



Hub Kit Fitting Guide

2016

Important: For your own safety you must read this manual before attempting to fit any part of the motor kit to your bike. You must also ensure that you fit the kit in strict accordance with the instructions in this manual.

Before you start the installation of your kit, please read the following:

This kit is intended to be fitted by someone who is competent and experienced at fitting electric kits to bikes. If you are not experienced and/or lack the necessary tools to complete any of the procedures in this manual, you should seek the advice of a professional who can fit the kit for you. If necessary, call us on [01702 684444](tel:01702684444) or email us at support@wooshbikes.co.uk and we will try and put you in touch with someone in your area that has the necessary expertise to properly fit your kit. You will of course need to pay for the technician to install your kit, these costs are not covered by Woosh Bikes.

If you intend to use the pedal-assist feature of this kit, you must first make sure that the Pedal Assist Disc is actually suitable for your bike before fitting any of the other parts of this kit - see Section 2 of this manual.

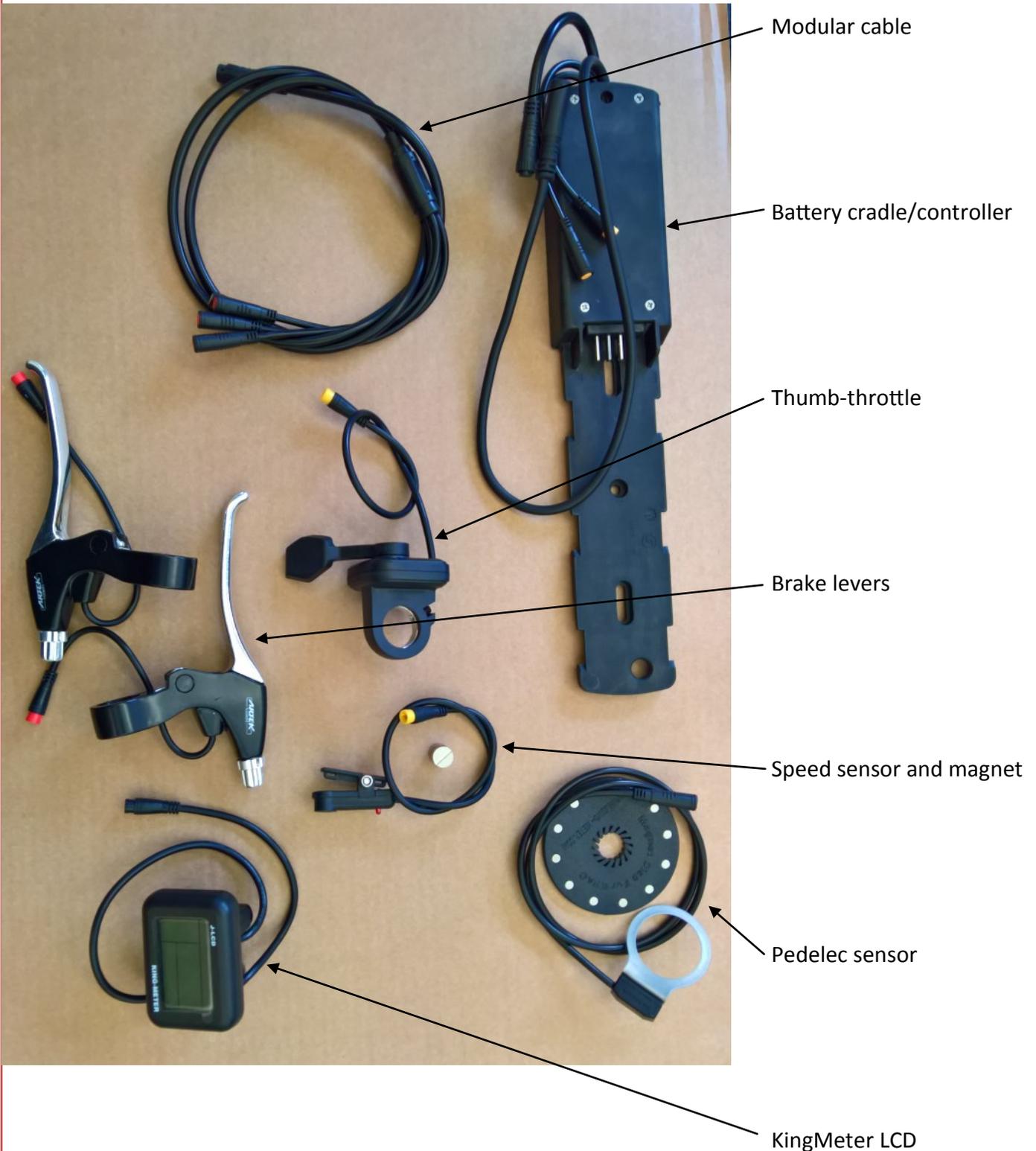
Warranty Terms:

If your kit is fitted by a professional installer, it will be covered by our standard one year warranty, which means that in the event of a failure, you would first need to have the person that installed your kit confirm the issue and likely cause, then you (or the installer) would need to contact us and provide us with the details of the fault. If the issue cannot be resolved over the phone or via email, then you would need to return the faulty part to us at your expense. We will then repair or replace the faulty part and send it back to you at our expense. If the kit was not fitted by a professional and/or the failure that has occurred is due to a poor or incorrect installation of the kit, the warranty will be voided.

What's in the Box

Ensure that you have all the parts listed below before going any further, if there are any missing parts, contact us on 01702 435566.

The motor kit comprises of a motor wheel with hub motor, a battery cradle with integral controller, a battery, a charger, modular one-cable system, pedal-assist disc and sensor, speed sensor (and magnet) ,a thumb throttle, brake levers and KingMeter LCD. Ensure that you have all of these items, a photo of the items is show below so you can easily identify each of the parts. Not shown in the photo below are the battery itself and the motor wheel (which will differ depending on the type ordered), ensure you have the complete kit before you start.



Installation of the Pedelec Sensor

It is possible to use this kit without the pedal-assist (pedelec) feature, if you are not going to use this feature, then you can ignore this section and move on.

If you do intend to use the pedelec feature, see the instructions below. There are three types of sensor kit that can be used, two that fit on the right side of the bike between the chain-ring and frame, and the other type which fits to the left side and slots into the end of the bottom bracket. The kit normally comes with the left-side sensor, but we normally try to check which type you need before you place your order. Before fitting any of the other components to the bike, you must ensure that one or the other of the pedelec sensors can be fitted to your particular bike. If you cannot use right-side sensor kit, call us on 01702 435566 to see if the left pedelec sensor is suitable for your installation. There is a small additional charge for this part.

The right-side pedelec kit consists of two parts, these are the sensor itself and the PAS disc. You will need to remove the bottom and then slide the sensor ring into place as shown below. With the sensor in position, you can refit the bottom bracket. With the bottom bracket re-installed, slide the PAS disc over the spindle so that it is as close as possible to the sensor, without actually touching it.



You need to ensure that the disc is the correct way around on the spindle, otherwise you will find that the motor kicks in when you pedal backwards! The disc should be fitted such that the arrows on the disc are on the left side.

Fitting the left-side Pedelec Sensor:

The left side sensor is a simpler to fit assuming you have a compatible bottom bracket. Remove the left crank and then slide the sensor over the spindle and then slot the sensor into the end of the bottom bracket, it should sit flush when properly fitted—see photos below and overleaf.

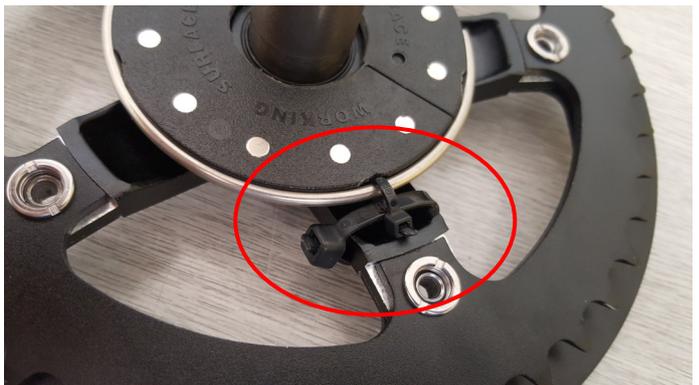


Fitting the Alternate (left-side) Pedelec Sensor cont.



Pedelec Sensor for Octalink type crank sets:

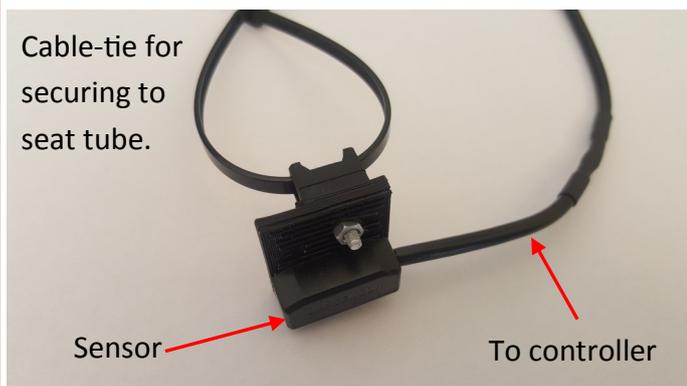
The diameter of the Octalink axle is greater and so the regular pedelec disc cannot be used. We are however able to provide a solution for this type of bottom bracket. We supply a modified pedelec disc which has a larger hole in the centre which can be used, it needs to be secured to the back of your smallest chain-ring in the case of double or triple rings. The sensor itself is then attached to the base of the seat tube.



With the sensor in place as per the photo above, it now needs to be secured, the way you achieve this may vary depending on your specific bike. In this example, we're just using some cable-ties.

The sensor is mounted at the base of the seat tube. The sensor is supplied with a piece of double sided tape and also a single cable-tie which is used to secure the sensor to the seat tube.

The sensor needs to line up with the magnets embedded in the disc, so that it can detect the magnets as they pass by.



Battery/Controller

The HL battery/controller kit included with this conversion kit mounts to your down-tube where your bottle holder would normally be. If the bike does not have these fixings, you can fit riv-nuts to allow you to mount the battery base, call us if you need them. The battery will come attached to the base, you will need to unlock the battery using the supplied key and remove it from the base to install it. Ensure that you mount the base high enough up the frame that the battery/base doesn't foul on the chain-ring. You will also need to ensure that there is sufficient clearance at the top end of the battery/base, the battery needs to be slid upwards (towards the front of the bike) a little when removing it.



Once the base has been secured to the frame, fit the battery in place and double-check that that you have enough clearance at either end, and adjust the position of the base if necessary. You should then remove the battery and continue on with the installation of the kit. **Do NOT continue the installation with the battery in place.** You should only re-fit the battery when all leads have been correctly terminated/secured and the kit installation is complete. If you leave the battery attached, you may accidentally short some of the cables and cause damage to the battery and/or kit components.

Motor Wheel:

There are several different options for the motor wheel. The Front-BPM options require torque arms to be fitted, and the rear wheel options will need the cassette or freewheel from your existing wheel to be fitted to the new motor wheel.

The motor wheel options are:

WHEEL TYPE	WHEEL SIZE	FRONT/REAR	MOTOR	POWER RATING	TORQUE ARMS?	CONTROLLER
Rear CST	26" ONLY	REAR	XF08C	250W	NO	18A
Rear SWX02	650B (27.5") ONLY	REAR	SWX02	250W	NO	18A
Front BPM	26"	FRONT	8FUN BPM CODE 13	350W	2	18A
Rear BPM	26"	REAR	8FUN BPM CODE 13	350W	No	18A
Front BPM650	650B	FRONT	8FUN BPM CODE 13	350W	2	18A

Truing your wheel:

The wheel will come with a spoke tool, it will likely be necessary for you to true your wheel. You should ensure that the spokes are all sufficiently tight, then adjust the tension of the spokes to ensure the wheel runs true. It may be necessary to adjust the alignment of the wheel, this is also done by adjustment of the spokes. If you're not sure how to do this, give us a call.

BPM FRONT Motor Wheel

Remove the existing wheel and swap the tyre and tube to the new motor wheel. If you have purchased this kit and cannot carry out one or more of the procedures in this manual or do not have the necessary tools to complete the installation, you should seek the advice of a professional who can fit the kit for you.

You must ensure that the motor cable where it exits the spindle, points upwards (only for this kit) , see below for photos showing the kit fitted to a regular bike and the orientation of the spindle.

Once the wheel is properly installed, connect the motor cable and then secure the motor cable to the fork using cable-ties.

Secure the torque arms on both sides as shown below—**YOU MUST FIT THE TORQUE ARMS**. If you have any problems fitting the arms, call us, **do NOT ride the bike without them fitted**.

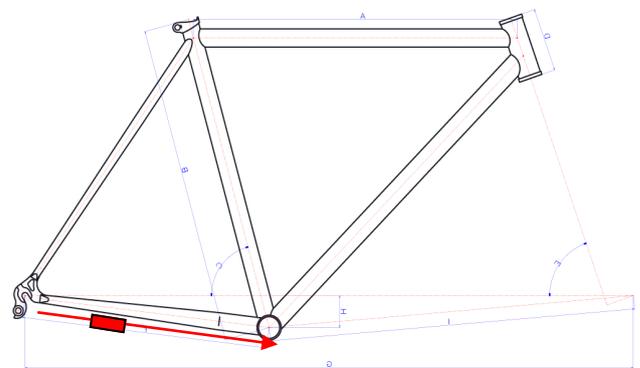


Motor Wheel (Rear)

Remove the existing rear wheel and swap the tyre, tube and cassette/freewheel to the new motor wheel. If you have purchased this kit and cannot carry out one or more of the procedures in this manual or do not have the necessary tools to complete these procedures, you should seek the advice of a professional who can fit the kit for you.

You must ensure that the motor cable where it exits the spindle, points downwards towards the ground, see below for photos showing how the wheel should be fitted and the correct orientation of the cable.

Once the wheel is properly installed, slide the rubber covers in place and secure the motor cable to the frame using cable-ties. The rubber cover for the side where the cable exits the spindle will need to be slid along the cable, and it should be fitted in such a way that the hole in the rubber cover keeps the motor cable pointing downwards as much as possible—see below. Also ensure that the metal coil/sheath is all the way down the cable so that it protects the cable from the edges where the cable exits the motor.



The red arrow on the diagram above shows the usual route for the motor cable, with the quick-release connector (in the cable) indicated by the solid red box.

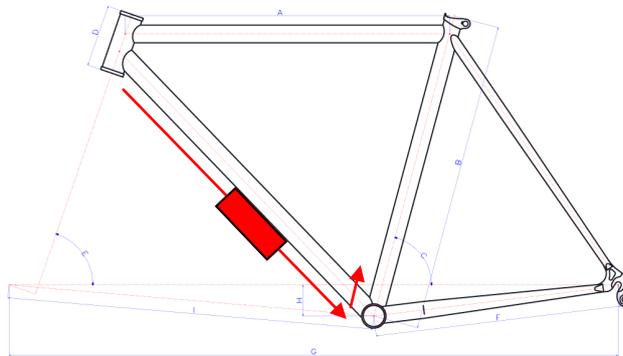
Handlebar Components:

The thumb-throttle, brake levers and KingMeter need to be mounted to the handlebars. The installation procedure for these parts may vary a little from bike to bike, but follow the guide below for a general overview.

The KingMeter would normally be fitted to the left side of the handlebars just to the right of the grip, this way the buttons can be easily reached with a thumb. To fit the thumb-throttle, slide the grip off the right side, loosen the existing components such as the shifter, brake lever etc. then slide the thumb-throttle on and then secure it (and the other components) in position.



Depending on the configuration of the bike, it may be more practical to mount the throttle and display in slightly different locations or on opposite sides. The next step is to run the modular cable (for the LCD, throttle and brake cut-outs) from the front of the bike back to the controller.



Handlebar Components cont.

You must ensure that there is enough play in the cables so that they do not get stretched or pulled when the handlebars are rotated.

The throttle cable and LCD connectors are colour coded and should be mated with the matching colours on the modular cabling. There are arrows on each connector which indicate how to line them up, see photos below.

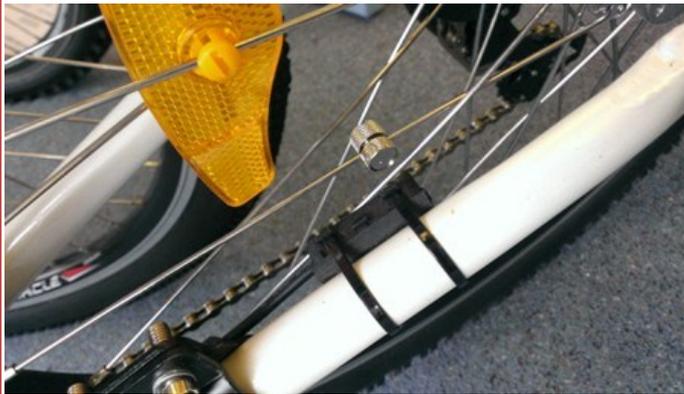
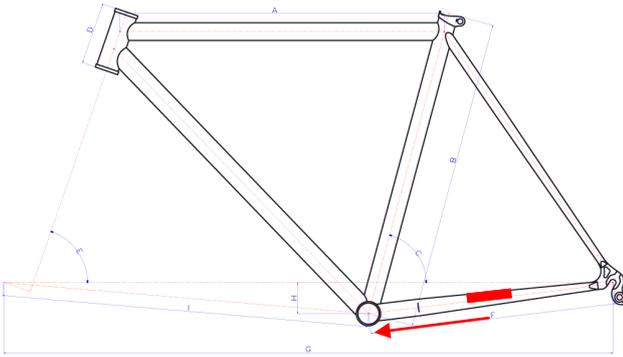


Ensure that the arrows line up on both sides before pushing the connectors firmly together, be careful with them and don't force them or you may bend/damage the pins. Also be sure to mate the cables with the matching coloured connectors.

If you have too much slack in the cables, you will need to secure them with cable-ties as tidily as possible. Ensure that none of the cables are hanging loosely or in a position where they may get caught on any other parts whilst the bike is being ridden.

Fitting the Speed Sensor:

The speed sensor consists of two parts, the sensor itself and a magnet that is attached to one of the spokes. The sensor is normally fitted at the rear. The speed sensor is mounted approximately half-way along the inside of the chain stay as shown in the diagram below (in Red). Simply secure the sensor to the frame with cable-ties, it may be necessary to fit a spacer between the sensor and the frame to bring the sensor closer to the magnet, otherwise it may not detect the magnet as it passes. Position the magnet so that as the wheel rotates, the magnet passes the rear-most (cylindrical shaped) part of the sensor as shown below-right.



Run the cable along the chain stay as indicated in **RED** above, securing it with cable-ties and ensuring that the cable is clear of the wheel/tyre. See the next page for the various connections to the controller.

Controller Connections:

Exiting from the bottom of the battery base/cradle are four cables, these are for the speed sensor, the motor wheel, the pedelec sensor and the modular cable. The modular cable runs up to the handlebars and connects to the KingMeter LCD, the thumb-throttle and the brake levers. All of the connectors have arrows on them that need to be correctly aligned before pushing the connectors firmly together.



Motor cable

**Modular cable
(to handlebars)**

Pedelec sensor

Speed sensor



King-Meter LCD

The King-Meter has many advanced features and modes, these include back-lit display (for night riding), indicator options for max speed, average speed and current speed, a digital clock and a battery level indicator. See below for how to operate the meter.



1. Battery Level Indicator
2. Assistance Level (Pedal Assist)
3. Odometer
4. Digital Clock
5. Speed Indicator

Warning:

The King-Meter comes pre-configured specifically for your kit. Incorrect settings could cause damage to the bike components and also result in a bike that is not UK road legal. Any modifications made to the controller configuration will void your warranty.

Turning King-Meter On/Off

To turn on the King-Meter press and hold the middle (Mode) button. Press and hold the same button to turn off the module and disable all electric features of the bike.

Turning Backlight On/Off

To turn on the display backlight, press and hold the “Mode & Up” buttons, press and hold the same two buttons to turn it off.

Varying Pedal Assist Level

To alter the level of assistance provided simply press the Up/Down arrows to cycle through the 5 levels of assistance. Level 1 offers the least assistance while level 5 offers the greatest assistance.

Speed Display Mode

There are three different modes for the speed display, these are current speed, average speed and maximum speed. To switch between these modes, press and hold the “Up” button for approx. 1 second to cycle through the modes.

Battery care:

Some care is needed to ensure that the battery performs at its best and lasts as long as possible. All batteries age over time, and the way that they age is generally that the range you can achieve will gradually decrease. Follow the instructions below to ensure your battery performs as well as possibly for as long as possible. Charge the battery once or twice per week as needed.

Do NOT charge the battery in extremely cold conditions. The battery can be easily removed from the bike and charged whilst off the bike if it's more convenient. Remember to allow the battery to warm up to room temperature before charging.

If the battery is not in regular use i.e. over the winter, you should charge the battery for around 10 minutes ever three to four weeks. When the bike is to be put back into service, fully charge the battery as normal.

General battery care:

Do not attempt to open the outer casing of the battery.

Do not attempt to repair the battery.

Do not immerse the battery in water.

Keep the battery away from children.

Do not drop, pierce or otherwise damage the battery.

Ensure the battery is not exposed to temperatures above 55 degrees Celsius or extreme humidity.

Do not use the bike in an environment where temperatures are below -5 or greater than 55 degrees Celsius.

Lithium batteries do not perform at their best during the winter months, and so the achievable range may vary from one season to another.

Charging the battery:

Plug the charger into the socket on the right-side of the battery, then plug the other end into the mains socket and switch it on. While the battery is charging, the LED on the charger will glow RED, when charging is complete, the LED will go GREEN. If the charger is on but not attached to the battery, the LED will also be GREEN.



Woosh Support:

Our contact details are below.

It can sometimes be useful to see the issue you have, so if possible, email a couple of photos illustrating the problem and we'll normally get back to you within an hour or two (on weekdays).

Support staff are not available at the weekends, though if you send an email, it will normally be read and replied to on the following Monday (except on bank holidays).

Email: kits@wooshbikes.co.uk

Telephone: [01702 684444](tel:01702684444) (If there is no answer, leave a brief message and we will call you back).

Support staff are available 10am to 5pm Monday to Friday.