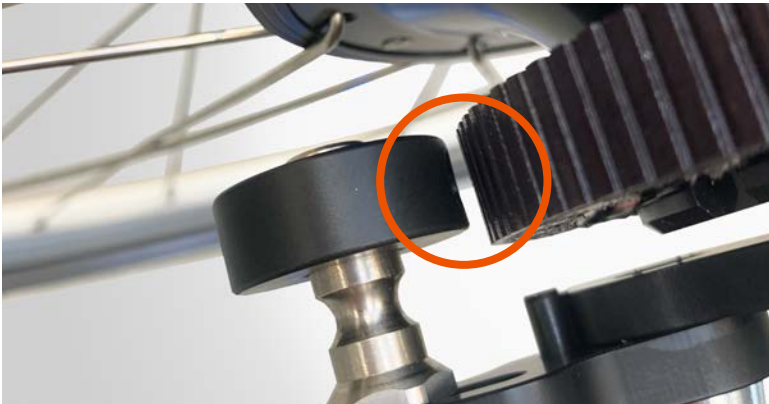
Rear wheel fitting

Rohloff hub



1. To fit the rear wheel, reverse the instructions on the previous page ensuring that gear 14 is still selected and the support block is in line with the dropout slot.

2. When the support block is flush within the dropout slot, tighten the wheel nuts.

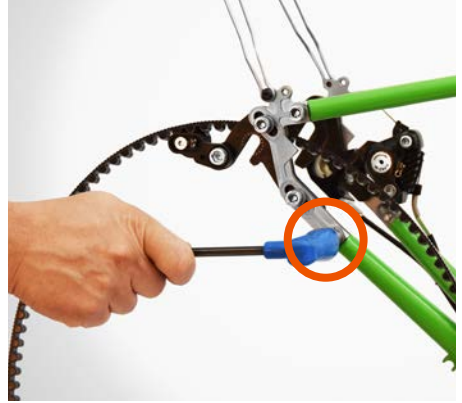


Please note, when returning the snubber arm bolt, ensure there is a 1mm clearance between the belt drive and the roller arm (as indicated by the circle above).

Belt removal

Gates Carbon Drive

Please note, to refit the belt simply reverse the following instructions.



1. Once you have removed the rear wheel, use an allen key to loosen and remove the two bolts indicated in the image above.



2. Once removed, gently pull the drop out stay away from the frame and remove the Carbon Drive Belt.

Bottom bracket e-bike only

We strongly advise that in the unlikely event that the bottom bracket of your bike becomes loose, you do not attempt to tighten, as this could cause severe damage to your bike.

Please contact ARCC or a local qualified Bike Technician if you have any problems with the bottom bracket of your bike, ensuring you provide them with the accompanying Standard Operating Procedure supplied with this user guide.



Torque settings

Component	Torque
6 Bolt brake rotor	9Nm
Brake levers	9Nm
Bottom bracket (e-bike)	Please see 'Bottom bracket' page
Bottom bracket (non-electric)	30Nm
Calliper mount	8Nm
Chain ring bolt (Rohloff hub / aluminium chain ring only)	12Nm
Crank set	35Nm
Center lock rotor lock ring	41Nm
Gear levers	9Nm
Handlebar clamp	8Nm
Motor nuts	30Nm
Saddle clamp	22Nm
Seat post clamp	8Nm
Shimano hub quick release	5-7Nm
Steerer tube stem	9Nm
Stem face plate	8Nm
Rear drop out plates	20Nm
Wheel nuts	25Nm

Specification list

Description	Specification
e-bike classification	Pedelec
Bike manufacturer / model	ARCC Abington/Rosemont
Motor (e-bike)	Brushless 250W 36V DC 170 RPM front wheel drive
Front drop-out	100mm
Rear drop-out	135mm
Battery (e-bike)	Bosch Lithium Ion 36V 4.0Ah (144 Wh)
Mains charger (e-bike)	Bosch AL 3640 CV professional charger or Bosch GAL3680CV 36volt Li-on 30 minute charger
Battery charge time (e-bike)	4.0Ah – 35-80 minutes full charge dependant on charger used. Please refer to the Bosch documentation supplied with this user guide for further information.
Control pod (e-bike)	CNC machined Peraluman 470 aluminium grade 5083/AlMg 4.5Mn. Black hard anodised finish
Control pod USB interfaces (e-bike)	1 x USB-C 2.0 charging/data port 5V-1500mA 1 x USB-C 2.0 charging/data port 5V-500mA 1 x USB-C 2.0 charging port 5V-500mA
Bottom bracket (e-bike)	Thun torque sensor BB cartridge X-Cell RT square taper 68mm shell/119mm spindle
Brake switch (e-bike)	Safety cut-off switches, front and rear
Assisted range (e-bike)	4.0Ah up to 35km depending on riding style
Maximum assisted speed (e-bike)	Power assist limited to 15.5mph/25km/h
Assistance controls (e-bike)	Bluetooth controller

Specification list

Description	Specification
System status indicators (e-bike)	2 x tri-colour LED's
Build standards	Conforms to EN15194 & EN14764/BS EN ISO 4210
Frame finish	Powder coated
Headset (e-bike)	Abington: Black Ahead Threadless 1-1/8" Rosemont: Silver Ahead Threadless 1-1/8"
Gearing	Shimano Alfine 8 speed (2.75-8.40 metres of development) Gear ratio 1.33-4.05 55t/22t
Gear shift	Rapid-fire shifter (right hand)
Belt	Gates Carbon Drive 118T CDX
Brake levers	Shimano M550
Brakes	Shimano R517 Mechanical Flat mount Disc
Brake pads	Shimano G01S Resin
Pedals	VP607 alloy with rubber tread
Seat post	27.2 Alloy Layback Seatpost
Saddle	Brooks Cambium
Handlebar stem	BLB Oversized 26.0

Specification list

Description	Specification
Handlebar	Silver Alloy North Style 26.0mm Black Alloy Low Riser 26.0mm
Handlebar grip/tape	Rubber moulded grip - flat bar
Handlebar grip - Rohloff	Brooks Cambium
Rims	Mach ER10
Wheel size	27.5"
Spokes	14g stainless steel
Tyre/pressures (max.)	650x38b Schwalbe Marathon Plus / 80 PSI
Inner tubes	Schwalbe 28" Presta valve
Bicycle weight (no motor, e ² -pod, battery, accessories)	Abington: 10.5kg - 14.5kg Rosemont: 11kg - 14.8kg
e-bike weight (no accessories)	Abington: 14.4kg - 18.4kg Rosemont: 14.94kg - 18.7kg
Bicycle dimensions (LxWxH)	1800mm x 650mm x 1100mm (without pedals)
Packaged size (boxed LxWxH)	1576mm x 236mm x 1030mm (without pedals)
Spare battery holder (e-bike)	ARCC Bikes - CNC Machined Peraluman 470 aluminium grade 5083/AlMg 4.5Mn anodised
Bluetooth controller (e-bike)	ARCC Bikes - Colours available: black, silver, red, blue

Options list

Name	Detail
Battery (e-bike)	Bosch Lithium Ion 36V 6.0Ah (216 Wh) Bosch Lithium Ion 36V 9.0Ah (324 Wh) - Available online and in tool stores, unavailable from ARCC.
Mains charger (e-bike)	Bosch AL 36100 CV professional charger for use with 9.0Ah battery - Available online and in tool stores, unavailable from ARCC.
Battery charge time (e-bike)	6.0Ah – 50-105 minutes full charge dependant on charger used Please refer to the Bosch documentation supplied with this user guide for further information. 9.0Ah – up to 50 minutes full charge using suggested charger.
Assisted range (e-bike)	6.0Ah up to 50km depending on riding style 9.0Ah up to 75km depending on riding style
Gearing	Shimano single speed (5.18 metres of development) Gear ratio 2.50 55t/22t Shimano Alfine 11 speed (2.75-11.14 metres of development) Gear ratio 1.33-5.38 55t/22t Rohloff 14 speed (1.45-7.62 metres of development) Gear ratio 0.70-3.68 55t/22t
Gear shift	11 speed: Rapid-fire shifter (right hand) 14 speed: Grip shifter (right hand)
Mudguards	Black/Silver SKS Chromoplastic 42mm
Rear rack	Tortec
Colour	Abington: Fluorescent yellow, vivid green, orange, bronze, silver, dark grey, black, white Rosemont: Pebble grey, pale green, reed green, pastel blue, pearl gentian blue, brown red, black, white



Using the e²-pod

e²-pod

Intelligent Power

The e²-pod Intelligent Drive System comprises of a compact, lightweight 250W geared brushless hub motor that is fitted in the front wheel. This connects via waterproof cable connectors, with a cable from the bottom bracket torque sensor to the machined aluminium pod, clamped securely on to the head tube. Also feeding into the e²-pod are the cables from the brake sensors. All these items along with the Bosch battery add around 3.9kg to the weight of the unpowered bike.

The e²-pod, battery latch, pod side lever, Bluetooth controller and cradle components are all CNC-machined from solid billets of Peraluman 470 Aluminium Grade 5083/AlMg 4.5Mn, polished, anodised and weather-sealed.

For when power assistance is not required, the battery can be left off the bike or the LED assistance can be dialled all the way down so that none of the LED indicators are lit, meaning no assistance will be given to the bike.

State of the art surface-mounted technology is used throughout. Smooth but responsive digital control of the motor is assured by a 32-bit ARM[®] microcontroller. This can access 150 million instructions per second to improve system performance intelligently. Highly efficient power supplies are used to minimise battery usage. A 3-axis accelerometer uses micro electromechanical technology to determine how steep the hill/gradient is at any moment and automatically adjusts power accordingly.

Three fully compliant USB-C ports are located on the side of the e²-pod for phone and accessory charging.





Technology, meet simplicity

The e²-pod Intelligent Drive System comes with the choice of a 4.0 Ah or 6.0 Ah Bosch battery which are readily available from most tool retailers and online. The 4.0 Ah battery gives a typical range of up to 35km and the 6.0 Ah battery up to 50km. The Bosch 9.0 Ah battery is also compatible with the e²-pod and gives a range of up to 75km. They cost less than conventional e-bike batteries; are robust (rated for a 3m drop onto concrete), charge between 35-105 minutes dependent on the charger used, and have a two-year warranty from Bosch.

With the 4.0Ah and 6.0Ah batteries weighing just 1.3kg and measuring 158 x 97 x 76mm, a spare can be carried for any extended trip. The battery pack slides onto the e²-pod, locating with a positive click where it sits with the charge level display visible. When the battery is removed, the bike reverts to its standard configuration and can be used as a regular bike.

Using the accompanying Bluetooth controller or the e²-pod app, the user has complete control of the level of assistance received from the e²-pod Intelligent Drive system whilst on the go.

There are two power modes. 'M' gives a conventional torque sensor type power output: the motor cuts in immediately as you pedal. The result is a very natural cycling action, but with the sensation of being given a gentle boost.

The 'A mode' utilises the in-built "Inclinometer/Accelerometer" sensor which allows the e²-pod to recognise hills and gradients, and accordingly provide automatic compensation by increasing or decreasing the power delivered. This results in the rider's exertion levels remaining more constant whilst tackling gradients, as if travelling on the flat.

The system also features a traffic light/hill start launch control function. This can be activated by applying both brakes and pressure to the left pedal. When the brakes are released and the rider pedals, the e²-pod delivers maximum power to the motor for a period of three seconds. This enables an effortless get-away when moving away from traffic lights and crossings in heavy traffic.

Unboxing the e²-pod

What's in the box:



Bosch 36volt battery

Dependant on your selection, you will have either a 4.0 Ah or 6.0 Ah Bosch battery supplied with your bike.

Please ensure you register your battery with BOSCH to obtain your two year warranty.



Bosch AL3640CV 36volt Li-on charger

OR

Bosch GAL3680CV 36volt Li-on 30 minute charger

For use with the 4.0 Ah and 6.0 Ah Bosch batteries.



Battery cover

A protective neoprene cover to shield your Bosch battery from every day weather.



Bluetooth controller with Micro USB to USB-C cable included.

Checking and charging the battery



Battery charge status

Press the red 'On' button to check the battery charge. The battery is fully charged when the three Green LED's light up.



Charging the battery

Ensuring the battery cover is removed, plug the battery charger into a suitable mains power socket and insert the battery into the charger.



Fault indicator

Flashing/continuous red light: see Bosch trouble shooting guide.

Charging indicator

Flashing green light: charging.



Charging Indicator

Continuous green light: fully charged.

Docking the battery



1. Holding the battery securely, locate the battery on the e²-pod and slide down until it is in position.



2. With the battery located on the e²-pod, push the battery down firmly until it clicks and locks.

Removing the battery



Locked

Unlocked



Unlocking the lever

(Security lock versions only) If the lever is locked, use the security key to unlock the lever.

Disconnecting the battery

Rotate the lever to disconnect the battery. Please note, do not use excessive force on the battery release lever.



Removing the battery / turning the battery power off

Rotate and hold the lever, whilst sliding the battery up, to remove the battery.

This must always be done when the bike is not in use to prevent the battery from becoming discharged.

Switching on the e²-pod Power button edition



1. Place the battery onto the pod as described in 'Docking the battery' (page 37).



2. Press and hold the power button located on the top of the e²-pod until the LEDs flash and the battery LED illuminates.



To switch the system off, simply press and hold the power button until the LEDs turn off.

If the system is inactive for 20 minutes, then the e²-pod will automatically switch itself off, although we do advise that the battery is removed when not in use.

If the battery voltage drops too low, then the system will automatically switch off to prevent any damage to the battery.

Switching on the e²-pod Magnetic keyring edition

If your bike came complete with the keyring pictured below please follow these steps to turn your e²-pod on and off.



METHOD 1

1. Place the battery onto the pod as described in the 'Docking the battery' section.

2. Locate the power symbols on the e²-pod and keyring. Align the symbols and hold until the LEDs flash and the battery LED illuminates.



METHOD 2

2. Locate the power symbols on the e²-pod and back of the Bluetooth controller. Align the symbols and hold until the LEDs flash and the battery LED illuminates.

To switch the system off, simply repeat step two and hold until the LEDs turn off.

Using the USB-C ports

Mobile devices can be charged via the USB-C Ports located on the side of the e²-pod. USB-C Ports are fully compliant with all USB-C compatible devices.

Charging devices while the bike is being ridden

When the bike is in either M or A mode, any device plugged into the USB-C port will automatically begin charging.

Please note that when the system is turned-off, the USB-C ports won't provide any charge.



LED indicators

'A' Status Indicators

Flashing green:

Drive active

Please note that the assist level LEDs on the Bluetooth controller will also flash green to indicate that drive is active.

Amber:

Launch control selected

Flashing amber (for 3 seconds):

Launch control active

Red:

Fault detected (see trouble shooting guide)

Battery Status Indicators

A steady light indicates that the system is ready. The colour of the light indicates battery charge status.

Green:

Fully charged

Yellow:

Charge medium

Amber:

Charge low

Red:

Charging required



Using the e²-pod app

The e²-pod app works with both the Gen I e²-pod and Gen II e²-pod, and gives the user control of the e²-pod via their smart device.

The app can be downloaded from the App Store on Apple devices. Simply open up the App Store and search for 'e2pod'. Then download the app to your device.

The mobile is then connected via Bluetooth pairing and is registered by entering the serial number located on the bottom of the e²-pod.

The app:

- Indicates what mode the pod is in.
- Allows the user to select the assist level given.
- Shows the speed and distance covered.
- Indicates the battery level at all time.

Please note that the e²-pod app is not currently available for Android devices.

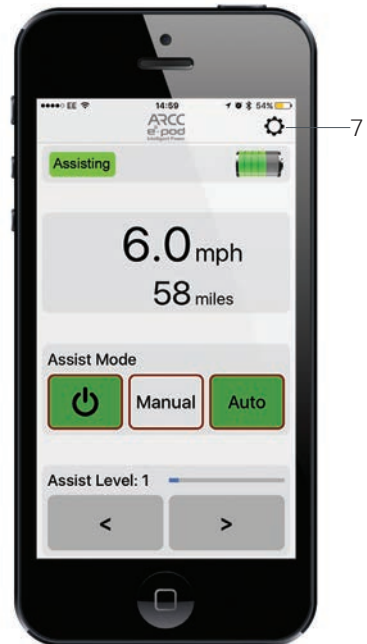
Please also note that the imagery and wording currently refers to the Gen I e²-pod - despite this, the app can also be used to control your Gen II e²-pod.



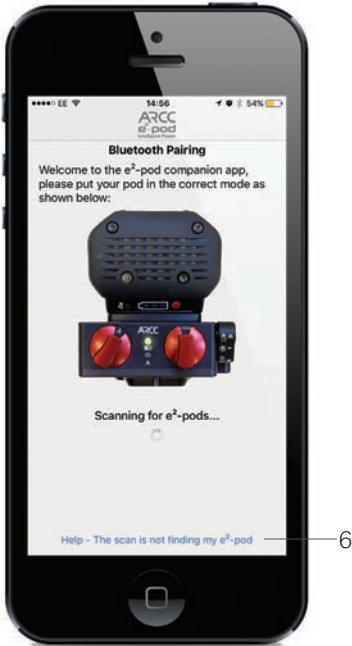
1. Loading Screen



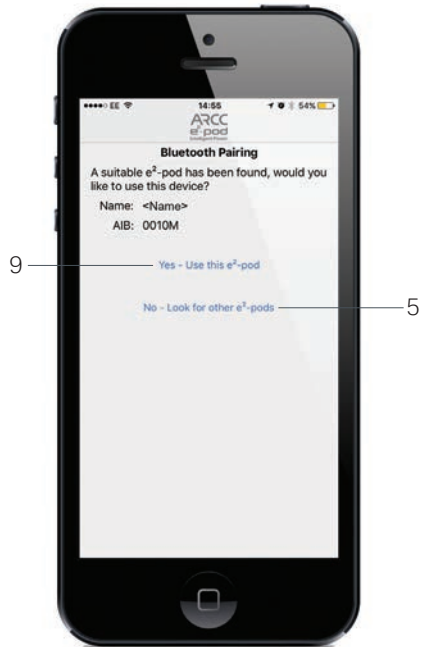
4. Main screen



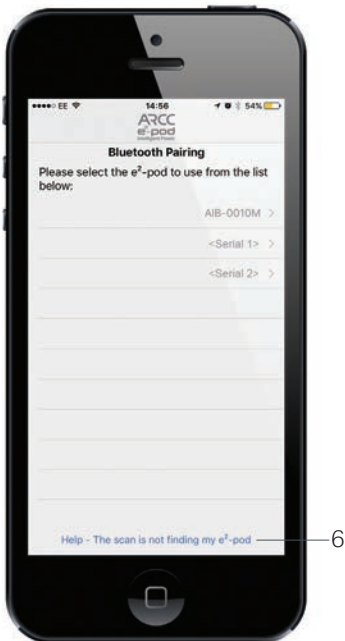
2. Pairing - Scanning



3. Pairing - One device found

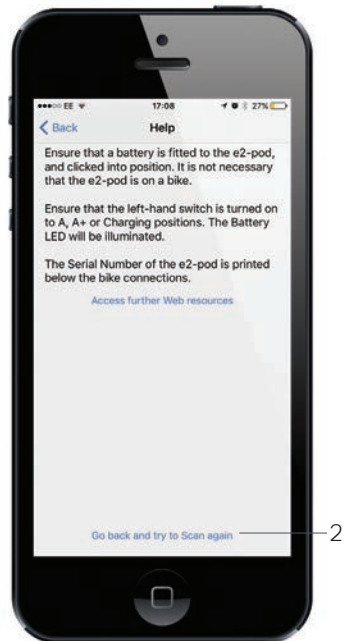


5. Pairing - Multiple devices found



iOS Confirmation - 9

6. Pairing - Help

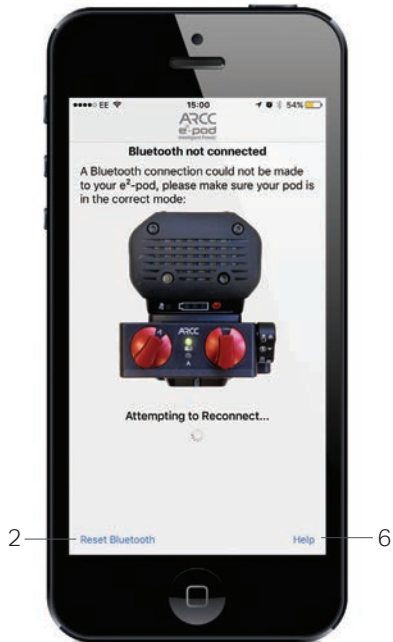


Opens safari page

7. Settings Screen



8. Not Connected Screen



Automatically returns to main screen whenever Bluetooth reconnects.

9. iOS Bluetooth Confirmation Dialogue



Code Correct





ARCC



I

M

A



ARCC



Using the Bluetooth controller

The Bluetooth controller allows the e²-pod mode selection / assist level to be changed.

When the Bluetooth controller is powered off or the connection between the remote and the e²-pod is lost, the e²-pod will run at half power.

Bluetooth controller operation:



Power/Mode selection button: Holding the power / mode selection button will turn the remote on/off. A short press of the button allows you to switch between M and A modes.



Assist level buttons: These allow you to increase/decrease the assist level from minimum to maximum (indicated by the assist level LEDs).



Assist level LEDs: These LEDs indicate the assist level selected (selectable using the assist level buttons).



Manual Mode LED: This LED illuminates solid green when the M mode is selected (selectable using the power/mode selection button). There are two power modes. 'M' gives a conventional torque sensor type power output: the motor cuts in immediately as you pedal and its output matches your own input. The result is a very natural cycling action, but with the sensation of being given a gentle boost.



Automatic Mode LED: This LED illuminates solid green when the A mode is selected (selectable using the power/mode selection button). The 'A mode' utilises the in-built "Inclinometer / Accelerometer" sensor which allow the e²-pod to recognise hills and gradients, and accordingly provide automatic compensation by increasing or decreasing the power delivered. This results in the rider's exertion levels remaining more constant whilst tackling gradients, as if travelling on the flat.



Bluetooth LED: This LED will illuminate solid blue when the Bluetooth controller is successfully paired with the e²-pod.



Battery LED: When the controller battery level drops and the requires charging, the battery LED will illuminate solid red. Whilst in charge mode, the battery LED will flash red. When charging is complete / charging is not required, the LED will turn off.

Initial Bluetooth pairing

- Turn on the Bluetooth controller by pressing the power button.
- With the Bosch battery located in the e²-pod, push the battery down firmly until it clicks and locks.
- On the Bluetooth controller press and simultaneously hold the two assist level buttons and power mode button until the six assist level LEDs light up, then release.
- Wait for the 'A' LED on the e²-pod to flash three times.
- Following the three flashes the blue Bluetooth LED will illuminate on the Bluetooth controller. This indicates that the Bluetooth pairing has successfully been completed.

Note: you have a two minute time period to complete the pairing process. If this time expires, turn the controller and e²-pod off and on before re-attempting.

After the initial pairing of the Bluetooth controller to the e²-pod, it will automatically connect in subsequent operations when the e²-pod and Bluetooth are powered up together.

Charging the Bluetooth controller

Using the Micro USB to USB-C cable supplied, plug the Micro USB into the Bluetooth controller, then the USB-C into a port on the side of the e²-pod.

The red battery LED will flash on the Bluetooth controller whilst the unit is charging. Once fully charged the red LED will turn off.

Please note that the controller can also be charged from any USB device / wall socket using a suitable USB cable.

Launch control:

- In order to initiate launch control, pull the brakes. The two outer assist level LEDs will then illuminate, as well as the 'A' LED on the e²-pod which will flash.
- When pressure is placed on the pedal - all 6 assist LEDs along with the 'A' LED will illuminate.
- As the brakes are released, the launch control mode is operated. This is indicated on the Bluetooth controller by all six assist level LEDs flashing for the period of the boost.
- The e²-pod will deliver maximum power to the motor for a period of three seconds, enabling an effortless get-away to be achieved for safety, when moving away from traffic lights and crossings in heavy traffic.

Note: the launch control function will be cancelled if there is hesitation in pedalling or any brake is applied.

Tip:

When the LED assistance is dialled all the way down, so that none of the LED indicators are lit, the e²-pod will go into standby mode. This means that no assistance will be given to the bike, allowing it to be ridden as normal whilst also saving the battery.



Trouble shooting guide

The e ² -pod isn't working	Check the battery is fully charged.
The automatic hill and gradient power detection doesn't deliver power when I go up a hill or incline.	Check the battery is correctly clicked into position.
Launch control isn't working	Ensure that the e ² -pod is turned on. (Power button edition)
The e ² -pod lever doesn't move/is locked	Check brake switch function. Pull each brake lever in turn, the corresponding red LED indicator should illuminate on the brake switches when the brake is applied.
	Check that A mode is selected.
	Ensure you release the brakes and apply pressure to the left pedal at the same moment when moving off.
	Not enough pressure applied to the left pedal.
	One or both brake switches are not working/faulty. Pull each brake lever in turn, the corresponding red LED indicator should illuminate on the brake switches when the brake is applied.
	Brake switch cable is disconnected. Reconnect it.
	Torque sensor cable is disconnected. Reconnect it.
	Use the security key provided to unlock the lever.

Continuous red light on the battery	Place the battery into the charger for a few seconds, then remove from the charger and place the battery onto the e ² -pod and wait for 5 seconds, remove the battery and place back onto the charger. The battery should now start to charge.
Continuous red light on the charger	Battery is over temperature. As soon as battery reaches allowable temperature, charging will commence.
Flashing red light on the charger	Battery malfunction. Remove battery from charger and see the trouble shooting guide in the Bosch battery user manual.

EC DECLARATION OF CONFORMITY

The Manufacturer: ARCC Innovations Ltd
Pampisford Road
Great Abington
Cambridge, CB21 6AH
United Kingdom
+44 122 389 3290

Hereby declares that:

Product Models: ARCC Abington EPAC
ARCC Rosemont EPAC
ARCC Moulton EPAC
ARCC Brompton EPAC
ARCC e²-Pod Intelligent Power System

Comply with all the relevant requirements of:
2006/42/EC Machinery Directive
2014/30/EU Electromagnetic Compatibility Directive (EMC)

The following technical standards have been applied:
EN 15194:2017 Cycles - Electrically Power Assisted Cycles - EPAC Bicycles
ISO 4210-2 Cycles - Safety Requirements for Bicycles

Technical documentation filed at address above



Rai Virciglio
Director
ARCC Innovations Ltd
29th April 2019



Mark Wortley
QA
ARCC Innovations Ltd
29th April 2019

Warranty

In the unlikely event that your ARCC bike or e²-pod Intelligent Drive System has a manufacturing defect, we will replace the defective part free of charge if we are notified within 5 years of the purchase of the bike or system. ARCC bikes are made for use on roads and well-made paths, they are not designed for cross-country riding as this can overstress the frame.

If you encounter any problems with the bike or e²-pod, both are covered by our 5 year warranty. Terms and conditions apply.

Serial and frame numbers

The label at the bottom of the seat tube displays the 5 digit bike serial number, the e²-pod Intelligent Drive System serial number can be found on the bottom of the e²-pod. The frame number is normally found on the bottom bracket shell or the rear dropout. If the serial or frame number is removed or tampered with, the warranty will be invalidated.

How to claim your warranty

To claim your warranty simply call us on 01223 893 290 or email us at info@arcc.co.uk

We will need the following details:

Your name

Bike serial number

Frame number

e²-pod serial number (if bike is electric)

A description of the fault

Warranty terms and conditions

Thank you for choosing an ARCC bike. Your bike is the product of ARCC's use of proven engineering, extensive research and testing, superior reliability, safety and performance. You should ensure that your bike is regularly serviced by a qualified bicycle technician, in accordance with the recommendations in this user guide. Please keep records of all maintenance carried out on your bike and ensure these records are available, if requested, whenever service, repair or warranty work is undertaken on your ARCC bike.

Guarantee of goods

The bike frame and pod system are covered by a 5 year warranty. This 5 year warranty excludes the following components of the bike frame and e²-pod system: (a) tyres, (b) inner tubes, (c) chains, (d) sprockets, (e) brake pads, and (f) brake cables. The e²-pod system does not include the motor which is covered by a separate 2 year warranty. The Bosch battery is covered by a 2 year manufacturer's warranty which the customer must sign up for upon purchasing. The bottom bracket has a warranty of 10,000km.

This guarantee does not apply to any defect in the goods arising from:

- fair wear and tear
- wilful damage, abnormal storage or working conditions, accident negligence by you or a third party
- if you fail to operate or use the goods in accordance with the user instructions
- any alteration or repair by you or by a third party who is not one of our authorised repairers

These warranties are in addition to, and do not affect, your legal rights in relation to the goods that are faulty or not as described.

If our system has been fitted by us to a bike which has been supplied by a third-party the above guarantees and exclusions detailed above are not affected with the exception of the 5 year frame warranty.

We will however honour your remaining manufacturer's warranty or a minimum of 1 year in the event that the manufacturer's warranty has expired provided proof of purchase has been validated by ARCC Innovations Ltd.

Disclaimer of warranties; limitation of liability

We do not guarantee, represent or warrant that your use of our service will be uninterrupted, timely, secure or error-free.

We do not warrant that the results that may be obtained from the use of the service will be accurate or reliable.

You agree that from time to time we may remove the service for indefinite periods of time or cancel the service at any time, without notice to you.

You expressly agree that your use of, or inability to use, the service is at your sole risk. The service and all products and services delivered to you through the service are (except as expressly stated by us) provided 'as is' and 'as available' for your use, without any representation, warranties or conditions of any kind, either express or implied, including all implied warranties or conditions of merchantability, merchantable quality, fitness for a particular purpose, durability, title, and non-infringement.

In no case shall ARCC Bikes, our directors, officers, employees, affiliates, agents, contractors, interns, suppliers, service providers or licensors be liable for any injury, loss, claim, or any direct, indirect, incidental, punitive, special, or consequential damages of any kind, including, without limitation lost profits, lost revenue, lost savings, loss of data, replacement costs, or any similar damages, whether based in contract, tort (including negligence), strict liability or otherwise, arising from your use of any of the service or any products procured using the service, or for any other claim related in any way to your use of the service or any product, including, but not limited to, any errors or omissions in any content, or any loss or damage of any kind incurred as a result of the use of the service or any content (or product) posted, transmitted, or otherwise made available via the service, even if advised of their possibility.

In the event that you choose to sell your ARCC bike, please note that Bosch battery warranties are non-transferable. Please also note that the bike must undergo a service by ARCC Bikes in order to transfer the remainder of the ARCC warranty onto the new owner.

Cancellation of the contract

Unless the goods have been personalised or otherwise made to your specification or you have ordered custom fit products, you may cancel the contract at any time after you place your order up to 14 calendar days from the day of delivery of all the goods.

If you cancel the contract in accordance with the clause above and you have made payment in advance for the goods we will refund these amounts to you within 30 calendar days from the date of your cancellation or within 30 calendar days of receipt of the returned goods direct to the payment method you originally used for your purchase minus any associated standard initial delivery or collection costs.

If you cancel an order for goods in accordance with the clause above which we have already dispatched to you, we will not be able to cancel your order until the goods are returned to us and inspected by us. In these circumstances, you will be required to return the goods to us in accordance with our Refund Policy and we will charge you the costs of collection or you will have to pay the cost of returning the goods back to us. This will not affect your refund for the goods themselves, but we will deduct from the refund that is due to you any charges for delivery, collection and/or charges relating to damage to the goods following our inspection.

You have the right to cancel this contract if we are affected by an event outside of our control.

In the event that we have to cancel an order before the goods are delivered, due to an event outside of our control or the unavailability of stock, we will promptly contact you to let you know;

if you have made any payment in advance for the goods that have not been delivered to you, that we will refund these amounts to you;

that we will not charge you anything where we have already started work on your order for made to measure goods or customer fit products by the time that we have to cancel.

Notice to cancel

Should you exercise your right to cancel you must provide us with a clear statement of your decision to cancel the contract either:

- by writing to us at the address outlined below.
- by calling us on telephone number 01223 893290; or
- by sending an email to the address below.

If you have any concerns or need to contact us please email us at info@arcc.co.uk or write to us at ARCC Innovations Ltd, Pampisford Road, Great Abington, Cambridge CB21 6AH.

Return of goods

You must take reasonable care of the goods whilst they are in your possession.

If you are returning the goods they will be your responsibility until they are received by us, in a satisfactory condition, and we would recommend that you use a recorded delivery method such as an insured delivery service when returning the goods.

Your right to return the goods to us will not apply to any goods that we have made or customised specifically for you, including but not being limited to any custom fit products, however, this does not affect your statutory rights.

You may return faulty goods for a full refund or exchange, at no additional cost, however please note that our Refund Policy lasts 30 days.

If you cancel your order and we have delivered the goods to you, you are not permitted to use or attempt to fit/assemble the goods aside from your need to assess them for suitability. You will need to repackage the goods in their original product packaging to ensure that we receive them in a satisfactory condition at ARCC Innovations, Pampisford Road, CB24 6AH.

Where goods have not been received by us and you have not supplied any proof of posting to us within 14 days of your notice of cancellation we will: contact you to arrange to have the goods collected at a mutually convenient time during the following 14 calendar days (excluding Saturdays and Sundays); advise you of the cost of collecting the goods; deduct the cost of collecting goods from any refund that we may owe you; and we shall not be liable to refund you if the goods are not received back and no proof of postage is supplied to us.

You are required to return the goods as soon as we receive your written notice of cancellation.

If you believe that you have received damaged or faulty goods or we delivered incorrect or substituted goods, where the substituted item(s) were not agreed prior to despatch, you will need to either return the goods to us at your cost, or alternatively allow us to collect the goods, for examination to take place at our premises. The reasonable cost of packaging and carriage of goods returned by you will be reimbursed by us if the goods are found to be damaged or defective and you shall be liable to pay us for any reasonable costs incurred by us collecting goods found not to be defective. To enable us to inspect the goods, we ask that you give us a reasonable opportunity to inspect the goods.

If, after we inspect the goods we agree that the goods are damaged or faulty, we shall either replace the goods (or the part in question) found to be defective at our cost or refund to you the price (or a proportionate part of the price) of the relevant part of the goods found to be damaged or faulty.

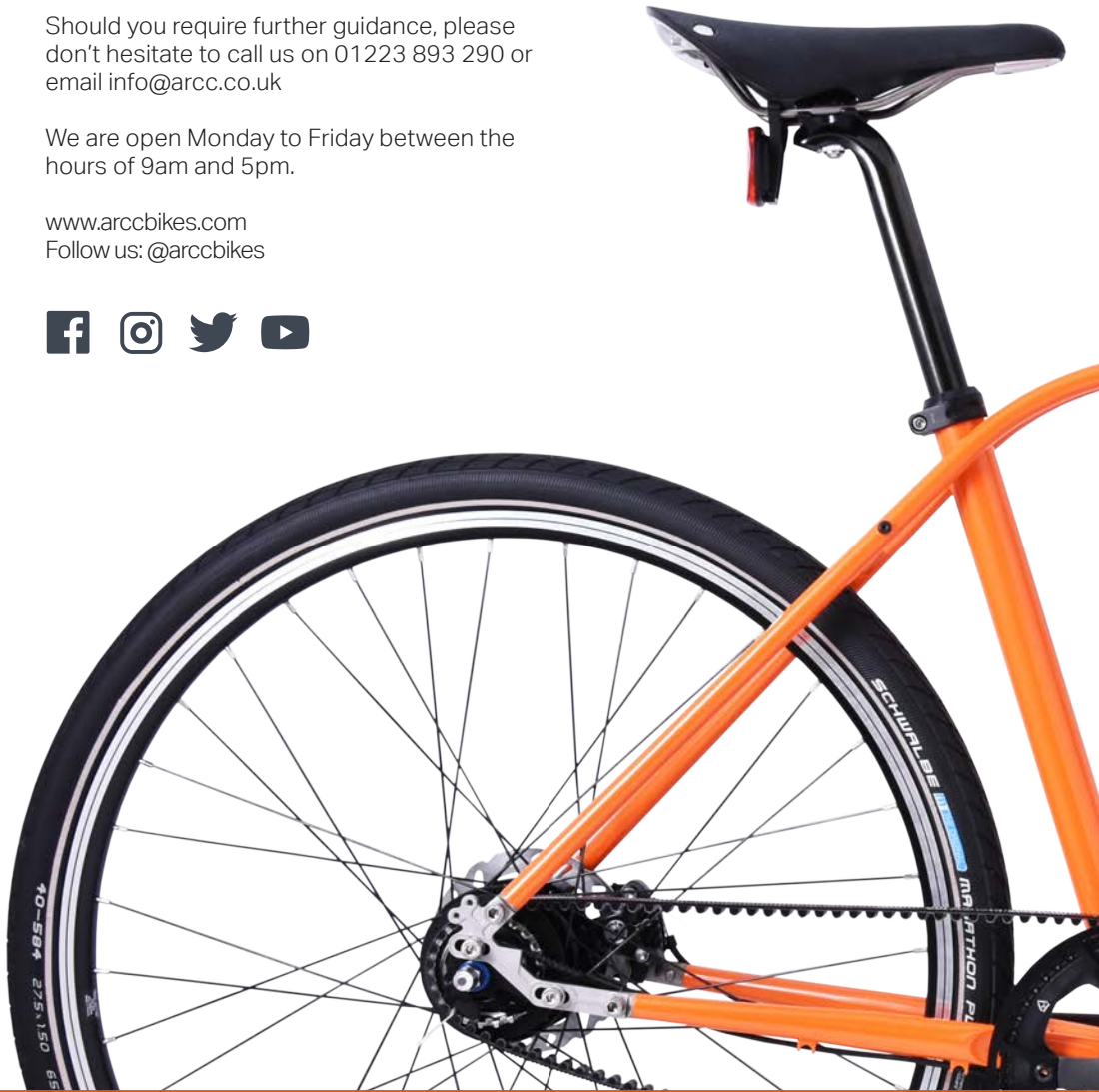
Please see our full Terms of Service on our website: www.arccbikes.com

Contact us

Should you require further guidance, please don't hesitate to call us on 01223 893 290 or email info@arcc.co.uk

We are open Monday to Friday between the hours of 9am and 5pm.

www.arccbikes.com
Follow us: @arccbikes



Disclaimer: There may be changes to products and services after the publication date of this manual. ARCC reserves the right to make design modifications and allow for discrepancies in colour tones. The illustrations may contain equipment, optional accessories or other services that are not part of the standard delivery. Colour deviations are due to technical factors.

About ARCC

Based in Cambridge in the United Kingdom, we are a Research and Development centre invested in keeping engineering and design in the UK. As well as designing and developing our own bikes and systems, we also provide assistance and mentoring to university graduates, and act as an incubator facility to assist start-ups in establishing and growing their business.

ARCC is a not-for-profit corporation owned by a team who have achieved great success, and now want to help others with the same vision and ambition realise their objectives here in the UK, rather than elsewhere.

ARCC Bikes began following the success of our electric Intelligent Drive system, the e²-pod, designed to transform standard bikes into e-bikes. We have since gone on to design and develop our own sleek, lightweight town bikes, the Abington and Rosemont.

Visit www.arccinnovations.com to find out more about ARCC Innovations and ARCC Bikes.



ARCC



ARCC

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