

BROMPTON

DEALER MANUAL

2018



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SELLING BROMPTON PRODUCTS

The following sections cover all aspects of selling Brompton products. We hope that as well as being an excellent starting point for all shop staff encountering Brompton for the first time, it also contains some insights and tips for anyone who's been familiar with our product for a while.

THE BIKE

The Brompton bike has always been regarded as an ingenious design. But in the early days a Brompton was also seen as niche, perhaps even a bit quirky – a bike for enthusiasts. Of course, this was due mostly to the small volumes being produced – it wasn't true for those who rode them. Even the first owners quickly loved using their Brompton for all kinds of situations.

Over the last twenty years, the Brompton bike has become a huge success story - from being admired as the ultimate stowaway leisure bike, to being regarded as the perfect commuter bike, to conquering day-to-day life in big cities. Our bikes have become part of the traffic in London, Barcelona and New York. We think a Brompton could be the ultimate transport for urban lifestyles.

At the heart of this is the products versatility. It's a bike which is superbly thought through so that it's a great ride for a huge range of people. It's fun to personalise from a number of Brompton custom options. But the fact that it folds into a package the size of a small suitcase means it's compatible anywhere - with other transport and with everything you're doing once you've reached your destination.

The best Brompton dealers not only offer excellent service to customers who arrive wishing to buy a Brompton. Good salespeople can identify potential Brompton owners who are 'just browsing'. They showcase Brompton's key selling points to people who have never heard of Brompton, as part of a wider sales process.

Unless the Brompton's strengths are explained, consumers who may have found it the perfect bike for their needs might not even consider it as an option. The Brompton bike is still unfamiliar to a lot of people. Identifying this kind of customer and selling the Brompton well to them is the key to increasing your Brompton business, and your reputation as a Brompton Dealer. Communicating with this kind of customer should be the starting point for Dealership staff looking to sell Brompton well.



IDENTIFYING THE BROMPTON CUSTOMER

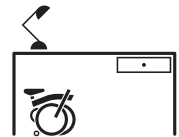
Any conversation about a new bike should start with the customer's needs. For those with specific kinds of cycling in mind (off roaders, Tour de France aspirers or urban tricksters), or certain budget constraints, a Brompton may not be the bike for them. We respect that. The last thing we want is a customer who is unhappy with their Brompton.

There are, however, huge numbers of customers who will be delighted with a Brompton. Some of these will have already made up their mind they want a Brompton, researching it and deciding on the spec before they come into your shop. Others will come in looking for a folding bike and want to know more. These are the easier customers to get started with as a Brompton Dealer.

Many customers will have only a vague idea of what they're looking to use their new bike for when they start chatting; there's a good possibility they don't even know what a Brompton is. How they're going to use the bike and what kinds of factors they are considering off the bike are significant to their final decision.

The following customers are all key Brompton prospects:

- Commuters and people looking to ride to work
- People working in multiple locations
- Executives, Creatives, Doctors, Nurses, Lawyers, Academics
- City dwellers with not much living space
- Fair weather riders who don't want to be caught in a downpour
- Cyclists who've had their previous bike stolen
- People looking to travel by train or car with their bike
- Newly retired couples
- Jet-setters and long-distance business travelers
- People who see cycling as a significant part of their lifestyle
- People looking to get back on a bike after years of not riding



A Brompton is a great option for anyone looking at how their bike riding will fit in with their lifestyle.



Versatile for different life styles

Apart from being ridden, a Brompton bike can be parked up, by folding the rear wheel under; no kickstand required. Great for those times when you need to sit outside a café, or stop for a quick chat with a friend. When it's completely folded, a Brompton bike becomes very compact. It folds easily, it folds elegantly, and once it is folded it stands upright by itself. The saddle and the main frame then become natural carrying handles.

Folded, the bike is so convenient that it can be:

- Stowed in the hallway/under the kitchen table/in the broom cupboard/under the stairs
- Taken on the train and the underground system for the morning commute
- Tucked under your desk at work
- Taken into the pub or bar
- Taken home in a taxi if you had a long night in the pub or bar
- Put into the cloakroom at a gallery, or a theatre, or a gig
- Carried onto the bus if it starts raining too hard
- Taken round the supermarket as a shopping trolley
- Put in the boot of the car so you can park and ride
- Stowed in a boat, cruise ship or luxury yacht, for riding away when you dock
- Taken onto a plane as luggage - and sometimes even as cabin luggage



How many other bikes offer this versatility in daily life when they're not being ridden?



VERSATILE FOR DIFFERENT RIDING STYLES

While the Brompton is based around one frame and wheel size, there are four types of handlebar the customer can choose from, which give four different riding styles. And there are several gearing options for different riding needs.

HANDLEBARS

The design of the bike and its handlebar options means that once it's set up properly (saddle and brake levers adjusted for the customer) the bike will give a superb, comfortable riding position, just as anyone should have with their bike. Each handlebar holds an appeal for different customers:

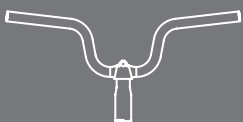
S TYPE - HEIGHT 924mm



Flat bar giving a sporty position

For people who already enjoy riding other bikes fast; shorter people looking for a regular ride position; taller people who like a tucked-in, engaged, nippy ride.

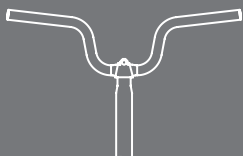
M TYPE - HEIGHT 1015mm



Medium-upright, relaxed feel

For riders not looking to tear the traffic up but who want to ride at a good speed; people looking for a good all-round position; the 'Classic' Brompton handlebar.

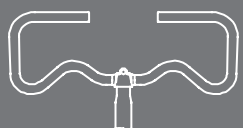
H TYPE - HEIGHT 1072mm



Gives a genteel, even more upright ride

For people who are interested in an upright style; people who like to enjoy the scenery as they ride; tall people who want to be relaxed; women and men who've enjoyed a Dutch bike or would like one but haven't the space; people who want as little pressure on their forearms and wrists as possible.

P TYPE - HEIGHT 1030mm



Offers multiple positions for different riding situations

For those who are considering using the Brompton to ride in several different situations – perhaps to get out of the city, to go touring for days and make use of three or four different hand positions, from tucked down to very upright.



GEARING

Customers can choose from four gearing options – starting with the basic 1-speed:

- 1-speed - for riders who believe 'one speed's all you need' or don't have any hills to think about: basic, light and simple
- 2-speed - good for flat terrain and city riding, with an important back-up lower gear for occasional hills: a light option to keep it simple
- 3-speed – a good multi-gear set up for a variety of flat and occasional hilly riding
- 6-speed - the full range of gears for all riding needs, especially hilly areas

At this stage you might be asked why there aren't any more gears. Each of our options makes for an easy-to-maintain, all-rounder bike with a gear range to suit. You could speak about how the gearing is achieved (sprockets, rear derailleur, hub gears) but this is quite technical stuff for a lot of customers – leave it till later unless they are keen to understand at this stage. If there seems to be an expectation of a larger number of gears, it's worth explaining that the range of the 6 speed is comparable to many hybrids.

MUDGUARDS

The basic Brompton comes without mudguards, which is great in dry climates, but mudguards are an essential option if you live in a region where it might rain. We also offer a mudguard option with a rear rack, which offers increased stability and portability when the bike's folded as well as being a way to carry things.

These create 3 further options:

- E - no mudguards or pump
- L - mudguards & pump
- R - rack, mudguards & pump



SUPERLIGHT BIKES

Why choose Superlight?

A Brompton Superlight marries the classic steel mainframe with a titanium rear frame, front fork and other lightweight componentry to deliver high quality performance with excellent portability; the ultimate solution for getting around the city.

Leave the road bike at home during the week and enjoy excellent ride quality from a lightweight folding bike you really can take everywhere you go. At up to 1kg lighter than an all-steel Brompton, it makes jumping on and off trains and taking up flights of stairs easier than ever, all whilst maintaining a compact package that can be tucked away neatly at home, under a desk, or in the corner of your local coffee shop.

What makes it Superlight?

On a Superlight, we replace the standard components for lighter options for the following parts:

- Titanium Front Fork
- Titanium Rear Frame
- Lightweight Wheel Set
- Titanium Mudguard Stays
- Lightweight Headset

How a Superlight Brompton is made

Our Superlight is made by working with a highly skilled team in Sheffield, who are part of the Brompton family.

<https://www.brompton.com/The-Bike/Superlight>

SPECIAL EDITIONS

Why do Brompton release special editions?

Brompton often collaborate with other brands in order to increase brand awareness and to target new or a broader range of audiences. It is also an excellent way for Brompton to learn and develop new skills that will increase the number of sales across our dealer networks, in various different markets- especially from companies with a larger customer base.

<https://www.brompton.com/The-Bike/Special-Editions>



THE BROMPTON BIKE MODEL “NAME”

This can be confusing for customers who are completely new to Brompton, so the best approach is to help them understand the Handlebar, the Gearing and the Mudguard options first, followed by a discussion on Superlight, if appropriate. Now that you've done this you can show them how to understand model name.

You should now be able to see that:

- S1E is an S Type handlebar, with a single speed and no mudguards
- M2L is an M Type handlebar, 2 speed with mudguards
- H3L is a H Type handlebar, 3 speed, with mudguards
- P6R is a P Type handlebar, 6 speed, with a rack & mudguards
- Adding the suffix 'X', indicates it is a Superlight (ie. S1E-X, M2L-X etc.)



TRADE PLATFORM

What you can do with the trade platform

- See trade and retail prices of Spares and Accessories
- See part codes and numbers of Spares and Accessories
- Use the bike builder along with the CR numbers that you already could with the Trade Platform
- File warranty claims direct to Brompton per store with traceability if needed in the future
- Have access to workshop and sales resources, such as technical videos and downloadable dealer manuals
- Place orders
- Track orders placed by the ordering department

How to login to the Trade Platform

- Visit **trade.brompton.com**
- It is worth noting that multiple computers can be logged into the Trade Platform at any time
- This means, both the workshop and front of house computers can be logged in with the same credentials

How to reset the password

- If for any reason you lose or forget the password, you can request it be sent to the email address that the Trade Platform is registered to

Spares and Accessories

- This can be found in the “Purchase Orders” section of the Trade Platform
- You now have the ability to look up the details and order all of our Spares and Accessories, this includes part codes and part numbers
- The trade prices can be concealed by clicking the “Trade Prices” tab on the top right of the page
- Many Spares and Accessories listings contain downloadable datasheets that are often supplied with the part. This can be useful for fitting and compatibility issues

Finding the Bike Builder

- The bike builder is accessed by clicking through the “Purchase Orders” tab
- You can hide the trade prices by clicking the “Trade Prices” tab on the top right of the page
- Once the customers spec has been added, you can see the build and print it by clicking on the “Click to View” tab on the bottom right hand area of the page
- By entering in a build here you will then be able to process an order
- For special edition allocations and further information, please contact your sales representative



THE FAULT REPORT

- The fault report can be found by clicking through to the “Technical and Warranty” tab.
- If you have an issue with a Brompton or part that we supply, we require you to fill out a fault report.

We will always require the Frame and Serial number from the bike, or if it is not a bike, the order number or reference.

Pictures of the fault; the size limit to the attachment you can submit is currently 4meg. If you are sending pictures from a modern smart phone, it will be worth downsizing the image. We currently do not accept PDF files.

Resources

The trade Platform contains charts for:

- Converting bar types
- Chain lengths
- Roller Wheel Compatibility
- Gear shifter Upgrade Charts
- A downloadable version of the dealer manual is available
- Printable price lists also available

BIKE REGISTRATION

With every sale of a Brompton bicycle, it is important to uphold exemplary customer service through (additional) after-sales care and support. A good way of way of ensuring this is to make sure every customer registers their bike online. In doing so, they will enjoy exclusive benefits as a member of the Brompton community:

- Five year frame warranty
- Protection against theft by proving ownership
- Be the first to hear about upgrades and events
- Claim your first free 3 month/100 mile service voucher

Not only will this give your customers some peace of mind but it will also help Brompton build a stronger database; to track and find the original owner. Every new Brompton bicycle comes with an attached booklet, serving as a reminder for customers to register their bike.

It won't be long before Brompton sends them the important information directly, like the Owner's Manual, top tips on how to maintain their Brompton and a reminder to revisit their dealer for the 100-mile/first free service. Not only is this critical service key to the safety of all riders, but a good platform in which to upsell to your existing customers.

<https://www.brompton.com/login>



FOLDING & UNFOLDING

The Brompton fold is probably the most important explanation to get right – it can be the difference between convincing the customer of the brilliance of the Brompton and leaving them confused about the cleverest bit. Anyone, with practice, can calmly fold the Brompton bike into a small package in under 20 seconds, it's essential that the staff at our dealers can show how easy it is.

Poor demonstrations can be disastrous, there are two potential approaches to avoid. The first is not to be able to fold the bike properly at all - fumbling, getting things stuck and demonstrating how wrong it can go if you don't know what you're doing. This is damaging to our brand and our bike's reputation for its ingenious fold - and you might find it very difficult to complete the sale. The second approach is to show off your hours of practice and brilliantly quick fold to the customer in a 6-second blur of hands and steel. This just looks like a magic trick rather than a clever folding bike – the customer might be less confident and more confused than when they started.

There are of course many ways to fold the Brompton, both in where you stand and the order in which you fold things. A new owner, most importantly, must feel confident on leaving the shop that they'll be able to fold the bike easily enough when the time comes for them to do it. On two different days they may meet two different sales staff in your shop, and be shown the fold a completely different way. It's better for all staff to show the same fold.

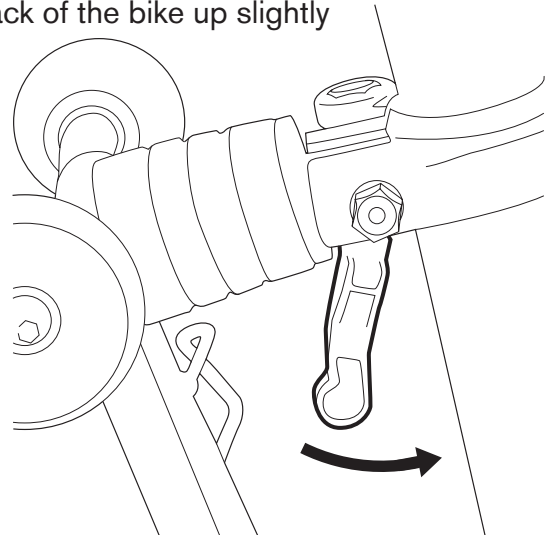
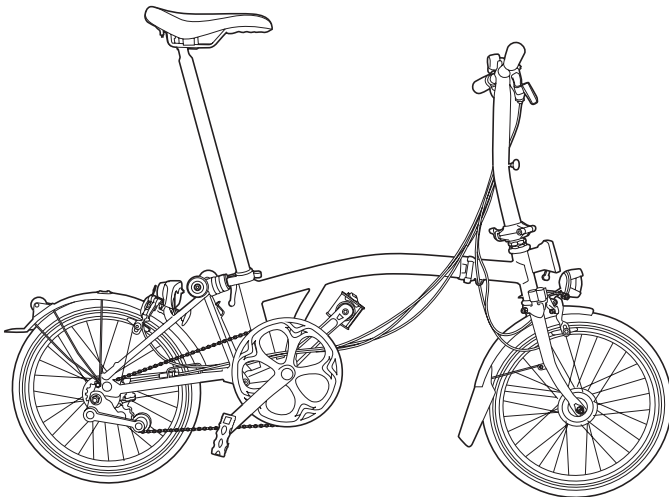
The following pages detail what we've decided is a good standard fold. If you follow this you can't go wrong – do it step by step, explaining what you're doing as you go, as smoothly and steadily as you can and in control at all times. The customer will be impressed and will start to really engage in the idea of buying a Brompton.



FOLDING THE BIKE

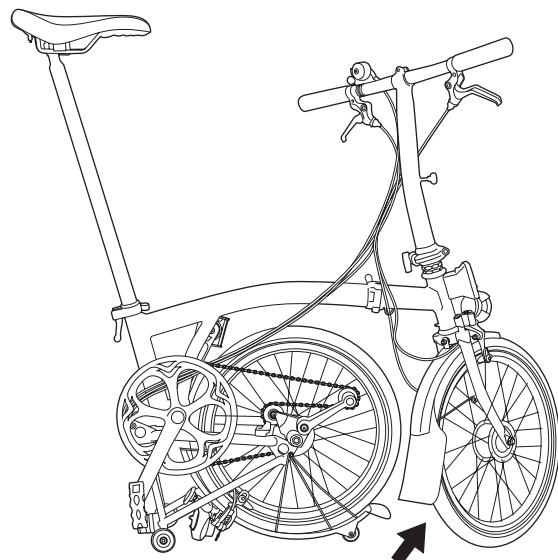
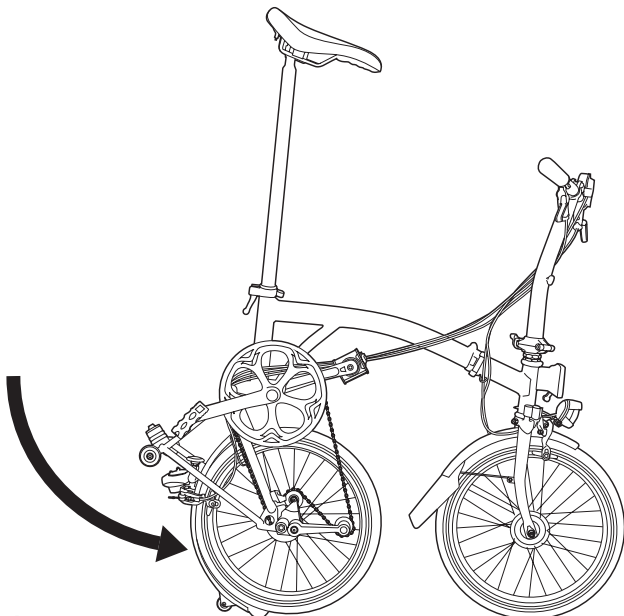
Stand facing the left side of the bike, so that the handlebar is to your left and the saddle is to your right. The customer can face you on the other side of the bike or stand alongside you – as long as they can see what you're doing. The customer might not know much about bikes so try to point out parts and explain as simply as you can as you go:

- Adjust the handlebars slightly so that the front wheel is pointing left by about 45 degrees
- Turn the cranks so that the driveside crank arm is horizontal, pointing rearwards, towards the roller wheel
- Using your right hand to grip the saddle nose, lift the back of the bike up slightly

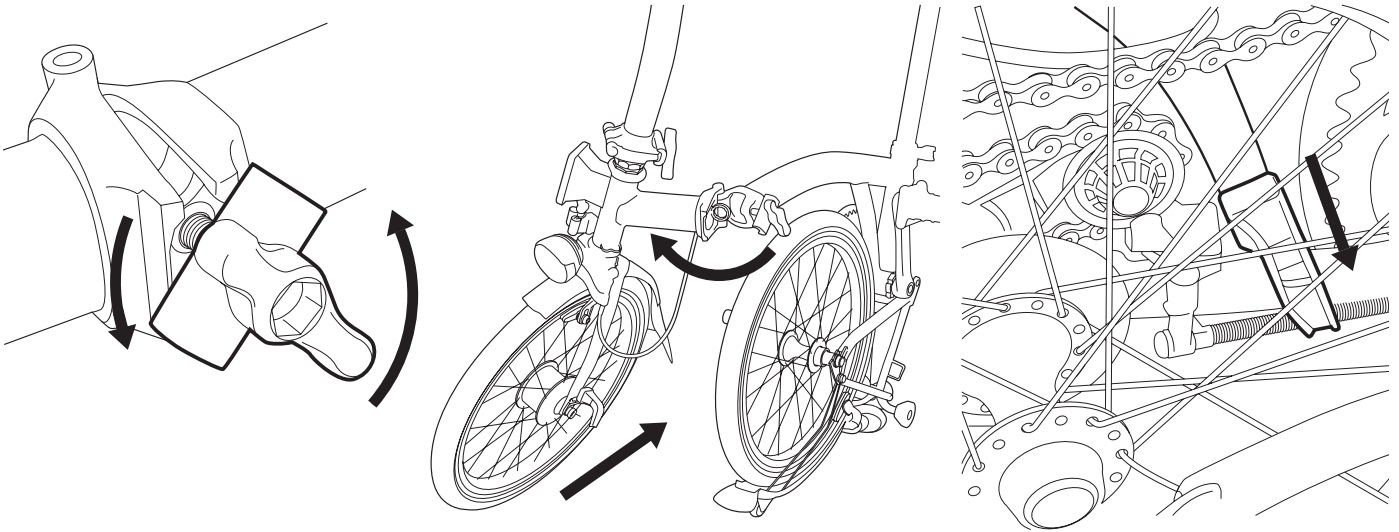


- At the base of the seatpost, just behind mainframe, is the rear frame clip; bring your left hand over the frame and push the clip towards the seat tube
- As you lift the bike the rear part of the bike will now release
- With your right hand still holding the saddle, hold the handlebar with your left and lift the bike up and roll backwards, so that the rear wheel rolls under the frame
- Keep the front wheel facing to the left, so that the rear wheel doesn't connect with the front wheel

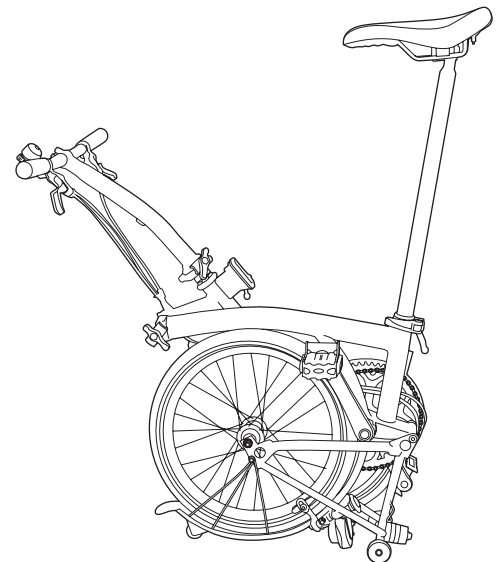
The bike's now in its “parked” position – this is a good time to point out that the bike will stand by itself. Keep holding the saddle with your right hand through the next steps:



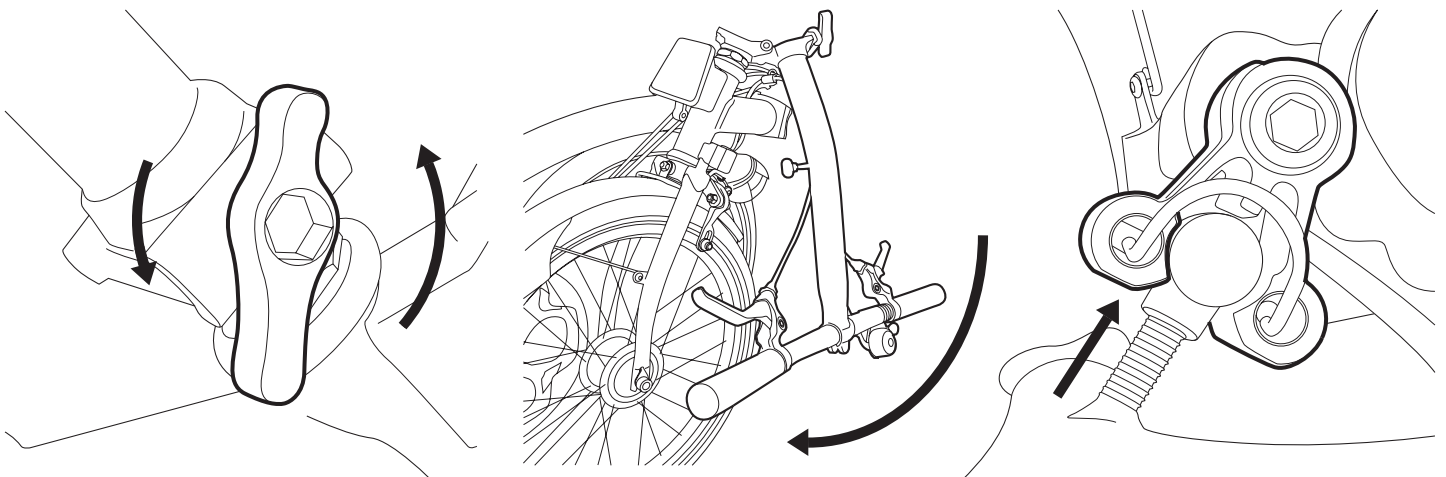
- Undo the hinge clamp lever on the main frame by 4-6 turns
- With your left hand hold the handlebar stem above the plastic nipple, swing the front wheel away & to the right



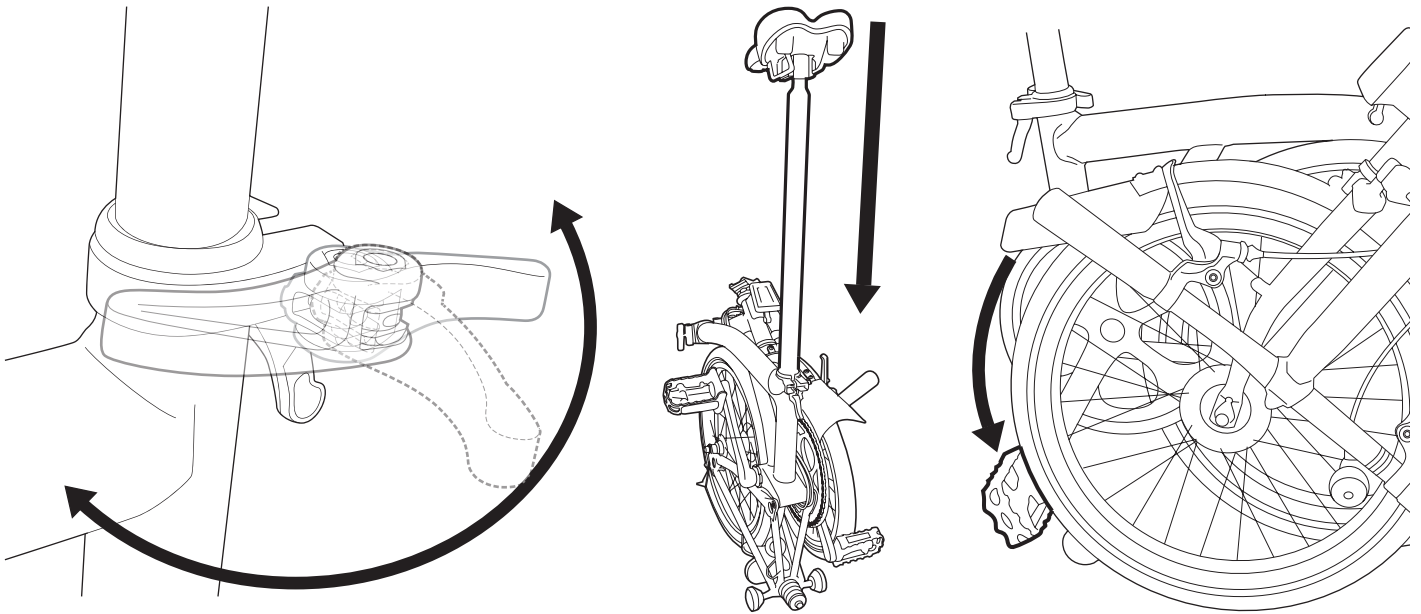
- Bring the stem round as if you were slowly stirring clockwise, don't twist your wrist & keep the hook on the left hand side of the fork facing you, until the front wheel is alongside the rear. you may need to lift the front of the bike a little
- Point out the hook on the left hand side of the fork; "this hooks over the frame part known as the chainstay, underneath the top section of the chain just behind the chainring"



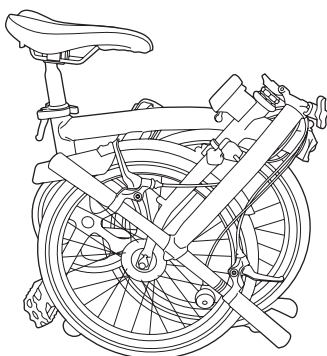
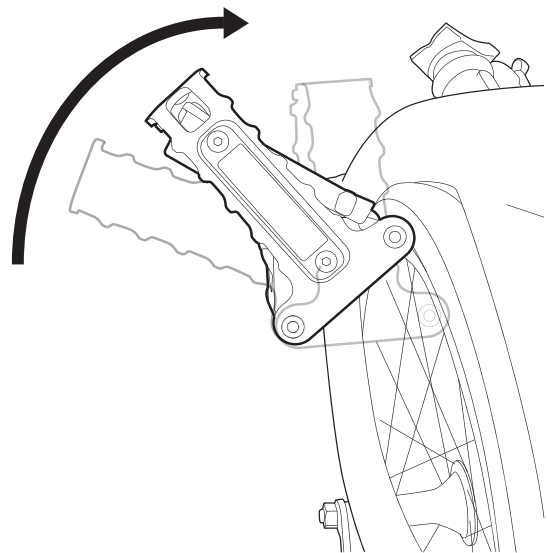
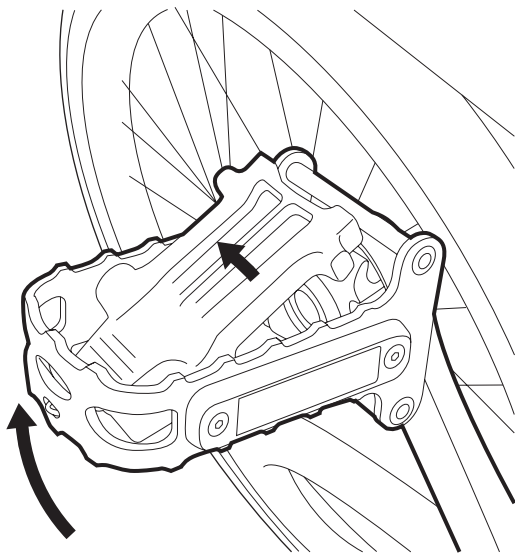
- Undo the hinge clamp lever on the handlebar stem by 4-6 turns and let the handlebar stem drop down; the nipple on the handlebar stem fits perfectly into the clip which is mounted on the top of the fork, locking it securely to the bike



- Point out that lowering the seat post down holds the folded bike together. Undo the seat clamp lever (if the bike has a telescopic seat post – the seat post clamp is the lower one) and lower the seat post until the saddle rests next to the frame. Close the seat clamp lever.



- Pull the left hand pedal upwards, the right hand pedal should tuck neatly under the front wheel
- Fold the left hand pedal, by pressing the central black plate upward, enough that it can pass over the end of the crank arm & into a vertical position
- If you can't lift the plate, turn the pedal over & try again



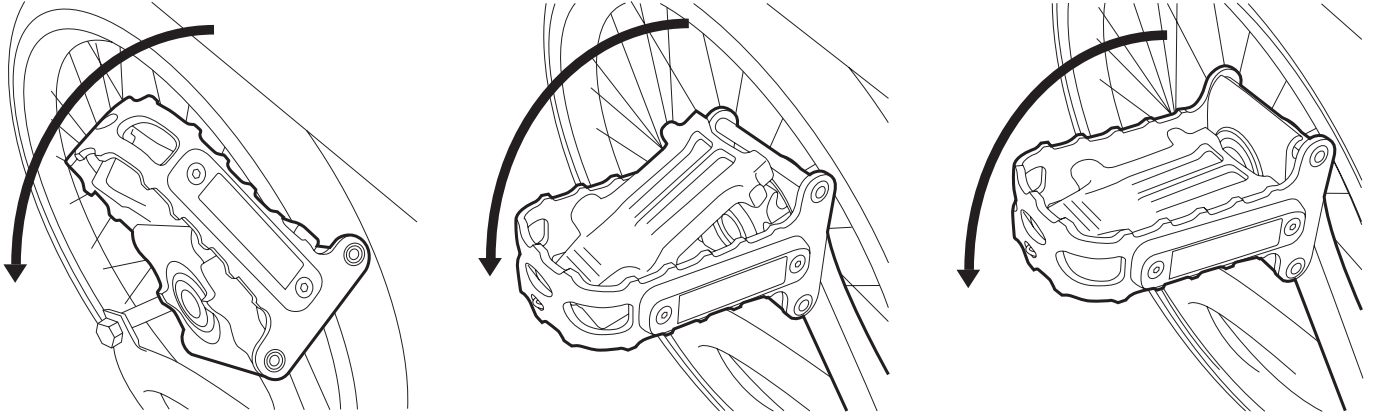
The bike is now folded and ready to be picked up and carried. Brompton saddles have an ergonomic grip under the nose for carrying.

The bikes are fitted with a bung in the bottom of the seatpost – this acts as a brake to stop the bike rolling around and reduce the potential to damage floors when the seatpost is lowered. This may cause resistance when dragging the bike if the seatpost is lowered fully.

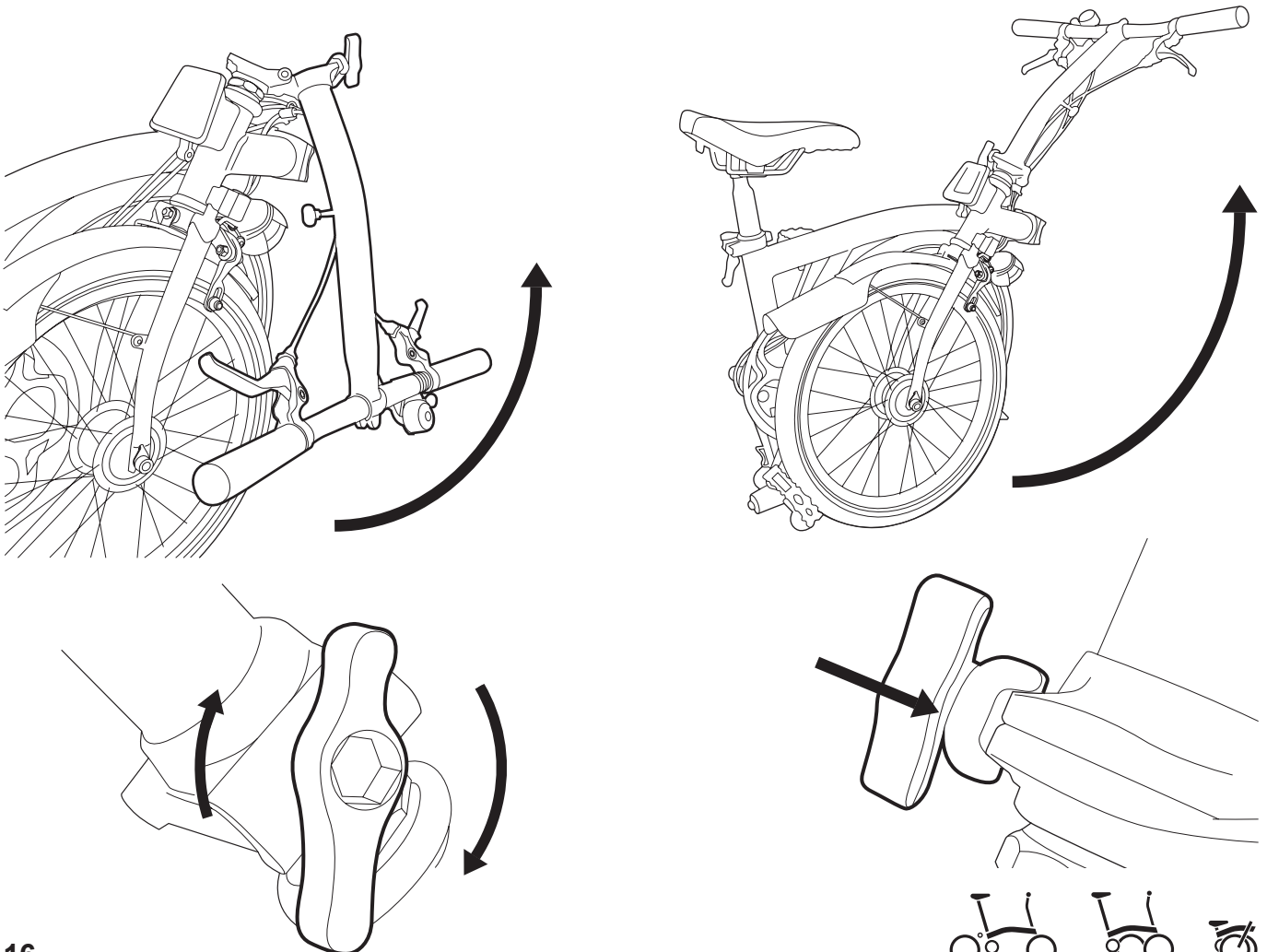
UNFOLDING THE BIKE

Stand behind the left hand side of the folded bike. Hold the saddle with your right hand. The customer can be facing you on the other side of the bike or standing alongside you - as long as they can clearly see what you're doing. Again, explain as you go:

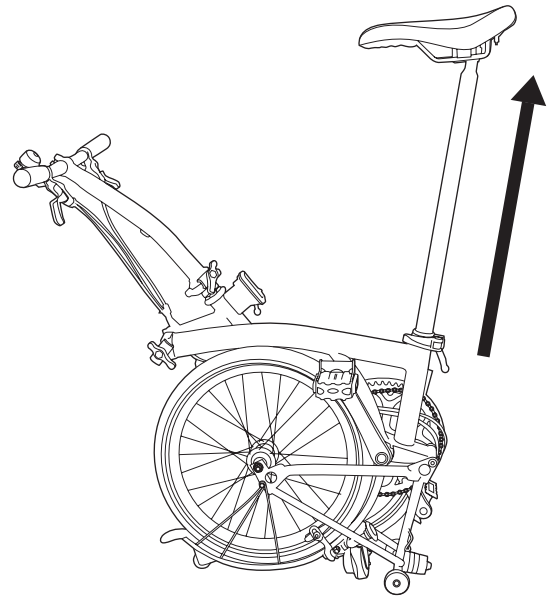
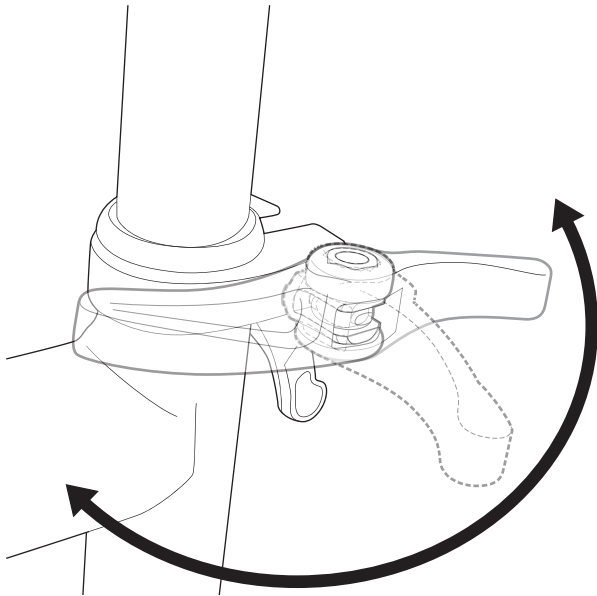
- Unfold the left-hand pedal by pulling the outer metal cage towards you, as you do this show the customer how the black catch engages to lock the pedal in place



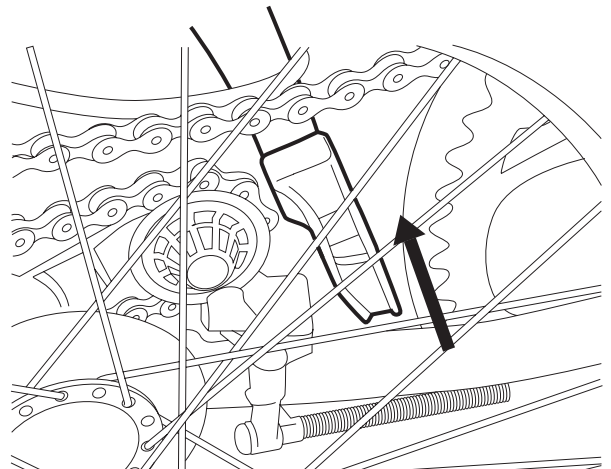
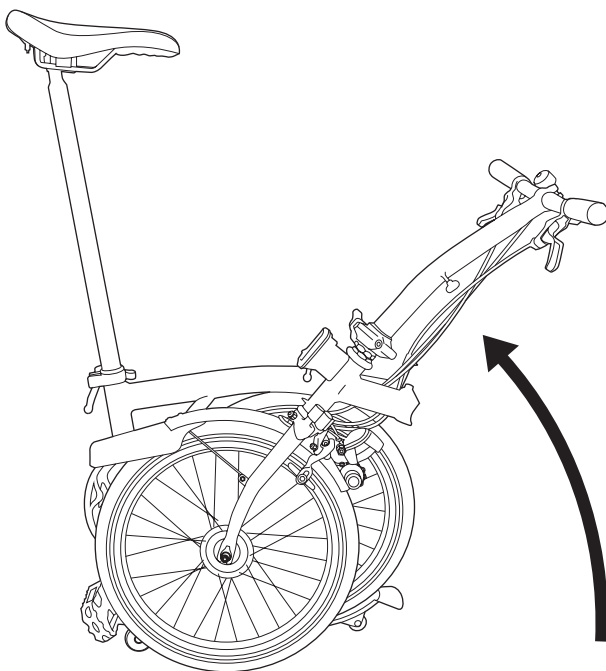
- To release the handlebar, firmly push down on the end of the grip nearest you with the flat of your left hand
- Swing the handlebar up until the hinge closes, align the silver clamp plate with the hinge and tighten the black clamp lever tightly



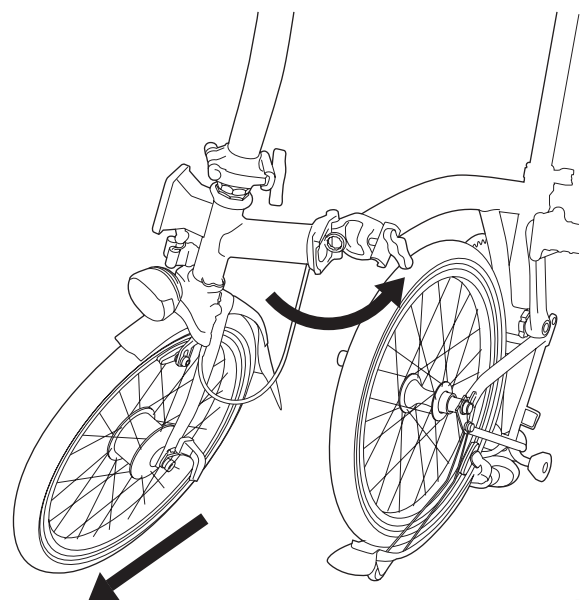
- Undo the seat clamp lever, pull seat post up and re-clamp

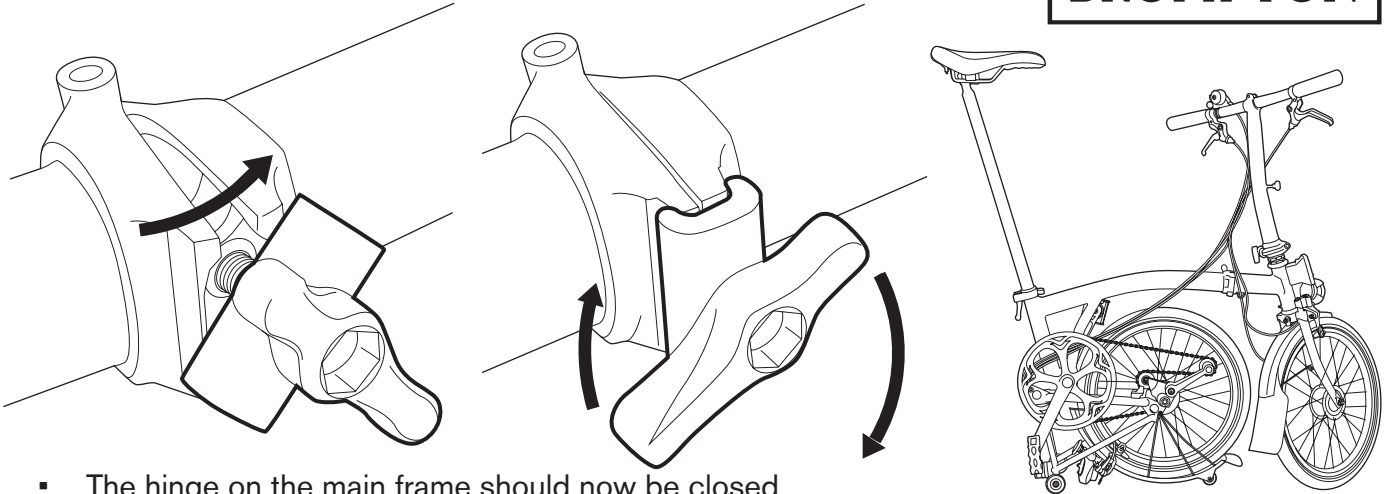


- Place your right hand on the saddle & grasp the handlebar stem with your left hand, near the hinge
- Instruct the customer to look down where the chain runs between the two wheels and they will see the black hook holding the front wheel to the rest of the bike
- Lift the handlebar stem with your left hand, to lift the hook above the tube it is resting on



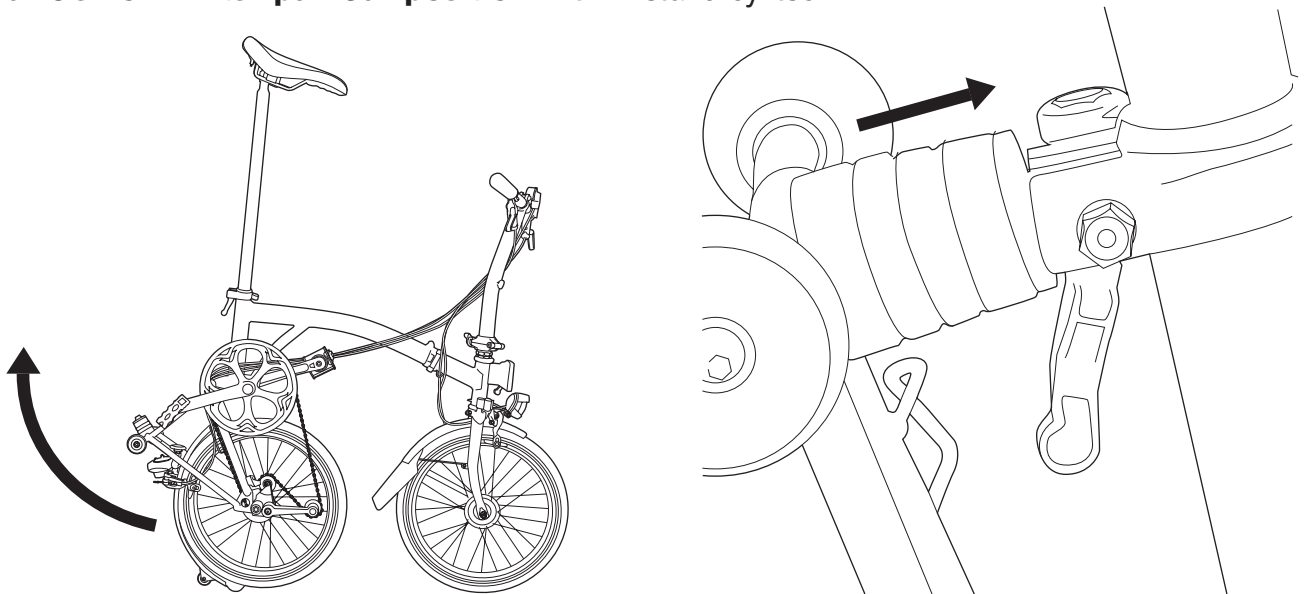
- Swing your left hand away from you in an arc to push the fork and front wheel away from you, push until the hinge on the main frame is closed
- When doing this do not twist your wrist; make sure to keep the front wheel pointing in the same direction, the hook must remain on your side of the bike and the front wheel pointing forward at a slight angle, (not parallel with the rear wheel)





- The hinge on the main frame should now be closed
- Align the silver hinge clamp plate and tighten the black clamp lever firmly

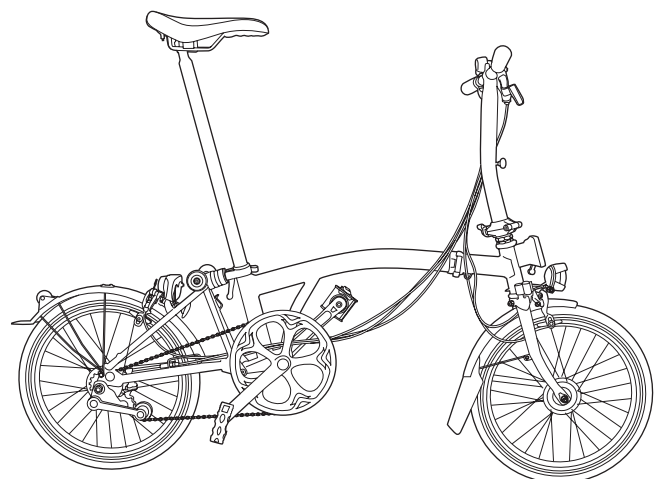
The bike's now in its “parked” position – it will stand by itself.



- To complete the unfold, hold the handlebar with your left hand, with your right hand lift the bike up swiftly by the saddle and swing the rear wheel backwards and into position
- Push down on the saddle to ensure the suspension block pushes against the mainframe; there should be a loud click as it locks into place. *The bike is unfolded and ready to ride.*

LET THE CUSTOMER TRY

There's a certain kind of customer who will find the idea of folding the bike a reason to doubt themselves. They'll often tell you that they wouldn't be able to do it when in fact they just need to try it. There's another kind of customer who'll tell you they've understood straight away and in fact haven't got it at all. Both would leave the shop with a Brompton and get in a mess trying to fold it. So once you've shown the fold, get your customer to do it themselves and talk them through it. It's great customer service and a really convincing demonstration.



Other things you can point out at this stage

- The fold works with the natural movement of the bike - once learned it can be very quick
- The bike folds down to shield the user from the chain, so things around it don't get oily
- The folding pedal means that the bike can be carried as easily and as closely to the body as a small suitcase

The step-by-step guide is detailed, learn it and you should be able to explain the fold very clearly to anyone in under 30 seconds - and give them the confidence to do it themselves. It only takes a few attempts to fold the Brompton without even thinking much about the steps.

To finish the picture of just how versatile the bike is, the next thing to talk about is the luggage.

LUGGAGE

Our luggage should be an intrinsic part of the bike sale for many buyers; it opens up the world of Brompton even further. Day-to-day carrying needs which would might need some thought become easy as the luggage system offers carrying solutions for everyone.

- No sweat-drenched backs from riding with a backpack
- No pannier weight over the back of the bike
- No need to balance shopping bags precariously on the handlebars
- Steering and stability are unaffected as the bag attaches to the headtube rather than the handlebars
- The luggage range comes in various configurations for different situations and lifestyles – office, meetings, supermarket, exploring

A Brompton Dealer should have a good range of Brompton luggage on display and always group it with the stock bikes. If the bags are at the other end of the shop to the Brompton bikes, the story doesn't come alive for the browser or the interested customer in the same way. Brompton luggage isn't compatible with other bikes, so it shouldn't just be placed in a bags and panniers section of the shop. The Brompton customer will often get even more engaged looking at the luggage options which are right for them as they plan their bike purchase, so don't underestimate the value of the upsell – it's all about the customer leaving excited about their new bike.

The second key aid to selling the luggage is the Front Carrier Block. This should really be fitted to every stock bike in a Dealership, not just the demonstrator bikes. It's far easier to show the customer a piece of luggage on a stock bike they like with the Front Carrier Block already fitted; the sales conversation loses energy if one has to be attached. It's good basic upsell, even if the bag isn't in the budget in the first sale. Most Brompton owners buy a bag either with their bike or within 3 months of having it – you should want them returning to your shop to complete the purchase.

Please see the Trade Platform, our online bike builder or brochure (which is also available online) to look at the full range of luggage we offer if you aren't familiar with it all.



DEMONSTRATORS & TEST RIDES

Your customer may well be ready to see what it feels like to actually ride a Brompton bike at this point. Every Brompton Dealership should have at least one current model demonstrator for the customer to try out. It is a mandatory part of what it means to be a Brompton Dealer across the world now – because we know it's so important. The value of the demonstrator is that stock bikes – which are for sale – remain in a perfect condition for the buyer. And the customer who has already thought about Brompton can come into a Brompton Dealer knowing they will have a standard demonstrator which can be tried for size and can be folded and unfolded. The demo bikes aren't intended to be runarounds or loan bikes for store staff to use – they should be available to ride and in a good condition for the consumer.

For the customer who's completely new to Brompton though, test-riding is believing. Because of a Brompton's small wheels - and because it can fold so compactly - some customers have real doubts as to how well it will ride. They will be surprised even after a quick ride up and down the street – but if they can ride it for a few minutes they usually come back hugely impressed and smiling. Nothing is more convincing for a customer who doesn't believe the sales pitch. Some dealers even offer a try-out overnight, so that the customer can see just how much the bike can work with their transport, their commute or their lifestyle. And this is excellent customer service.

We would strongly recommend that Demonstrators aren't loaned out for more than a day though – after all, hopefully you will have another customer waiting to try out a Brompton.



MADE FOR YOU

Your customer should now be beginning to understand just how versatile the Brompton is, and how compatible it can be with their day-to-day life. Once the customer has decided that a Brompton is the bike for them, it's time to discuss the other custom options which are available to make their purchase exactly right for them. Some customers will want to point and buy – but even they need to be advised well by sales staff so their bike is right.

SADDLE HEIGHT

This is probably the most important spec decision after the handlebar and gearing – you must advise the customer on which seat post they need. We offer standard, extended and telescopic. Get to know these and who they're good for. A tall person will never enjoy their Brompton if they have not understood the need to get a telescopic seatpost. More information can be found in the setup guide on page 34.

SUSPENSION

The bike comes as standard with a rubber suspension block. This smooths out the ride and adds some comfort without much of a detriment to efficiency. There is only one option available to order from MY18 onwards.

TYRES

There are three tyre options – get to know their benefits and their compromises.

Schwalbe Kojak

The fastest and lightest option, for those who value speed above durability

Schwalbe Marathon

The most robust and reliable option, greater rolling resistance and weight than the other options

Schwalbe Marathon Racer

The ideal compromise between weight, rolling resistance and puncture protection, the best all round option



LIGHTING

There are three lighting options if lights are required – each worth considering.

- Brompton mounted battery lights – Lightweight option featuring removable USB rechargeable Cateye Volt front light and standard Brompton battery rear
- Shimano Hub dynamo – no batteries required, good value option
- Schmidt Son dynamo – a beautifully made, high quality hub dynamo with low rolling resistance and high power output

SADDLE

There are four saddles to choose from, you can also spec a supplementary Cateye Rapid Mini USB saddle light on Brompton standard saddles.

- Brompton Standard – 147mm width. Comfortable, practical and light. Unisex with an ergonomic moulded grip under nose for carrying. Compatible with USB light
- Brompton Standard Wide - 167mm width. More suited to wider seat bones and upright riding positions. Unisex with an ergonomic moulded grip under nose for carrying. Compatible with USB lights
- Brooks B17 Special – Durable handmade leather saddle with traditional hammered copper rivets and copper plated rails
- Brooks B17 Special Ladies - Durable handmade leather saddle with traditional hammered copper rivets and copper plated rails

COLOURS

The least essential but often most personal (and exciting) of all the options to consider.

We offer a standard palette of 11 colours, and the customer can combine two of these to make a bike that is even more personal. We group these into Mono, Classic and Bright themes – all interchangeable with up to 2 per bike permitted, the exception being Raw Lacquer.

Raw Lacquer is our premium finish. This beautiful colour option shows off the quality of the hand-built frame. This is a finish which is painstakingly achieved and each one is unique in its final look, reflecting the surface of the raw material.

It is normal for the look and colouration of the Raw Lacquer finish to vary from bike to bike and also on each frame part. There may be noticeable variation compared to other bikes on display in your store or those featured in our brochure or website. The Raw Lacquer finish uses the same powder coating process as the other frame colour options (with the plastic powder having no pigment); as such it gives identical durability and protection from corrosion.

You should know the colours off by heart, or at least be very familiar with the names of your shop's stock bike colours. The more colour variety you stock, the more likely you'll be able to offer something that fits with the customer's ideas.

GEARING RATIOS

Further adjustment to the ratio can be selected after choosing the gearing when ordering a Brompton. This can be confusing for the majority of customers, but if someone does ask, or if they explain that they have specific gearing needs i.e, living somewhere hilly, looking to go faster, looking for “easier” gears then they can be accommodated.

The available options vary depending on which gearing is specified, but the general changes available are; +8% -12% & -18%. There is a chart with more detail of the ratios and compatibility on page **XX**.

MADE IN LONDON

If the customer needs any more convincing, then you can always mention Brompton's attention to quality and reliability.

The product has been refined over 30 years of development, but its basic design has remained unbeatable as the most compact, portable folding bike. It's regarded as a Design Classic.

Each Brompton bike frame is hand brazed by some of the most highly-skilled brazers in the world. They can be found every day making frames at Brompton's West London factory; the bike is assembled by hand in the factory too. It's very much a London made product with a local workforce; it isn't marketing hype.

We make each frame from steel because it's the most durable and robust material for this application, it allows us to build compact, stiff and strong frame parts. The frame is hand brazed because the quality of the final product is so much higher. The steel is subject to lower temperatures, reducing stress on the frame parts.

The frame and parts are tested for accuracy and durability way beyond normal bikes and even the paint finish is highly scrutinised. Each bike is carefully inspected before being hand-packed and dispatched from the factory.

BUILT TO LAST

Brompton is proud of the quality of its products, and especially in the durability of our bikes. We don't want to produce something which is designed for obsolescence, or which hasn't been thought through well enough for real life. We want our customers to be able to ride, park, fold and unfold our bikes day in, day out for many years.

Brompton offers a 5-year warranty on its frame, and 2 years on all parts. They typically last a lot longer than this – many bikes built in the 90s are still being ridden today.

When it comes to servicing and repairing the bike, we want the customer to be able to replace parts for many years, as we know their bikes will last. Brompton keeps a huge back catalogue of parts available for older bikes. New, improved parts are designed to be retrofittable to older versions of the Brompton whenever possible. These provide great opportunities for selling upgrades to your customers' bikes, so look out for bikes which have put in years of service.

The information in this section of the manual should be a great start in helping you sell Brompton to your customers – it's such a great bike for so many people, as owners of all ages and backgrounds across the world understand. If you get the sale right, many Brompton customers will be loyal to you as their Brompton Dealer for many years to come.

ACCREDITATION PARTS LIST

This list comprises the most essential items dealers need to maintain Brompton bikes on a day to day basis. The list also makes up the tiered minimum buy in levels for new dealers; Essential for Authorised dealers, Expanded for Recommended dealers and Extensive for Premier dealers.

Dealers with a high volume of Brompton servicing will likely require a deeper stock holding, but this list can serve as a starting point to build from

Section 1: Essential Parts & Accessories	
Item	Part Number
Front luggage mounting block	9030002
Saddle Height Insert	9000630
Seatpost - steel extended, 60mm longer (Silver)	9037070
Seatpost - steel telescopic (Silver)	9037094
Hinge clamp lever only (Black)	9040032
Hinge clamp plate only (Silver)	9040049
Lower stop disc set (Mk3)	9040070
Suspension block only (Firm hardness)	9040124
Replacement front axle hook + fittings only - L/R version	9017188
Handle bar catch set complete incl spring, nipple + fasteners	9040001
Rollers with fittings - L/E version (Pair)	9001866
Rollers with fittings - R version (set)	9001873
BB cartridge JIS 119mm	9044016
Pedal - Folding - LH (Silver)	9019007
Pedal - Non folding - RH (Silver)	9019090
Inner tube 37-349 - Schrader valve	9026012
Inner tube 28-349 - Schrader valve	9026036
Rim tape for Double-Wall rim (Yellow)	9026135
Tyre 37-349 Brompton Kevlar - reflective strip	9026043
Cable Gatherer	9029020
Brake cable + outer front - S Type	9029068
Brake cable + outer front - M Type	9029327
Brake cable + outer front - H Type	9029198
Brake cable + outer front - P Type	9029204
Brake cable + outer rear - S Type	9029082
Brake cable + outer rear - M Type	9029341
Brake cable + outer rear - H Type	9029235
Brake cable + outer rear - P Type	9029242
Chain tensioner complete - Non DR	9023004
Chain tensioner complete - For DR	9023011
Sprocket set incl chain guide disc 3/32" 9-spline - 12T (1-spd)	9024131
Sprocket set incl chain guide disc 3/32" 9-spline - 12/16T (2-spd)	9024148
Sprocket set incl chain guide disc 3/32" 9-spline - 13/16T (BWR 6-spd)	9024162
Sprocket set incl chain guide disc 3/32" 3-spline - 13T (3-spd)	9024179
Chain 3-32" - 102 link (See chain length chart)	9022076
Hub gear indicator chain (Sturmey - alloy shell)	9011094
Hub gear cable anchorage (Sturmey)	9011070
Hub gear cable + outer for Gear Trigger - S Type (Pre 2017)	9011025
Hub gear cable + outer for Gear Trigger - S Type (Pre 2017)	9011001
Hub gear cable + outer for Gear Trigger - H Type (Pre 2017)	9012299
Hub gear cable + outer for Gear Trigger - P Type (Pre 2017)	9011018

Section 2: Expanded Parts	
Item	Part Number
Brake Lever Set - LH + RH (Silver/Black)	9002696
Saddle - Brompton with black rails 147mm width (Black)	9001026
Pentaclip (Silver)	9018079
Mudguard blade + flap only - Front (Silver)	9017027
Mudguard blade + flap only - Rear - L version (Silver)	9017034
Rack set complete incl 4 rollers + mudguard - 6mm holes (Silver)	9003174
Battery lamp only - Rear (Excluding bracket)	9013074
Battery Lamp - Front - incl bracket, reflector + USB cable - (Cateye Volt300)	9002139
Handlebar - M/H type [1] - high rise version (Silver) (Pre 2017)	9037001
Handlebar - M/H type [2] - low rise version (Silver) (2017 -)	9003181
Handlebar - S type (Silver)	9037025
Crankset - Spider type complete incl LH+RH - 50T (Silver)	9020140
Replacement Chainring + Guard only - Spider type - 44T	9020164
Replacement Chainring + Guard only - Spider type - 54T	9020188
Replacement Chainring + Guard only - Spider type - 50T	9020171
Front wheel radial lacing incl fittings - Standard (Silver)	9025008

Section 3: Extensive Parts	
Item	Part Number
Rim ETRTO 349 double-wall 28h - Angle-drilled (Silver)	9027170
Rim ETRTO 349 double-wall 28h - Std-drilled (Silver)	9027163
Spoke/nipple set 14g Plain Gauge - 132mm	9027200
Spoke/nipple set 14g Double Butted - 133mm	9027187
Spoke/nipple set 14g Double Butted - 145mm	9000647
Spoke/nipple set 14g Plain Gauge - 145mm	9027217
Spoke/nipple set 13g Single Butted - 146mm	9027224
Spoke/nipple set 14g Double Butted - 151mm	9027194
DR Gear Shifter with integrated brake lever LHS - 2 Speed (Silver/Black) (2017 -)	9002832
Hub Gear Shifter with integrated brake lever RHS - 3 Speed (Silver/Black) (2017 -)	9002849
Rear wheel incl fittings - 1 / 2-spnd (Silver)	9025022
Rear wheel incl fittings for 6-spnd - BWR 3-spnd (Silver)	9025053
Rear wheel incl fittings for 3-spnd - BSR 3-spnd (Silver)	9025039

BIKE DESCRIPTION DECODER

The bike description appearing on an invoice is constructed by BBL's computer system. As the model, options and accessories are chosen (i.e. the bike is "configured"), the computer chooses what description "segment" to add (for segments 3 & 5, and 6 onwards there is no entry unless a non-default option is chosen). In order to keep descriptions to a manageable length, the segments are abbreviated. The segments are separated by a slash (/). A prefix * may be present - this has no significance.

1. HANDLEBAR

This will be either an *M*, *P*, *H* or *S* to reflect the handlebar type.

2. GEARING

1, 2, 3 or 6 will be shown to signify the gearing option

3. GEAR RATIO

Any adjustment to the standard gearing option (*/-7*, */-18*, *+8* etc.)

4. MUDGUARDS/RACK

Version *E*, *L* or *R*

5. FRAME MATERIAL

A Superlight bike is denoted by */Ti*

6. MAINFRAME COLOUR

The colour of the mainframe will be denoted by a 2 letter code, for example Grey is *GY*, Red *RD* etc.

/XX /ZZ /BK /GY /IV /RG /TG /RD /BC /LB /LG /RL /SDBK /BKg /NI

7. EXTREMITIES COLOUR

The colour of the mainframe will be denoted by a 2 letter code, for example Grey is *GY*, Red *RD* etc.

/XX /ZZ /BK /GY /IV /RG /TG /RD /BC /LB /LG /RL /SDBK /BKg /NI

8. SEATPOST LENGTH

A non standard seatpost selection is shown by *SP6* for an extended seatpost and *SPT* for an extended seatpost.

9. SADDLE

If a Brooks saddle (*BRKM* for Mens or *BRKF* for Womens) or Brompton wide saddle (*SADW*) are selected they will be shown here.

10. TYRES

Bikes are fitted with the Schwalbe Marathon Racer as standard, the Kojak option is shown by *TYJ* and the Marathon by *TYM*.

11. LIGHTING

The battery lighting (*BAT3*), Shimano hub dynamo (*HDSH*) and SON dynamo (*HDSON*) will be shown here.

12. BRAKES

Bikes with the non-standard (front brake on the left) braking orientation will have *REV* marked here.

13. TERRITORY

Specific configurations for different regions will be shown here

U = UK configuration, *A* = USA configuration, *C* = Swiss configuration, *D* = Danish configuration, *E* = Spanish configuration, *F* = French configuration, *G* = German configuration, *H* = Hong Kong configuration, *I* = Italian configuration, *J* = Japanese configuration, *K* = Korean configuration, *N* = Netherlands configuration, *S* = Swedish configuration & *T* = Taiwan configuration.

14. DEMO BIKE?

Bikes marked *DEMO* will have a demo-bike configuration and demo bike decal.

15. FRONT LUGGAGE

If the bike is spec'd with a front carrier block *FCB* will be shown here, if luggage is also specified it will show *FCB+sep*.

16. REAR LUGGAGE

Any rear luggage specified will be shown by */sep*.

17. SADDLE BAG

Any rear saddle bag ordered with the bike will be shown here.

Saddle Bag & Cover = */COV*, Saddle Pouch Bag (Black/Berry Crush trim) = */SP-BK-BC*, Saddle Pouch Bag (Cherry Blossom) = */SP-CY*, Saddle Pouch Bag (Grey/Black/Lime Green trim) = */SP-GR-LG*, Saddle Pouch Bag (Khaki waxed canvas) = */SP-KH*, Saddle Pouch Bag (Lagoon Blue/Lime Green trim) = */SP-LB-LG*, Saddle Pouch Bag (Lime Green/Lagoon Blue trim) = */SP-LG-LB*, Saddle Pouch Bag (Turkish Green) = */SP-TG*, Saddle Pouch Bag (Black) = */SP-BK*

18. BIKE TYPE

When a special edition or limited edition bike is released there will be a code denoting the version, for example Black Edition = *BE*, NYC Edition = *NYC*, Nickel Edition = *BE*, Brooks Edition = *Brooks*, S2LX Superlight Demo bike = *20% Demo*, S2LX Superlight Demo bike = *25% Demo*, Cambridge Satchel = *CAMS* & BWC Edition = *BWC*

19. TOOL KIT

Bikes sold with a toolkit will have */TKT* marked on the bike description.

TECHNICAL INFORMATION



TECHNICAL INFORMATION FOR NEW & USED BIKES

Each new bike should be checked for transit damage, given a pre-sale inspection and setup to fit the customer. When servicing bikes (including the initial first free service) the 'Routine Checks and Adjustments' should be carried out.

During the first unfolding after removal from the box, don't unfold the rear frame (i.e. don't "unpark" the bike) until you've checked that the chain is running OK and is not dislodged from a sprocket.

Please check for transit damage upon delivery. If the packaging is visibly damaged please sign for it as damaged with the carrier.

Upon inspection, if the bike has been damaged in transit please submit a fault report form via the Trade Platform. <http://trade.brompton.com>

You can navigate to the report form by following this route.

Home > Technical & Warranty > Report Form:

Obviously we can't attempt to cover all possible damage, but most of the damage which we have come across in the past will show up if you make the following checks:

With the bike parked, rotate the cranks: does the inner face of either crank clash with the rear frame?

Check for damage to the following nylon mouldings:

- Handlebar catch
- Chain tensioner
- Main rollers
- Hinge clamp levers

Check for cracking as well as obvious breakages, apply some firm pressure: a moulding should break pretty easily if it has cracked.

Rear carrier stays (on R-version): if any of these is slightly buckled, it can be bent back with care by hand. However, if the bending is severe, it may be necessary to replace the complete rear carrier assembly.

Rear mudguard stays on L-version: these may well become slightly buckled, so leaving the rear end of the mudguard too close to the tyre. The stays can be bent in to give more clearance, and also to centre the mudguard on the tyre. If you DO find any apparently minor damage (e.g. as above), look for any related problems and check also the frame alignment.

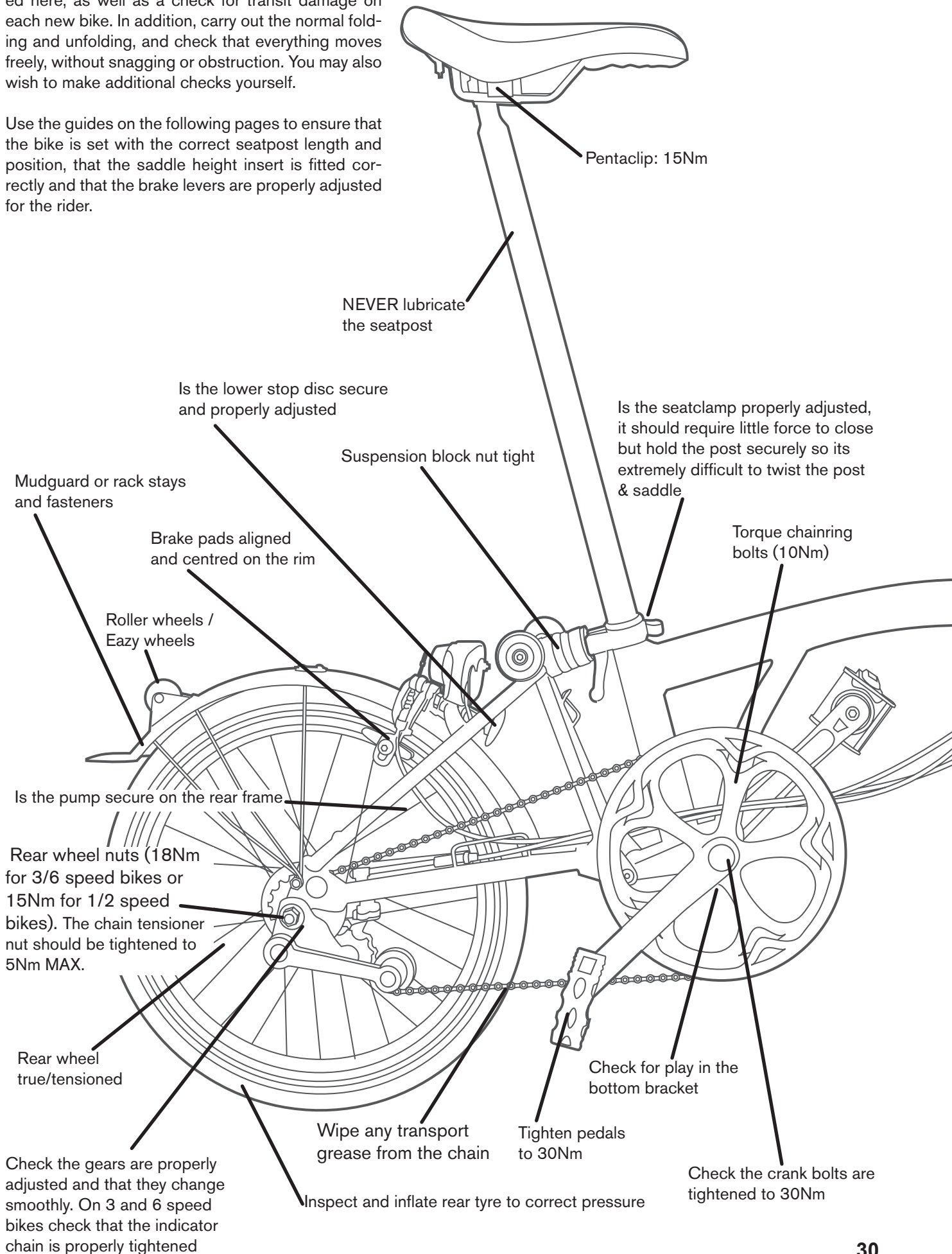
With regard to frame alignment, the key things to look for are a) that the wheels align when the bike is unfolded, and b) that the seat pillar and the (lower part of the) handlebar stem are in line (when viewed from in front or behind). Note that the rear "chainstays" are designed to be asymmetrically disposed: the RH chainstay lies much nearer to the tyre than the LH chainstay.

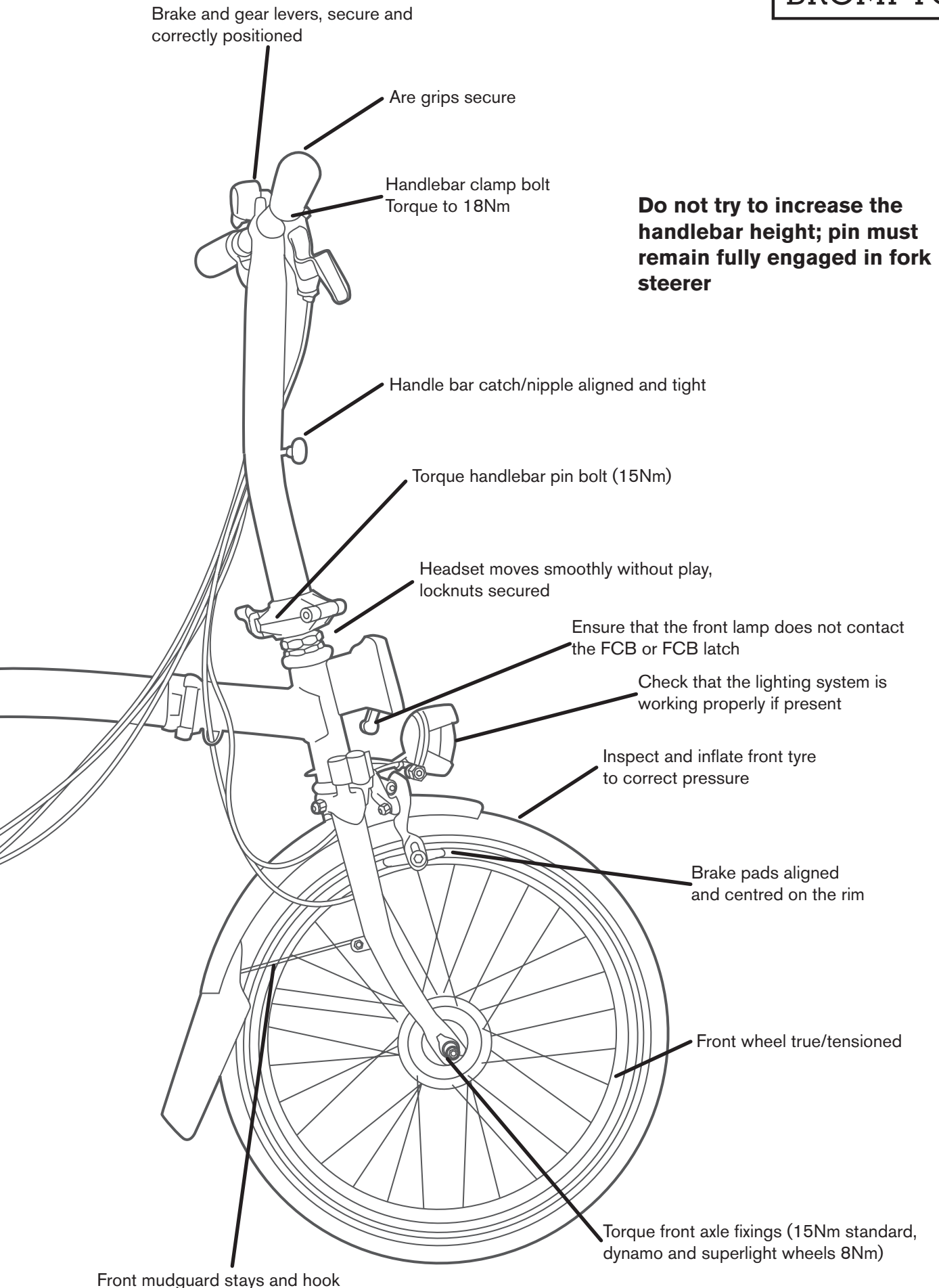
If any part of the frame is deformed, then the part will almost certainly have to be replaced: please contact us for advice.

PRE-SALE INSPECTION & BIKE SETUP

All Bromptons are dispatched factory inspected and fully assembled. You should check the features listed here, as well as a check for transit damage on each new bike. In addition, carry out the normal folding and unfolding, and check that everything moves freely, without snagging or obstruction. You may also wish to make additional checks yourself.

Use the guides on the following pages to ensure that the bike is set with the correct seatpost length and position, that the saddle height insert is fitted correctly and that the brake levers are properly adjusted for the rider.





PRE SALE INSPECTION CHECK SHEET

	Serial number:		  	
	Frame number:			
	Tool required	Item to be checked	Torque/ Pressure	Checked
UNBOXING		Unbox the bike, keep safe all the items in the upper part of the box		
		Check for transit damage (Rollers, frame tubes, Hinge clamps, paint etc.)		
		Check that the chain has not been dislodged before unfolding		
		Unfold LH Pedal before unfolding the rear frame		
		Unfold the bike, check for any obvious issues		
WHEELS	Floor pump/air compressor	Inflate front tyre to correct pressure	90-100psi	
	Floor pump/air compressor	Inflate rear tyre to correct pressure	90-100psi	
	Spoke wrench	Front wheel true/tensioned		
	Spoke wrench	Rear wheel true/tensioned		
HEX BOLTS	2.5mm hex	Check grips are secure	1.5Nm	
	2.5mm hex	Gear shifters mounting bolts are secure	0.35Nm	
	2.5mm hex + 8mm wrench	Rear mudguard or rack stays and fasteners		
	2.5mm hex	Rack - light bracket bolt secure		
	4mm hex	Brake levers, secure and correctly positioned	2Nm	
	4mm hex	Front carrier block bolts	4.5Nm	
	4mm hex	Roller wheels/Easy Wheels		
	4mm hex	Torque front wheel skewer (dynamo/superlight front hub)	8Nm	
	5mm hex	Align and secure brake pads –front	4-6Nm	
	5mm hex	Align and secure rear brake pads -rear	4-6Nm	
	5mm hex	Front brake caliper- centre on rim, secure barrel nut and cable pinch bolt	8Nm	
	5mm hex	Rear brake caliper- cable pinch bolt	8Nm	
	5mm hex	Fit saddle and Pentaclip	15Nm	
	5mm hex	Torque chainring bolts	10Nm	
	6mm hex	Handle bar catch/nipple aligned and tightened	9Nm	
	6mm hex	Torque handlebar pin bolt	16Nm	
	6mm hex	Torque handle bar clamp bolt	18Nm	
	6mm hex	Torque pedals	30Nm	
	8mm hex	Torque crank bolts	30Nm	
NUTS	8mm wrench	Hub gear cable anchorage is secure		
	8mm socket	Mudguard/rack stay bolts secure	3Nm	
	10mm wrench	Rear brake caliper- centre on rim, secure lower stop disc nut	10Nm	
	10mm wrench	Suspension Block nut- ensure bolt protrudes through nylock nut		
	10mm wrench	Seat clamp action is smooth and post secure when closed		
	15mm socket	Torque front wheel nuts (standard wheel)	12Nm	
	15mm socket	Torque rear wheel nuts (three/six speed)	18Nm	
	15mm socket	Torque rear wheel nuts (single/two speed wheel)	15Nm	
	15mm socket	Torque chain tensioner nut	5Nm	
	15/19mm wrench	Fold bike and check Lower Stop Disc for function and ensure it is tightened	8Nm	
	36mm wrench	Headset is moving smoothly without play, locknuts secured		
INSPECTION		Seatpost is clean and moves smoothly		
		Is there any play in the bottom bracket		
		Are the gears/drivetrain correctly adjusted		
		Is the pump secure on the rear frame		
		Decal (Front Frame and Main Frame) correct and undamaged		
		Serial plate correct		
		Owners manual supplied		
		Saddle height insert supplied		

PAINT SPECIFICATIONS

Listed below are the paint colour specification for the current range, as well as discontinued colours. This information should allow you to source touch up paints from local suppliers.

MY18 COLOUR RANGE

BBL Colour	Colour	LM Code	Trade Name	Specification
Black		BK	Gloss Black	RAL 9005
Grey		GY	Window Grey	RAL 7040
Racing Green		GR	Mid-Brunswick Green	BS381C-226
Ivory		IV	Gloss Ivory	BS10C-31
Red		RD	Red	RAL 3020
Turkish Green		TG	Turkish Green	RAL 6027
White		WH	Gloss White	P 9000
Orange		OR	Pure Orange	RAL 2004
Tempest Blue		TB	Steel Blue	RAL 5011
Lime Green		LG	Lime Green	SS2B7E
Berry Crush		BC	Traffic Purple	RAL 4006
Lagoon Blue		LB	NA	SQ2A5E
Raw Lacquer		RL	Clear Lacquer	OY653F
Black Lacquer		RL-BE	NA	059180953

DISCONTINUED COLOURS

BBL Colour	Colour	LM Code:	Trade Name	Specification
Cobalt Blue		BU	Dark Cobalt Blue	RAL 5013
Red (Pre 2017)		RD	Red	PGX 7332
Silver		SV	Sparkle Silver	PC 11436
Yellow		YW	Sulphur Yellow	RAL 1016
Arctic Blue		CB	Light Blue	RAL 5012
Apple Green		AG	Yellow Green	RAL 6018
Baby Pink		PK	Light Pink	RAL 3015
Kew Green		KW	May Green	RAL 6017
Flamingo Pink		FL	Rose Pink	RAL 3017
Desert Sand		DS	Sand Yellow	RAL 1002
Purple Haze		PH	Red Lilac	RAL 4001



SEATPOST SELECTION & SADDLE HEIGHT

We want to ensure that everyone who owns a Brompton has the correct saddle height and also to make it as easy as possible for dealers to achieve this. If a buyer is to get the right seatpost at the outset, it is essential that a dealer has available in stock each of the two non-standard seatpost options. This is a condition for being a Brompton dealer, and it is your responsibility to maintain a sufficient stock of all three seatposts so that you can advise the customer on the appropriate choice.

Brompton offers three seatpost lengths to ensure the correct fit:

- The standard seatpost is suitable for riders with an inside leg measurement of up to around 33"/84cm
- The extended seatpost offers a further 60mm of extension
- The telescopic seatpost offers up to 175mm extra extension compared to the standard post, with a smaller impact on the size of the folded package than the extended post

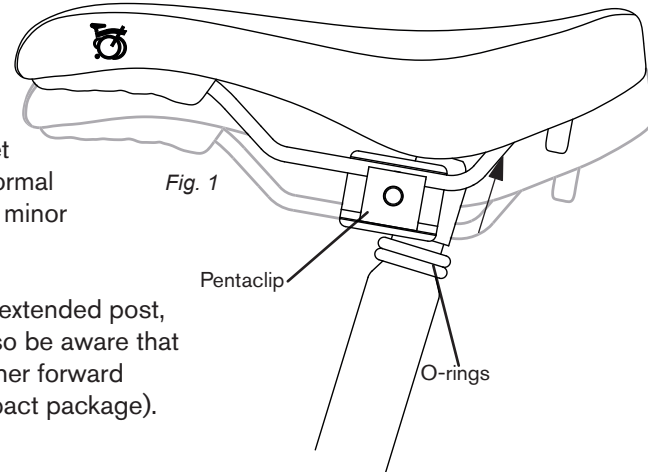
Adjust the saddle height so that when the pedal is at the bottom of the stroke and the heel of the shoe is on the pedal, your leg is straight. This means that when pedalling with the front of the foot, your leg is slightly bent at maximum extension. Small adjustments can be made by moving the position of the saddle rails in the Pentaclick (fig. 2), which gives an extra 20mm of extension. If it's not possible to raise the saddle high enough you will need to switch to either an extended or telescopic seatpost.

If this does not give enough extension you can fit the extended seatpost QSP6P, 60mm longer than the standard (and 150g heavier). This provides, at no extra cost to a buyer, sufficient height for all but the tallest few percent of users.

However, if a compact fold is vital, this solution may not be ideal, as the saddle projects outside the normal folded package.

The telescopic seatpost QSPTA provides enough height for any rider, yet allows the saddle to be folded so as to project just 20mm outside the normal folded package. The telescopic post does add extra weight (300g) and minor additional complexity.

It takes only a couple of minutes to replace a standard seatpost with an extended post, and around 5 minutes if a telescopic seatpost is involved. You should also be aware that we offer a saddle adaptor pin, which allows the saddle to be moved further forward (useful for riders who prefer less reach to the handlebar, or a more compact package).



PRICING

EXTENDED SEATPOST (QSP6P)

We make no extra charge for a bike fitted with an extended (instead of a standard) seatpost; the retail price for each when supplied separately is the same. On the trade prices for these there is a special discount such that, once you have made the outlay for stocking spare seatposts, it will cost you nothing to swap an extended post for a standard post.

TELESCOPIC SEATPOST (SPTA)

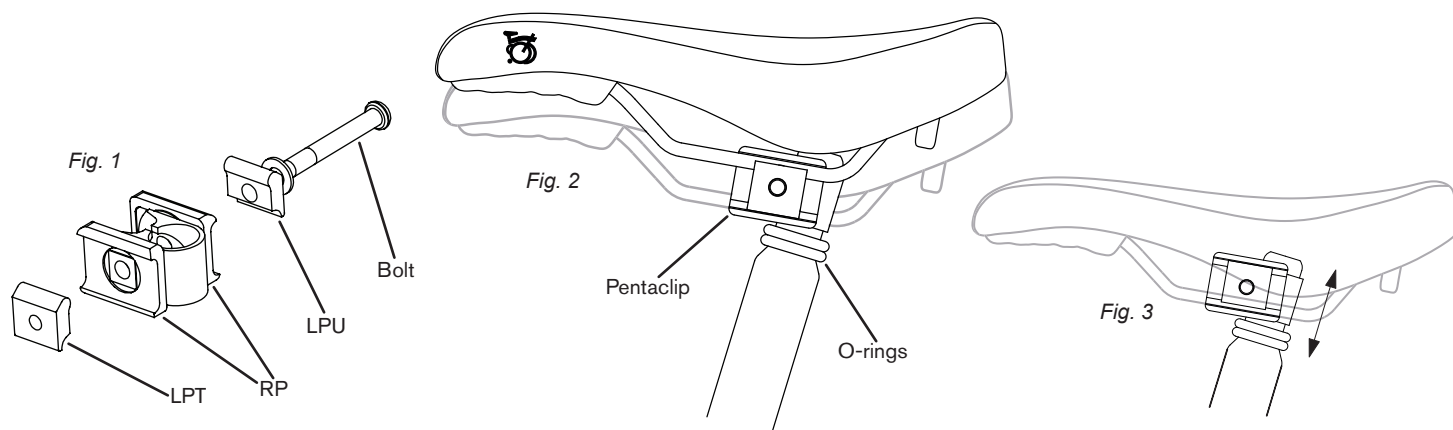
The list/retail price for this part is lower when it's supplied fitted to a new bike than when it is sold separately. If a user decides to fit a longer seatpost some time after the original sale, or to swap say an Extended for a Telescopic post, then the user should expect to pay for the part, as per the retail list, and maybe for your labour costs. The actual prices which would apply in this circumstance are given in the current price lists.

All bikes are packed with the saddle separate, so that the bike fits the box and protects the bike and saddle from damage. This also makes swapping the seatpost easier if you have to. We would strongly advise that you make sure the customer is sized for the correct seatpost option before placing a custom order to avoid the waste and expense of returning seatposts to the distributor: however, if you nonetheless wish to return such posts, a very small credit is available.

FITTING & ADJUSTING THE SADDLE POSITION

Unscrew the bolt from the threaded part LPT, ensuring you are holding the two parts RP together and slide bolt, washer and part LPU out together (fig. 1). Refit the bolt, washer and LPU.

The Pentaclip allows two saddle heights (fig. 2). In the upper position you gain about 20mm but this will make the folded bike larger. The clamp band can also be rotated to give a forward or rearward position. The lower and forward position with the saddle pushed forward on its rails gives the smallest folded package. Slide the Pentaclip onto the seatpost, positioning it about halfway up the small diameter part of the seatpost (fig.3) to ensure enough clearance from the saddle



ADJUSTING THE SADDLE POSITION

The angle and fore-aft position of the saddle can both 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. First loosen the saddle clamp bolt using a 5mm hex key until the saddle can be moved with little force. Be careful not to loosen this bolt too much as this will make adjustment more difficult.

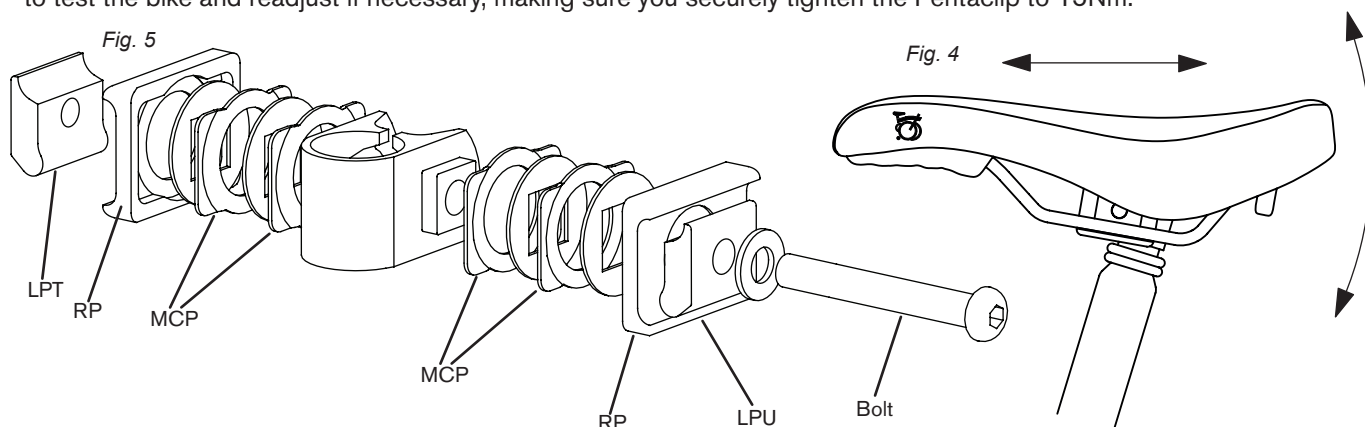
Move the saddle rails in the clamp so that they are roughly centred (half way between maximum fore and aft position). Adjust the saddle into a level position, so that the top surface of the saddle is roughly level between the front and rear edge (fig. 4). Once the saddle is in a neutral position, tighten the Pentaclip bolt to 15Nm. The customer should then test the saddle position, you can adjust it to make it more comfortable if necessary; this can also be readjusted at the 1 month service.

ANGLE

If the nose feels like its pointing up, or feels as though the back of the saddle isn't giving enough support, you can angle the saddle forward. The saddle could conversely feel like it needs tilting back a little, to give more support from the nose, or if it feels like all the riders weight is resting on the back of the saddle. Once you have adjusted the saddle, tighten the Pentaclip bolt and allow the customer to spend some time riding, readjusting if necessary.

FORE-AFT POSITION

Moving the saddle back and forth from the neutral middle position will not only affect the reach (to the handlebar) but also the position relative to the pedals. By moving the saddle back you will increase the reach to the bars and make the bike a little more stretched out. Moving the saddle forward will make the bike feel shorter and more upright. Allow the customer to test the bike and readjust if necessary, making sure you securely tighten the Pentaclip to 15Nm.



If plates do come apart the Pentaclip can be reassembled in the order shown (fig. 5). Plates MCP should be fitted with the formed 'ears' offset towards the outside of the bike (in order to engage fully with the rail-plates RP).

SADDLE HEIGHT INSERT FITTING

Once you have the correct seatpost option and saddle position for the customer you can fit the saddle height insert. This should be fitted in cases where the saddle height is too high at maximum extension. The saddle height insert will allow the customer to set the saddle at the correct height each time the bike is unfolded.

Ensure the customer is using their usual cycling shoes at this stage. Adjust the saddle to the correct height. Once the customer is happy with the saddle height, mark the seatpost with a marker pen at the top of the seat-slide tube (fig.1)

Measuring and cutting the insert

- Raise the seatpost to maximum height
- Place the insert upside down against the post (with the key pointing towards the mainframe) at the top of the seat-slide tube as shown (fig. 2) and mark the groove in the insert, closest to the pen mark on the seatpost
- Carefully cut the insert along this groove with scissors (fig. 3)

Fig. 1

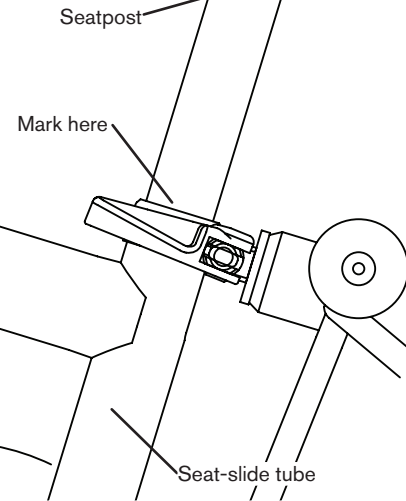


Fig. 2

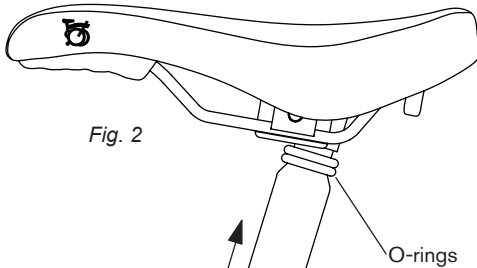


Fig. 3

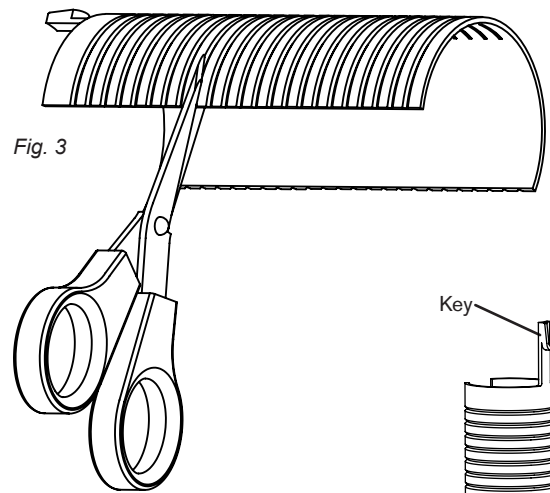
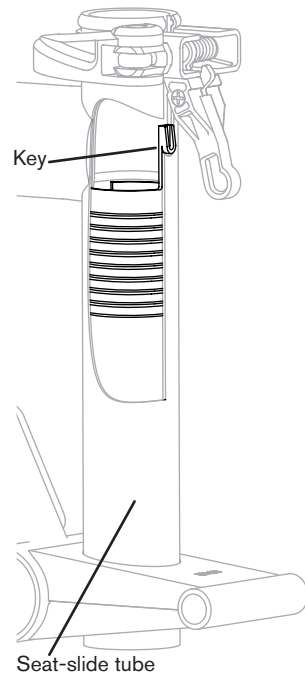
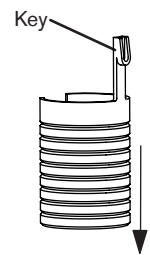


Fig. 4



Fitting the insert

- Mark the Pentaclick to show the saddle angle and position on the Pentaclick using a marker pen
- Loosen the Pentaclick with a 5mm hex key and remove the saddle and O-rings from the top of the seatpost
- Remove the seatpost by sliding it out from the underside of the frame
- On old and well used bikes clean out the inside of the seat-slide tube to remove any dirt and surface rust
- Squeeze the saddle height insert and insert it into the top of the seat-tube, aligning the key with the slot (fig. 4)
- Engage the key with the base of the slot (fig. 4)
- Refit the seatpost into the underside of the frame (fig 4), making sure the post is clean
- Refit the O-rings and saddle, align the setting marks on the Pentaclick and tighten (15Nm)
- Check the saddle height is correct at full extension, small adjustments can be made by moving the Pentaclick position up or down slightly on the post

Seatpost

Seat-slide tube

Seatpost

BRAKE LEVER SETUP

In order to achieve a comfortable and safe brake lever position, it is important to spend some time ensuring the lever is correctly installed and adjusted. Depending on hand size, you can adjust the distance of the lever from the bar; the lever can be set to be operated by one, two or three fingers. The left and right hand levers are specifically designed for their respective positions; the lever should be fitted with the clamp bolt facing upwards (fig. 1).

1. 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 and in folding the bike. When the bike is folded, the right hand brake cable housing will contact the fork leg. The lever angle should be set so that the cable housing lightly contacts the fork leg; too much contact will bend and damage the housing. For this reason, the lever blade features a kink allowing the lever blade to sit higher than the lever body. This offers a more comfortable position without affecting the cable housing path.

2. 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 you to apply maximum braking force but reduce bar grip.

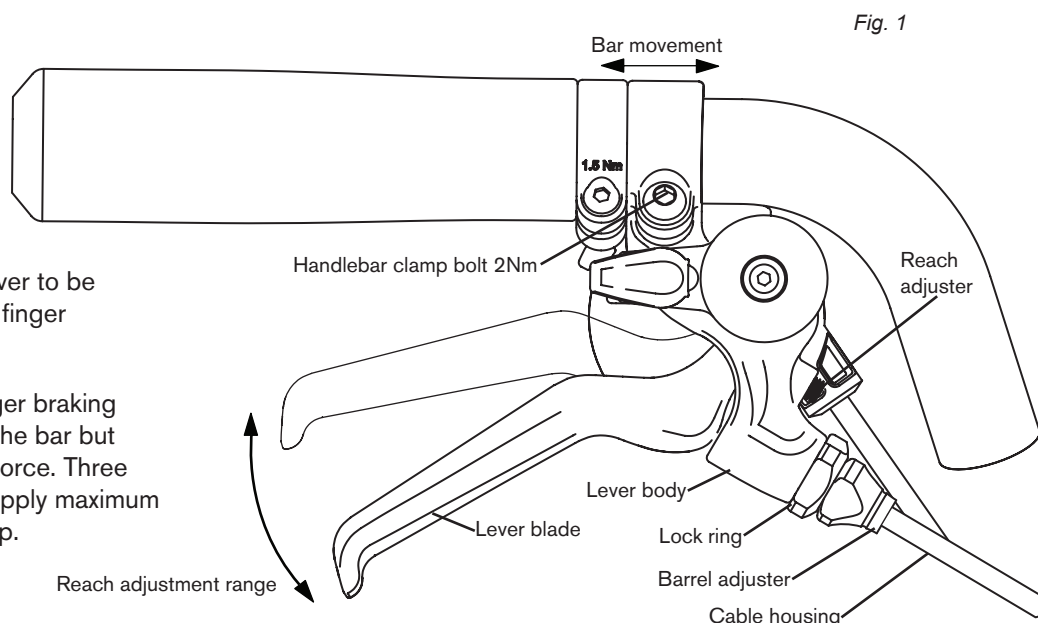


Fig. 1

3. 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 (2.5mm hex key) 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 wheel rim. 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 clamp bolt (10mm spanner) at the brake caliper 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.

4. 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 in position; this should be loosened before adjustment and tightened once the barrel adjuster is correctly positioned.

Once the lever has been correctly positioned on the bar, the clamp bolt should be tightened to a torque of 2Nm (3mm hex key).



DIAGNOSING NOISES

If a bike is creaking during use, the following notes should help you find the cause. Although we know our bikes are robust, do not discount the possibility that the noise comes from a crack developing in a component. Most creaking appears to be related to the action of putting force on the pedals.

REAR HINGE

If play has developed, it's possible that water has been able to enter the assembly and wash grease out, causing a creak. Apply oil to each side (where the two frame parts meet) and work it into the assembly by rotating the rear-frame repeatedly.

HINGES

Hinges in the main-frame and handlebar support: if the pivot spindles have lost their lubrication, these may creak when a rider pulls on the handlebars. If the creaking becomes worse when the hinge clamp loosened, then a dry pivot is likely the cause. Apply oil to the gaps between the two halves of the hinge, allow it to work in by repeatedly swinging the hinge back and forth.

PEDALS

If there is creaking when you press on the pedal, but none when you press on the crank itself, then the cause is almost certainly to do with the pedal: it may be that the pedal is not tight in the crank, in which case secure with a torque of 30Nm, or that the pedal bearing is dry, and needs oiling, or there is obvious play in the pedal bearing.

SUSPENSION BLOCK

Water can wash the grease from the fixing bolt and cause it to creak when pedalling and also when gently bouncing on the saddle. Remove the bolt and re-grease.

MUDGUARDS

Check that these are not contacting the tyre as the wheel spins

REAR HUB

Any fault here can be re-produced by pushing on either pedal with the bike stationary: if the sound is coming from in or near the rear hub (and the axle nuts are secure), then the hub is probably at fault, or else the fit of the sprockets on the driver.

CRANK BOLTS

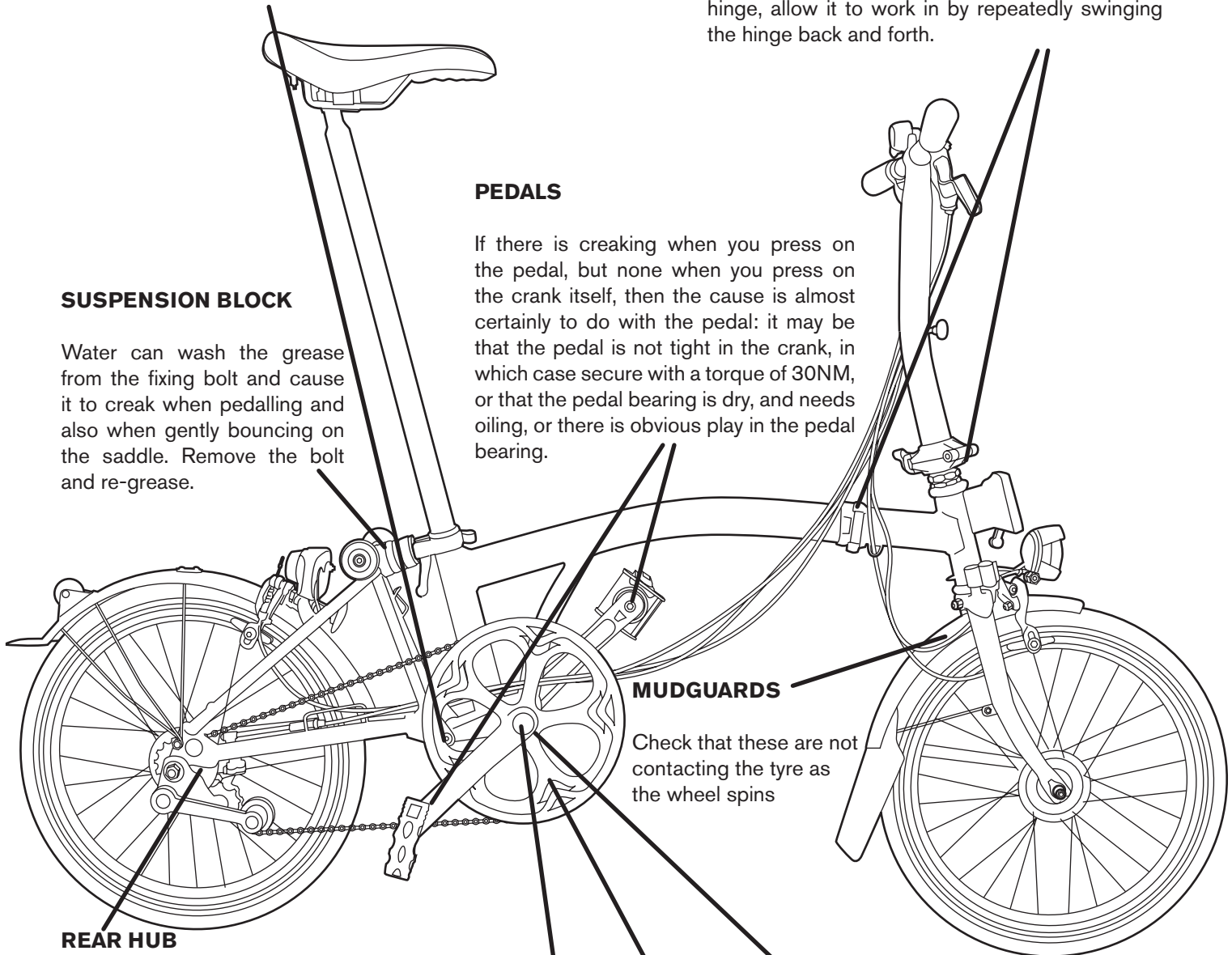
As with any square taper crank, a creak could indicate that one or both of the cranks is moving on the axle. Unless the crank has been allowed actually to get loose, tightening the crank bolt to 30Nm will cure this. If there is no creaking when you push on the crank itself, rather than a pedal, then the problem may lie with the pedal.

BOTTOM BRACKET

If play is detectable in the bottom bracket then this can be the cause of noise, especially if the creaking occurs on each pedal stroke.

CHAINRING BOLTS

Check that these are greased and tightened to 10Nm.



POSSIBLE PROBLEMS WITH WELL-USED BIKES

A Brompton will encounter the usual wear and tear in the transmission and moving parts. The following is a list of Brompton specific features which might need attention.

REAR HINGE

Initial use will cause some immediate bedding in of the rear hinge bushes, and it's possible that very slight play will be detectable. With use play will steadily increase. Once noticeable play exists, the grease may become washed away, and the rear hinge may creak: this can be cured with regular lubrication.

After extensive use the play may start to become unacceptable. If, at the rear wheel the play is around 2mm in each direction we would recommend replacing the bushes. **The rate of wear will depend on usage and environment.** This work involves cutting the new bushes to size in-situ with a special reamer which is available to purchase once the Brompton Technical Training has been completed. Alternatively you can arrange to return the bike to Brompton for repair.

To request workshop training please contact support@brompton.co.uk

REPLACING PARTS

Many components on a bike are highly stressed, and with high mileage, heavy loads or hard riding, will eventually reach the end of their design life; in particular, aluminium alloy has a limited fatigue life. Failure in use can cause injury. You should check all load-bearing parts for any signs of damage, corrosion, or cracking, and replace if necessary.

ALUMINIUM COMPONENTS

Like all lightweight machines, the Brompton features aluminium alloy parts which have a finite design life before failure; in normal use, the risk of aluminium fatigue failure is remote, even after many thousands of miles, but the risk of failure increases with use, especially with hard riding or severe loading. As such a failure could cause injury, we recommend that these items are checked regularly and that the handlebar, folding pedals, hinge clamp plates, handlebar and chainset be replaced every 5,000 miles (8,000 kilometres), or more frequently on a bike subjected to particularly hard use.

CRASH DAMAGE

If the bike has been subject to a crash or impact the rider should stop using the bike immediately and have the bike inspected by a Brompton dealer. Damaged components should be replaced before the bike is ridden again. Any deep scratches or gouges in the aluminium parts can severely weaken the component and cause premature failure of the part.

SUSPENSION BLOCK BOLT

This can squeak as it moves through the nylon bush in the rear frame, creating a sound each time the rider presses on a pedal. When this symptom is reported, the cause may of course be a loose crank axle bolt, or a worn BB cartridge, but it is equally likely to be the suspension block bolt: put a smear of grease on this bolt, under the head (see lubrication chart).

SEATPOST SLEEVE

The plastic sleeve in the seat tube is a wearing part, when worn users will find that the seat pillar slips when riding. If the seatpost is slipping or the seatpost quick release clamp nut has to be over tightened to clamp the post it could be that the sleeve is worn excessively and needs replacing. In order to check the condition of the sleeve remove the seatpost from the bike. With the bike unfolded, remove the saddle and undo the clamp on the main frame, allow the seat pillar to drop down through the main frame. If the bike is fitted with a telescopic seatpost please refer to datasheet **ds-spta** for removal instructions. Once replaced the new sleeve will need to be reamed to the correct size. This is done with a specific reamer which is available to purchase once the Brompton Technical Training has been completed. Alternatively you can arrange to return the bike to Brompton for repair. For more info contact support@brompton.co.uk

CHAIN TENSIONER

Occasionally users dismantle chain tensioners, only to re-assemble them wrongly. If you find that the swinging arm locks up when the screw at the pivot is tight, then check that the assembly has been done correctly: sometimes the washer has been omitted.

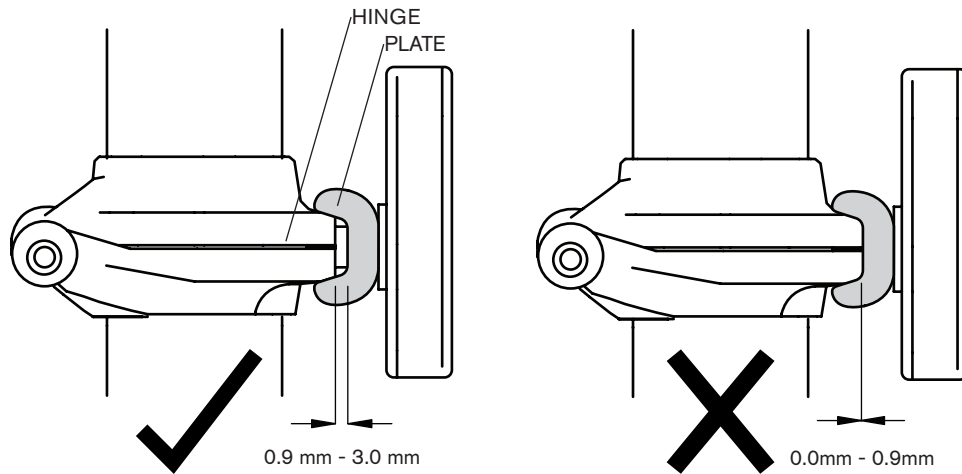
HINGE PINS

Very occasionally, play may develop at the hinge pivots: this is usually of no consequence for the handlebar support, but, if at the main-frame hinge, may result in noticeable movement for the rider, even with the hinge clamp firmly secured. An oversize pin can be fitted, but for this the pivot holes need to be reamed out to 6.1mm: if you do not have the facilities for this, the remedial work can be carried out by Brompton. It is also possible to undertake the training for this alongside the seat sleeve and rear hinge replacement training. To enquire about this please contact support@brompton.co.uk

HINGE CLAMP PLATE

If the plate is worn or damaged it could reduce the effectiveness of the hinge clamping and should be inspected regularly and replaced when needed. The gap between the hinge castings and the hinge clamp plate when the lever is tightened, on both the handlebar hinge and the mainframe hinge should measure between 0.90mm to 3.00mm. These parts should be checked regularly and replaced when necessary.

If the gap between the hinge and hinge clamp plate is less than 0.90 mm replace the hinge clamp plate. The bike should not be ridden if there is no gap between the hinge clamp plate and the hinge, until the plate is replaced.



SAFETY

The Brompton is designed for use on roads and well-made paths, carrying a maximum load not exceeding 110kg (rider and luggage weight included). A Brompton is not intended for stunts, cross-country riding or extreme sports. A Brompton should be used for its intended purpose. Misuse may lead to failure of some components and void the Brompton warranty. We do not recommend fitting a child seat or trailer to the Brompton, doing so will invalidate the Brompton warranty.

Before riding a Brompton for the first time, and periodically thereafter, close attention should be paid to the following:

- We recommend the use of an approved cycling helmet, even in countries where their use is not mandatory
- Read and follow the national legal requirements of the country where you are riding, and comply with all applicable traffic laws
- Make sure the wheel rims are clean and undamaged along the braking surface, and check for excess rim wear. If you doubt the safety of your rims, have them inspected by an authorised Brompton dealer
- Check brakes, tyres and steering regularly
- Keep brakes and gears properly adjusted and operating cables in good condition
- In rain, the brakes may be less effective and roads more slippery so brake sooner
- Check that all wheel nuts are properly tightened (see torque table, page 13)
- 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, wear reflective clothing and use lights (front and rear); check to ensure that your lights comply with local laws



Before or after each ride, close attention should be paid to the following:

- Ensure that the quick release seatpost clamp is secured and the saddle is at the correct height
- The hinge clamps are in place, with levers firmly tightened
- During folding and unfolding, as well as during use and maintenance, avoid putting your hands or fingers anywhere they may be caught or trapped
- Ensure the bike is correctly folded or unfolded to avoid possible injury
- On an S Type, do not use the T Bag, C Bag or Folding Basket (which may interfere with steering)
- On a P Type, remember you have no brakes to hand when using the lower grips
- Never try to alter the height of the handlebar stem where it enters the front forks

WARNING

Many components on a bike are highly stressed, and with high mileage, heavy loads or hard riding, will eventually reach the end of their design life; in particular, aluminium alloy has a limited fatigue life. Failure in use can cause injury. Owners should check all load-bearing parts for any signs of damage, corrosion, or cracking, and replace if necessary.

The bike must not be subject to any modification, repair or replacement other than as authorised by Brompton Bicycle Ltd. The bike must be serviced by an authorised Brompton Dealer.

If the bike has been subject to a crash or impact the owner should stop using the bike immediately and have the bike inspected by a Brompton dealer. Damaged components should be replaced before the bike is ridden again. Any deep scratches or gouges in the aluminium parts can severely weaken the component and cause premature failure of the part.

Note: We recommend that genuine Brompton parts are used for safety-critical components.

Before handing over the customers Brompton, please instruct them to read the owner's manual, noting the sections on safety and folding in particular. While this manual is intended as a guide, it is not a comprehensive guide to cycling or bicycle maintenance.

It is advisable for owner's to register their bike in the My Brompton section of our website to record the details of the bike; that way, if your bike is stolen or we have any need to contact the customer, we will have a record to refer to. They will be asked to enter the serial and frame numbers: the serial number is located on a plate at the back of the main frame; the frame number is stamped on the main frame near the bottom bracket. The information remains on the Brompton database and will not be passed on to third parties <https://www.brompton.com/login>

We recommend having a Brompton inspected and serviced by a Brompton dealer regularly.

CARRYING & WHEELING THE FOLDED BIKE

- Owners are responsible for assessing the way they use the bike at all times, and should ensure that they take due care of their safety and welfare when riding, moving or carrying their bike
- Brompton accept no responsibility for any injury caused when lifting and handling a folded bike
- A Brompton bike weighs between 9 and 14kg, depending on the equipment fitted
- Luggage fitted to the front carrier block can also weigh up to 10kg
- Owners must take due consideration of the weight of their bike and any luggage they plan to lift or carry, and balance this against their particular physical capabilities; the circumstances i.e. route, under-foot conditions etc, must also be considered before each lift and/or carry of the bike and luggage
- Owners should always remove luggage from their folded bike so they do not attempt to lift or carry the combined weight of the bike and luggage
- When it is no longer possible to ride the Brompton, inside a train station for example, it should first be pushed as far as possible, then folded and rolled on the rear rollers before carrying it for the shortest distance
- It is recommended that the folded bike is carried one-handed, most comfortably with a straight arm and the bike to the side. The bike should be held either by the saddle, or the main frame below the saddle, whichever is most suitable
- If it is necessary to carry the bike for any distance, then it may be appropriate to swap the bike between each hand at suitable intervals
- Carrying the folded bike two-handed is only advisable over a very short distance, as it can only be done by holding the bike at chest/stomach level in order to avoid knocking legs or knees against the bike; this requires both arms to be bent with an approx 90degree bend, which will place extra strain on the arms

The small rollers fitted as standard on a Brompton are useful for pushing the folded bike into tight spaces. Using the raised handlebar as a handle, the folded bike may also be pulled around on these rollers, though this only works over short distances on a smooth surface. The seatpost should be raised slightly from the fully-down position so that it does not hinder the bike from rolling along, but not so high that the bike unfolds. The folded bike is not designed to be used as a stool, it should not be sat upon when folded.

SPECIAL CHECKS WHEN SERVICING BROMPTONS

Before handing a Brompton back to a customer after a service we recommend that you check the following features that are specific to a Brompton. Things can go wrong through the owner's misuse, or through the poor maintenance work of another party, or simply because of normal wear and tear. A customer will always be appreciative when their bike is returned in good working order.

With practice it only takes a few moments to run through the check routine.

Lower stop disc

When you pick the folded bike up, does the rear frame drop away slightly (i.e. more than 2 - 3 mm)? Or when you fold the bike, does the seat pillar touch irritatingly against the lower stop disc? Adjust the stop to suit.

Brompton Derailleur

Check that the derailleur shifts smoothly and adjust if needed. If adjustment fails to improve things, check for wear on idler wheel and/or the "chain pusher plate", and replace if needed.

Chain tensioner

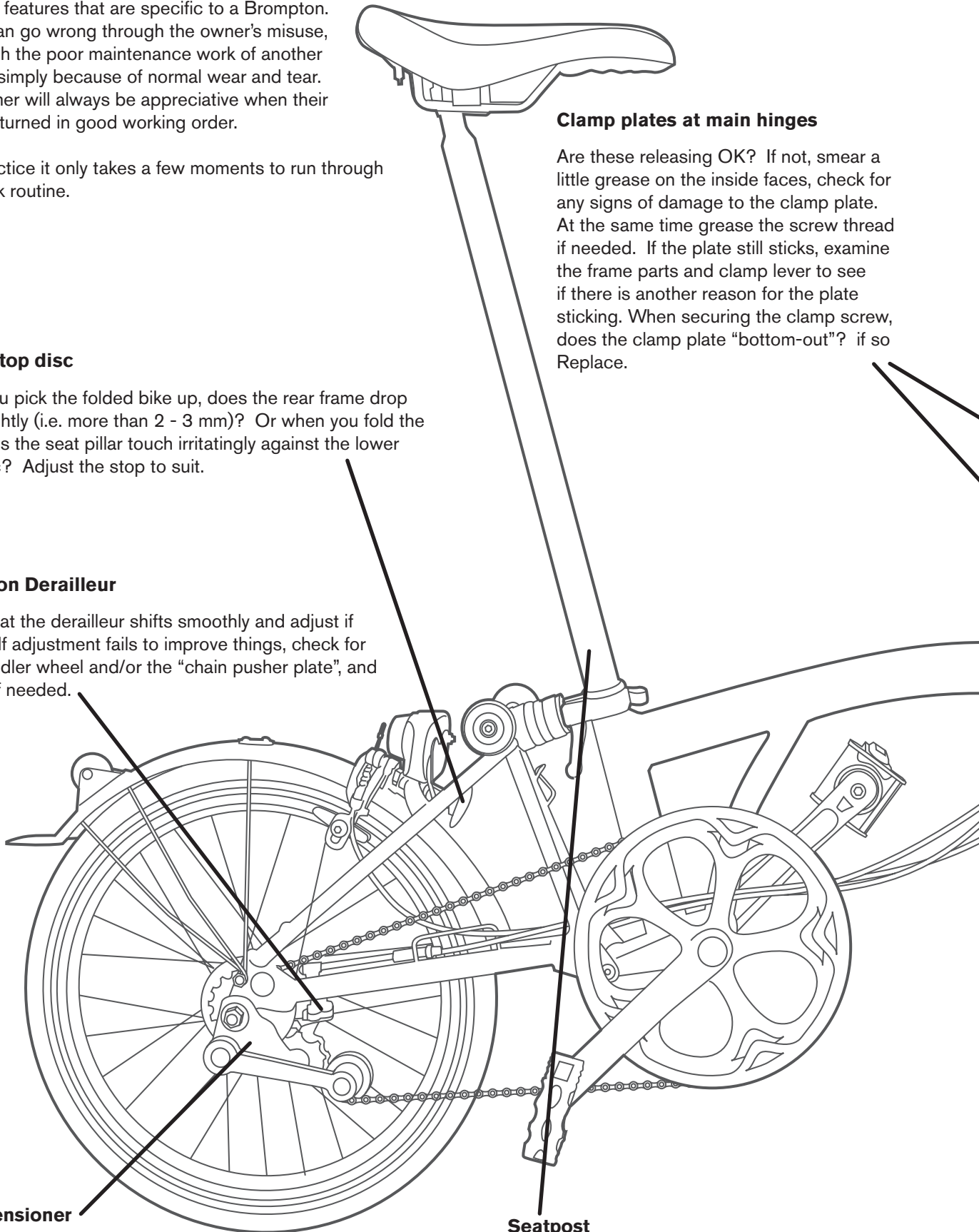
Park the bike, and move the moving arm against the spring force. If there are any tight spots, strip the tensioner and refurbish, or fit a complete new tensioner. Check for in-and-out play: the centre bolt (at the pivot) may be loose, if so tighten (but do not overtighten). If, on tightening this screw, the arm locks up, then the chain tensioner needs dismantling: the washer inside is probably missing.

Clamp plates at main hinges

Are these releasing OK? If not, smear a little grease on the inside faces, check for any signs of damage to the clamp plate. At the same time grease the screw thread if needed. If the plate still sticks, examine the frame parts and clamp lever to see if there is another reason for the plate sticking. When securing the clamp screw, does the clamp plate "bottom-out"? if so Replace.

Seatpost

Saddle adequately secured against rotation? Sliding up and down OK? QR clamp moving smoothly and freely? It's fine to lubricate the quick release mechanism, but never let oil onto the seat pillar itself. Is the QR clamp correctly adjusted?



Fold and unfold the bike

Everything should work smoothly, the cables should not snag and the bike should hold together when lifted.

BROMPTON

Handlebar alignment

Is this correct when unfolded? Does it also lie reasonably parallel to the front wheel when folded? When adjusting the handlebar alignment loosen the bolt 3-4 turns and strike the head of the bolt with a hammer (to release the expander) when you have set the handlebar position the fixing bolt should be tightened to 16Nm. Overtightening this bolt can cause damage to the fork steerer.

Cables

Are these correctly routed? All cables must pass to the left of the handlebar support and to the right of the main tube. Have cable outers of the wrong length been fitted? Are the brakes operating smoothly? If not, fit new cables, as these can transform the feel of any bike. Are the gears working correctly and the controls correctly set?

Handlebar catch

If this is not holding the folded handlebar support it might need adjusting, or replacing (or effect temporary repair by twisting the handlebar nipple slightly). Remember, the problem may also lie with control-levers and/or cables fouling against wheel and/or fork-blade when folded.

Hook function

Has the wire form that the hook attaches to been bent "up" so as not to hook positively over the chainstay? Bend back or replace as required.

Does the hook release easily from the chainstay on unfolding? Check that the chainwheel is not too far offset: if that's OK, then bend the hook (or the wire form mudguard stay near the hook) as required.

On earlier models, is the hook is formed from the wire form stay with a black PVC sleeve, if this is damaged it could need



TORQUE SETTINGS

The table below lists the various torque values for the fixings on the bike. when adjusting or refitting parts ensure you use the correct torque. Always use an appropriate calibrated torque wrench. If you have any questions, please contact support@brompton.co.uk

Part name	Torque Nm
1-2 speed wheel nuts	15
3-6 speed wheel nuts	18
Brake lever bolts	2
Chain tensioner nut	5
Chainring bolts	10
Crank bolts	30
Dynamo/super light front wheel	8
Front carrier block fixing bolts	4.5
Front wheel hook fixing bolt	3.5
Handle bar support expander bolt	16
Handlebar catch clip bolt	9
Handlebar clamp bolt	18
Lower stop disc lock nut	8
Brake caliper barrel nut	10
Brake (caliper) cable clamp bolt	8
Pedals	30
Pentaclip	15
Rear hinge bolts*	10
Rear rack stay bolts	3

***When replacing the rear hinge bolts apply medium strength threadlocking compound to the threads and countersunk head of the bolt. Do not check or adjust the torque of bolts in situ, this will disturb the threadlock and make the bolt likely to come undone.**

WARRANTY REPORTING

Our bikes are covered by a 5 year warranty on frame parts and a 2 year warranty on components and accessories. If you wish to make a warranty claim please visit the report page on the trade platform <https://trade.brompton.com/Login.aspx>

If you are reporting an issue with a bike or components supplied with a bike please include the bikes frame or serial number. The online form will also allow you to upload images of the faulty component and any other relevant information.

Additional information, warranty terms, support videos and datasheets can be found at <https://trade.brompton.com/Login.aspx>

If you have any other queries please contact support@brompton.co.uk



GEARING

Gearing table	1st	2nd	3rd	4th	5th	6th
6 speed std	33.0" 2.63m	40.5" 3.23m	51.5" 4.11m	63.5" 5.06m	81" 6.45m	99.5" 7.94m
6 speed -12%	29.0" 2.31m	35.6" 2.84m	45.3" 3.62m	55.9" 4.45m	71.3" 5.68m	87.6" 6.98m
6 speed +8%	35.6" 2.84m	43.7" 3.49m	55.6" 4.44m	68.6" 5.46m	87.5" 6.97m	107.5" 8.57m
3 speed std	47.9" 3.82m	63.8" 5.09m	84.9" 6.78m			
3 speed -12%	42.1" 3.36m	56.2" 4.48m	74.7" 5.96m			
3 speed -18%	39.1" 3.12m	52.2" 4.16m	69.4" 5.54m			
3 speed +8%	51.7" 4.13m	69.0" 5.50m	91.7" 7.32m			
2 speed std	56.0" 4.47m	74.7" 5.96m				
2 speed -7%	51.9" 4.14m	69.2" 5.52m				
2 speed -19%	45.7" 3.64m	60.9" 4.86m				
1 speed std	74.7" 5.96m					
1 speed -7%	69.2" 5.52m					
1 speed -19%	60.9" 4.86m					

A Brompton 16" wheel has a rim diameter of 14.25" and, with a tyre fitted, the outside diameter of the wheel is up to 17". However, the wheel is known as a nominal 16" diameter as there is an expected deformation of the tyre in use. Obviously, the tyre pressure, weight of the rider and tyre manufacturing characteristic will change the effective size of the wheel in use and, for the purposes of our gear calculations, we use an effective diameter of 16.6" (421mm). If we consider a standard Brompton 3 speed bicycle, then the following summarises the calculations that give the published gearing for the bike.

Wheel diameter 16.6" (421mm, or 0.421m)

Gear Ratio 50t chainring/13t rear sprocket = 3.846:1.0

Hub Gear Ratios 1st = 0.75:1.0 2nd = 1.0:1.0 3rd. = 1.33:1.0

Gearing in Inches (= effective diameter of fixed crank system, or Penny-Farthing style front wheel)

1st Gear = 16.6" x 3.846 x 0.75 = 47.88"
 2nd Gear = 16.6" x 3.846 x 1.0 = 63.84"
 3rd Gear = 16.6" x 3.846 x 1.33 = 84.91"

Gearing in Metres (= the distance travelled for one revolution of the cranks)

1st Gear = (0.421m x 3.142) x 3.846 x 0.75 = 3.82m
 2nd Gear = (0.421m x 3.142) x 3.846 x 1.0 = 5.09m
 3rd Gear = (0.421m x 3.142) x 3.846 x 1.33 = 6.77m

Standard Gearing Configurations:

1 speed bike	Front Chainring = 54t Rear Sprocket = 12t	2 speed bike	Front Chainring = 54t Rear Sprockets = 12t & 16t
3 speed bike (BSR Hub)	Front Chainring = 50t Rear Sprockets = 13t	6 speed bike (BWR Hub)	Front Chainring = 50t Rear Sprockets = 13t & 16t

BSR Hub Ratios: 1st = 0.75:1.0 2nd = 1.0:1.0 3rd. = 1.33:1.0 (BSR= Brompton Standard Ratio)

BWR Hub Ratios: 1st = 0.64:1.0 2nd = 1.0:1.0 3rd. = 1.57:1.0 (BWR= Brompton Wide Ratio)

In addition to the standard gearing options, we offer alternative Chainrings, which change the complete range of gears on the bike by the % indicated:

1 & 2 Speed bikes: 50t chainring (-7%) or 44t chainring (-19%)
 3 & 6 Speed bikes: 54t chainring (+8%) or 44t chainring (-12%)



GEARING & SPEED

Gearing on a bicycle should not be confused with the speed of the bike, although the gearing will have an effect on the speed that the bike can achieve. The major influence on the speed of the bike is the input from the rider and the number of pedal revolutions per minute (the 'cadence') that rider is happy to cycle at.

So, the higher the cadence, the faster the speed of the bike, in any one gear.

Equally, one rider with a high cadence (say 90rpm) will travel faster in, say, 2nd gear, than another rider with a low cadence (say 60rpm), riding in 3rd gear.

Most riders have a cadence of 60-80 rpm, whereas racing cyclists have a range of 80-120rpm and sprinters can achieve up to 170 rpm for short bursts. Knowing your cadence allows you to establish the distance you should travel per hour, e.g. a constant cadence of 60rpm in a gear of 6.77m would give a total of 24.37km (15.23miles) travelled in an hour.

CHAIN LENGTH

It is essential that this is correct. The chart below shows the number of links needed for different chainwheel and sprocket combinations available from Brompton.

Chainring	One rear sprocket		Two rear sprockets	
54t	12t or 13t	100L	16t/12t, 16t/13t or 15t/13t	102L
50t	12t or 13t	98L	16t/12t, 16t/13t or 15t/13t	100L
48t	13t	98L		
46t	13t	96L		
44t	12t, 13t, 14t	96L	16t/12t, 16t/13t or 15t/13t	98L

All bikes produced since December 2011 use the narrow (3/32") chain, older bikes may use a wider (1/8") chain.

- Use 3/32" chain when both chainring and sprocket(s) are 3/32"
- 1/8" chains should be used with 1/8" sprockets and chainwheels
- It is highly recommended that sprockets are replaced when fitting a new chain

REAR SPROCKETS AND SPACERS

The correct stack of spacers, chain-guide-disc, etc. must be used to suit the hub, and sprocket thickness. All the parts in the stack should be free of dirt on assembly (as well as the hub driver itself). If not:

- The sprocket (if it is too far out) could end up not properly engaged with the splines
- The chainline may be wrong
- The circlip holding the stack in place may not be able to close up fully, and this can result in fouling on the chain tensioner. The gap should not exceed 5mm (fig. 2)
- If the stack is not thick enough, the circlip will fail to clamp the parts firmly together, and there may be play

The diagram opposite (fig. 1) shows how parts should be assembled onto the driver of a rear hub. Permissible stacks are also shown on the following page.

- SA means Sturmey Archer
- 2.6mm thick 13T sprockets are no longer available. Please order a full 13T sprocket stack instead (QSPRSTACK-SA3-13, or QRSPRSTACK-SR3-13). Please see spares parts price list
- Dimensions shown indicate the contribution to stack-height
- Spacers can only be purchased as part of a sprocket stack. Please see spares parts price list

When fitting a sprocket with a 'flanged' base, the protruding flange should face the hub (fig. 3)

All sprocket stacks are fixed in place with the circlip QRSPRCLIP (this included with all sprocket set Qparts) when fitted it is vital that the circlip is properly engaged into the groove in the diver body. In order to ensure that the circlip is properly engaged measure the gap between the two ends of the circlip ring this should be less than 5mm (fig. 2)

Fig. 1

For SA 3 speed steel shell (pre-2004),
& early 5 speed S5/2

For SA 3 speed alloy shell, 5* and Sprinter

For BWR 6 speed or Brompton 2 speed

For BWR 3 speed, Brompton 1 speed

Fig. 2

Less than 5mm

Fig. 3

Flange

Fit to hub-driver this way

TABLE OF VALID STACKS

Each part in this table is only compatible with other parts in the same row, the parts supplied in this kit are highlighted.

Components should be assembled in order from left to right, with the circlip fitted after the sprocket stack.

Single Sprocket

Hub	Dust cap or Combined cap/disc	Guide disc	Spacer	Sprocket	Spacer
SA-3, SA-5, S5/2 steel shell	0.5mm SA stan- dard cap	0.9mm alu standard disc	2.2mm, or 1.2+0.9mm	3.1mm QRSPR13DR (13t) or QRSPR14DR (14t) (Fit with flange step facing inwards) OR 3.0mm QRSPR13 (13t) or QRSPR14 (14t) (no step flanges)	None
	2.1mm nylon disc SA QCHGD-SA		1.5mm for steel shell 3 speed		
SA 5* and Sprinter steel shell	0.5mm SA dished cap	0.7mm alu dished disc	0.9mm		
SA 3 alloy shell	2.1mm nylon cap/disc SA QCH- GD-SA		None		
Brompton 1 speed	0.85mm Nylon cap/disc, 9-spline QCHGD-BB		2.0mm	3.1mm QRSPR13DR-SHMNO (12t) or QRSPR13DR-SHMNO (13t)	2.0mm
Brompton BWR 3 speed					

Twin sprocket (2 and 6 speed bikes)

Hub	Combined cap/disc	Inner sprocket	Spacer	Outer sprocket
Brompton (2 speed)	0.85mm nylon cap/ disc, 9-spline QCHGD-BB	1.8mm QRSPR16DR-SHM- NO	2.2mm	3.1mm QRSPR12DR-SHMNO
Brompton BWR (6 speed)				3.1mm QRSPR13DR-SHMNO



RECOMMENDED SPARES FOR OWNERS TRAVELLING ABROAD

Some customers may want to know which parts they should have if they plan to use a Brompton where spares aren't locally available. The list is a guide only, and does not cover all eventualities.

Choose parts which are appropriate to the model in question, e.g. Sturmey Archer derailleur or non-derailleur.

Small parts, essential to enable the bike to be ridden and used

- Rear sprocket/s
- Suspension block
- Chain tensioner
- Chain tensioner nut
- Gear indicator chain (for bikes with hub gear)
- Gear cables
- Brake cables
- Hinge clamp assembly QHCA
- Spokes
- Inner tubes

Small parts, essential for satisfactory folding

- Handlebar Catch QHBCA
- Hook QHOOKA
- Lower stop disc QLSDA
- Rear rollers

Small parts, non-essential (either because they can probably be sourced locally, or because the bike remains useable without them)

- Rimtape
- Chain
- Brake pads
- Rear rack roller

Bulky

- Tyres

1992

Chain Tensioner Assembly - Screw holding the jockey wheels decreased in size from 6 to 5mm - no parts available for old CTA. (Note: very early bikes (1980-81) had CTAs with aluminium arms: there are no spares available).

August

Rear Carrier - Cast aluminium rear rack on T Types introduced to replace brazed tubular steel rack. Current rear mud guard needs modification if for fitting to steel carrier.

September

Handlebar Stem - Diameter increased from 32 to 35mm. Fully interchangeable.

1993

April

Headset Diameter increased from 1" to 1 1/8". (changed front forks, handlebar stem and front frame).

1994

April

Cranks - Previously straight, now offset 5mm. Axle length decreased from 125 to 121 mm. New axles/Cranks fitted to old bottom brackets will be 1 mm offset.

June

SA 5-speed Hub - Changeover from SA 5-Star to Sprinter (single cable) hubs. Sprinter internals will screw into 5-Star hubs, but wheel rim needs to be dished 3mm towards drive side. Requires new trigger and cable.

Rear-frame Main Rollers - Frame and rollers altered such that new rollers will fit old frames; old rollers will not fit new frames

October

Brakes - Changed from Sachs to Saccon. Saccon stamped with name. New cables are 26mm longer with fer rule at calliper end - cut to fit older calipers.

1995

Bottom Bracket - FAG cartridge introduced. Fits post April 1994 frames and cranksets. Axle length now 119mm.

April

Dynamo - Soubitez replaced by Union.

June

Handlebars - Changed from 15/16" with central two-slot ferrule, to one-piece 7/8" design. New bars use the same grips and brake levers, but not the old gear trigger. Old bars can take current SA Sprinter 5-speed trigger, but not current 3-speed trigger.

1995 (Continued.)

October

Front Forks - Changed to lighter CrMo design. Fully interchangeable.

1996

Front Hub - Introduction of new alloy hub - shorter axle, forks now sprung in slightly, spokes 1/16" shorter; 15mm AF nuts; stamped 'KEYIN'

August

Dynamo - Temporary change from Union to JOS dynamos

December

Dynamo - Change from JOS to Axa dynamo. Clearance to tyre not to exceed 2 - 3mm. when in the off position.

Rims - Change from polished to anodised alloy rims.

1997

June

Front Hub - New alloy hub, from Assess - unmarked, and more concave than previously.

November

Mudguards - Temporary change to plain silver round-profile mudguards and non-standard stays. When ordering replacements for these, new stays are needed too.

1998

February

Rims - Change from anodised to mill finish (natural) alloy rims.

May

Mudguards - Change back to original profile mudguards.

1999

September

Rear Carrier - Stay carrying the dyno-bracket: now bolted onto carrier platform, not riveted, to allow easy change.

November

Dynamo Bracket - Angle changed to give contact point higher on tyre than formerly (in preparation for introduction of Brompton tyres with higher dynamo strip). Rear mudguard now with cut-out to accommodate the raised dynamo roller.

2000

March

Mk 3 models introduced (notes regarding compatibility of new componentry with earlier Mk 2 bikes follow on another sheet). All models incorporate new design of lower stop disc, and of the special rear brake nut.

C Type with no mudguards added to range (using different BB cartridge, 127mm, to suit steel chain ring).

L Types and T Types now with:

- rear mud-flap fitted to all rear mudguards, using slightly shorter blade to accommodate these
- stainless fittings and screws on all mudguards
- stainless spokes
- folding LH pedal fitted as standard
- new brake system: apart from new levers and calipers, brake cable lengths, ferrules and terminating nipples also changed
- tyres: Brompton high-pressure tyres fitted as standard
- new HP pump fitted (on L Type only later, Jan 2001)
- 44T Chainwheel fitted as standard on 5-speeds, instead of 50T
- T Type lighting, new Basta lamps: halogen front lamp and 6-LED rear lamp, and revised dynamo loom to suit (which feeds THROUGH the cable gatherer).

-L Type (& C Type) lighting option: battery lighting set (which doesn't affect folding) introduced.

May

SA 5-speed Sprinter hub: "ball-locking" introduced: new shorter indicator chain for this, with blue (rather than red) mark. New internals compatible with earlier Sprinter hubshells.

June

Hinges on handlebar support: new automatic jointing method introduced, using cast hinges instead of forged: earlier parts with forged hinges not compatible with new.

2001

April

Sturmey Archer geared hubs discontinued. SRAM 3-spd hubs introduced, specially made for Brompton. Axle-plates/dropouts on rear frame are different for the two types. New chain tensioner introduced (compatible with all earlier bikes).

2002

April

Brompton 2-sprocket derailleur system introduced, fitted to the special Sram 3-spd to give 6-speed bikes (not possible to convert earlier Sturmey hubs).

May

Nylon Hook - New moulded design, using front mudguard stay to new design. Compatible with all earlier models except 5-speeds (if a new stay/hook assy is needed for a 5-speed, spares of the earlier type are available).

August

Chainwheel - Start of phasing out of earlier types with 2.7mm width at teeth. New standard has teeth 2.15mm wide, and will fit both the 3/32" chain used on derailleur types, as well as the 1/8" chain used on single-sprocket bikes.

December

Seat Sleeve phased in. A key projecting from the sleeve engages with a slot in the frame, providing stability, and easier replacement if needed. Spares kit has two sleeves, one to suit earlier models.

2003

May

Axa HR traction dynamo introduced for T Types: can be fitted to all earlier bikes, though the mudguard cut-out has to be enlarged (for the larger diam. roller) on bikes made between Sept 1999 and May 2003).

June

Handlebar Catch design introduced. If fitted as a spare, a new nipple (supplied as part of the spares kit) has to be fitted also, screwed further onto stud.

July

Front-carrier Frame Lighter assembly than the earlier steel design, using nylon mouldings and ali tubes. Compatible with all previously supplied front carrier blocks.

2004

January

Long Wheel Base - A new main hinge design automatically brazed rather than hand-brazed, and longer main frame. All cables for LWB bikes are longer than for earlier (SWB) types. An SWB front frame cannot be used with a LWB main frame, and vice-versa.

August

DWLOOM introduced, without earth eyelets for dyno connection, to suit Axa HR dyno (eyelet extensions packed as standard for QDWLOOM to allow use with IQ dyno)

2004 (Continued.)

B Bag introduced (bag with semi-rigid base, castors and strap, to fully enclose bike - for those travelling with their bike or otherwise wishing to protect it).

September

Pump-peg-forward simpler wire form incorporated to locate fwd end of HP pump.

2005

January

Brompton trigger for 3-spd hub-gears, with "Y-lever". For both Sram & Sturmey. Sturmey Archer 3-spd, alloy shell & NIG (no in-between-gear positions). To replace Sram hub on 3-spd models.

Universal Rear-frame to suit all rear-hubs, with special tab-washers respectively to suit Sturmey and Sram 3-speed axles.

Machined Alloy Rims provide true braking surface, with tell-tale wear-line groove.

May

S Type & P Type models with new bar shape and stem. New (adjustable) brake levers to suit, and new cable lengths.

2-spd rear free-hub for weight-saving gearing in not-so-hilly areas. Also allows 1-speed version. Large 54T chainwheel, new 12T & 16T special sprockets, and longer chain.

Superlight Frame with Titanium front-forks and rear-frame, alloy headset, Titanium mudguard-stays.

Other weight-saving: titanium seat-post and titanium folding-pedal bolt. Also Stelvio narrow section tyres.

fizik Vitesse Saddle for more sporty look and feel.

Brompton Pentaclip allows stepless adjustment of rail-saddles on a standard 7/8" seatposts.

SON Hub-dynamo system, with switched front lamp.

Other items: Stelvio tyres, Eazy-wheels, all lighting choices available on any model, new front batlam (Herrmanns "Blenda"), S-bag.

2007

March

R Bag (or Racksack), purpose-made holdall for rear-carrier.

July

Seat-clamp Quick Release redesign, lighter with improved styling: fully compatible

2007 (Continued.)

August

Rear Frame Clip stops the rear-frame falling away when in "latch-mode". Can only be used if a bike has the new seat-clamp-QR, & also a new bolt for the suspension block.

2008

February

Left-hand Crank Arm for Folding Pedal: the left-hand crank now made with a protrusion on the back to prevent the folding pedal from over-rotating and scratching the mainframe when folded.

Brake Caliper brakes now feature [Fibrax] pads housed in aluminium shoes, rather than the single brake blocks found on our old brakes, making replacing pads easier.

April

Spokes - Double-butt 14 SWG [Sapim] spokes and alloy nipples (instead of plain-gauge 13 SWG (Ø2.3mm) spokes and brass nipples), introduced on the 1/2-speed wheel yielding an 80g weight-saving per bike.

Suspension - A foamed polyurethane block in place of the solid synthetic rubber block, giving a better, less "bouncy", ride; also lighter and with greater abrasion resistance.

June

Brake Clevis - New design is simpler and stronger than the previous design.

September

Dual Compound Tyre giving superior grip when cornering, all Brompton tyres feature dual compound construction.

2009

January

Wide-Range Hub - The BWR (together with Brompton's derailleur system) set a new standard in folding bike gearing systems: a gear range (302%) that matches those of the leading 8-speed hubs, using a single epicclic gear train to maximise efficiency, weighing (0.94kg) almost half as much as other hub gears, with even steps between gears, in a small package that fits into a Brompton, is robust and built to last.

Suspension Block - A stiffer version released for heavier riders and those who prefer a firmer ride.

Superlight Front Wheel - Featuring double butted spokes and a lightweight sealed hub, included in the Super light package for 2009.

Aluminium RH pedal in place of the black plastic RH pedal, offering greater robustness.



2009 (Continued.)

Aluminium RH pedal in place of the black plastic RH pedal, offering greater robustness.

Saddles - The old PU and Vitesse saddles discontinued, replaced by a much-improved Brompton saddle; the alternative being a Brooks B17 special saddle.

Satin Finish - All paint finishes switched to satin to offer higher consistency in terms of quality, reduce the number of rejected frame parts, eventually remove the need to undercoat the frames and lend the bikes what we feel is a more modern look.

Colour Range - Silver, Ivory, Tempest Blue and Kew Green discontinued; White, Desert Sand and Purple Haze introduced.

Luggage - A rain-resistant cover provided FOC with all front luggage options, except Basket.

March

C Bag - Replacement for the Cloth Pannier: a more modern design, featuring a comfortable and stowable shoulder strap and a practical 'courier bag' style flap closure; the general quality is also improved with better materials and finish.

May

S Type bar length - The length of the handlebar on the S Type was increased by adding 2.5cm to each side. This resulted in a slightly wider grip, ensuring enhanced stability and comfort.

2010

January

Tyres - The existing four options were reduced to three: Brompton Kevlar, Schwalbe Marathon and Schwalbe Kojak (the Kojaks replace the discontinued Stelvio).

Dynamo Lighting - The existing tyre dynamo removed from sale, replaced with two hub-dynamo options:

1. Shimano Hub Dynamo (adapted for Brompton) with a Busch & Muller halogen front lamp.

2. Son Hub Dynamo (as previously offered) with the powerful Busch & Muller LED lamp, with stand light.

S Bag - Remodelled along the lines of the C Bag; with a removable flap. C/w waterproof cover & strap.

T Bag - The successor to our much loved Touring Pannier; it incorporates a more modern design, improved materials and finish. C/w waterproof cover & strap.

A Bag - NEW for 2010. Our attaché case is handmade in the finest traditions of artisanal leatherwork, has a dedicated space for a laptop. C/w waterproof cover & strap.

2010 (Continued.)

O Bag - NEW for 2010. Ortlieb, the most respected name in waterproof cycle luggage, has created a bag for use exclusively with the Brompton front luggage system. The only piece of luggage not to come supplied with a waterproof cover.

2011

October

Right-hand Crank arm - The machining around the pedal threads was changed from a counter bore to a flat machined face.

December

Chain & Sprockets - All bicycles fitted with 3/32" chains featuring removable chain links (PowerLinks). This change has most impact on 3-speed bicycles. 3/32" chains were already fitted on 1, 2 and 6speed bikes (although this was the first time they feature PowerLinks). New 3/32"-compatible sprockets (13T or 14T - depending on gear ratio) fitted to 3speed bicycles. Using PowerLinks on all bikes allows easy chain installation and removal.

2012

January

Mini O Bag - Our second collaboration with Ortlieb. Significantly smaller than the rest of Brompton's luggage range, it is the perfect size for carrying smaller items, in a secure way that offers less wind resistance.

H Type handlebar - Developed in response to requests from taller riders and from those wanting a markedly more upright riding position. The height of the grips from the ground is raised by 60mm compared to the classic M Type; forward reach to the grips from the saddle increases by around 13mm.

Folding pedal - The new version of the folding pedal, with improved ergonomics, grip and durability introduced. Lighter and easier to install thanks to the revised pedal bolt, featuring both 6 and 8mm hex fittings.

Non Folding Pedal - Revised aluminium cage to better match the new folding pedal, offering improved grip and durability.

2013

January

Shimano Dynamo Lighting - Now fitted with a Busch & Müller 'Lyt B' LED lamp instead of a halogen lamp.

Handlebar Grips - M Type & S Type changed to a more neutral 'straight-taper' shape and all grips changed to black colour.

Brompton Kevlar Tyres - Changed to all black tread, rather than the previous grey/black.

Rims - All wheels are now built with double-wall Brompton rims.

Brake Levers - A new lever with improved ergonomics and performance was introduced, featuring a full aluminium construction.

Crankset - Featuring a removable chainring, with a conventional 130mm BCD spider, allowing easier chainring replacement.

2014

June

Game Bag - Developed in collaboration with British luggage maker Chapman Bags. Handmade in North West England, each bag is made from high-grade, premium cotton canvas, providing robust construction and a high level of water resistance.

2015

January

Saddle Height Insert - Supplied with all production bikes, once fitted for the rider, sets the desired height of the seatpost each time the bike is unfolded.

Colour Range - Six new colours introduced to the range; three 'brights': Berry Crush, Lagoon Blue, Lime Green and three 'classics' Vanilla, Cherry Blossom, Tempest Blue. The new colours will join Black, White, Red, Orange, Racing Green and Turkish Green to make a range of 13 colours (inc. Raw Lacquer). Eight colours removed from the range: Yellow, Sage Green, Claret, Cobalt Blue, Desert Sand, Hot Pink, Apple Green, Arctic Blue.

Decals - A white decal was introduced for the five Bright colours (plus Black), whilst the silver decal is fitted to the Classic coloured frames (plus White). Raw Lacquer bikes continue to have a black decal. There is no longer a separate Superlight decal.

May

Cable pulley assembly - Updated shape of the housing, sprocket and fitting. Now uses a 13mm outer fitting instead of barrel adjuster type fitting.

June

Black Edition Brake Pads - Now supplied with black housing. The pad surface is asymmetric to follow the contour of the rim.

August

Rear hinge spindle - Now completely hollow, rather than having a blind hole on each end.

September

New rollers introduced - The old conical shaped ones are discontinued and the eazy wheels are now sold as spare parts only.

November

New Superlight Front Wheel introduced to superlight model. The hub features a larger diameter flange and is radial laced with double butted spokes. Identifiable from the older superlight wheel with the two silver bearing end caps. The wheel is 102g lighter than a standard wheel.

2016

February

New Standard Saddle introduced with a fitting for the Cateye Rapid Mini, saddle mounted light. The "ready" Brompton logo is now located on the rear right hand part of the saddle edge. Limited numbers of this saddle may have had silver rails but going forward, the standard for this product will be black rails.

May

Bike box packaging updated. The Brompton bike box now comes with a cardboard insert that fits around the suspension block and under the roller wheels.

July

New rack design introduced to allow better access to the brake cable pinch bolt on the rear calliper and to be more robust. Black and silver versions of the rack available.

New titanium Fork - With thicker dropouts. A new black (105mm) bolt will have to be used instead of the older, silver (102mm) bolt.

August

Chain Pusher Wing Plate - The new wing plate has a slot cut all the way through the back, middle section to allow easier fitting. Fillet in the left hand wing to identify the correct side, viewed from the top.

October

Cateye Rapid Mini Saddle Lamp - USB rechargeable lamp introduced that is compatible with all Brompton standard saddles from bikes built from Feb 2016.

167 mm wide saddle Wider saddle introduced to give riders more options to suit their riding style and their body.

New M Type and H Type Handlebars and handlebar supports - The revised bar gives more space for the new lock on grips and underbar shifter. Lower rise bars and correspondingly longer handlebar supports improve the stiffness of the assembly.

Underbar gear shifters - attach to the compatible brake levers on model year 17 bikes. See conversion charts on the trade platform for compatibility and retrofitting.

Lock on Grips introduced - Fitted to H, M or S type bikes. P type continues to be fitted with a standard foam grip.

Bell now mounted to the brake lever. The lever must be a model year 17 brake lever with the mount on lever body.

New Colours - New Red (RAL 3020) and Grey (RAL 7040) introduced for the model year 17 bikes. New Red mainframes will use a white decal, Grey uses a black decal.

Discontinued Colours - Cherry Blossom, White and Red (RAL 3001) at the start of MY17, though they will be available as finishes on spare frame parts. Orange will not be available as part of the standard range for MY17, but is available (mainframe only) on Black edition bikes.

Titanium rear frame - Some weld removed from inner edge of the tabs at both the hinge and dropouts. To reduce weight with no effect on stiffness, durability or ride quality.

2016 (Continued.)

Telescopic seat post - Revised to remove the gluing operation previously required to attach the sleeve, also removes the need to use the key and bolt to hold the clamp band in place.

Seat post bung - The new design does not require an allen key to fit or remove. The bung is also a lower profile allowing the fold of extended and telescopic post to be more compact.

November

Telescopic seat post assembly has been introduced to remove the gluing operation previously required to attach the sleeve to the seat post. This new design also removes the need to use the key and bolt to hold the clamp band in place.

2017

January

Brompton Gloves - 4 different designs of T-shirt in Male and Female versions have been developed to expand the accessory range Brompton offers. There are four sizes: S, M, L, XL.

February

Rear Battery Light - We are no longer able to ship rear battery lights with the alkaline battery fitted. This applies to rear battery lights fitted to bikes, as well as those sold as Qparts.

March

Cambridge Satchels available in three colours; Cambridge Blue, Pembroke Blue and oxblood. The bag has a detachable strap and co-branded dust bag. The bag is not 100% colourfast when wet and would need a protective waterproofing spray applied.

April

Plastic, Transparent Shim from Suspension Block removed from production bikes.

SRAM has made a change to all PC10 chains along with PowerLink 7SPD and SS1 beginning November 1, 2016. PowerLink 7SPD and SS1 shipped after this date are not backwards compatible with older version chains; all 7SPD and SS1 PowerLinks installed must be confirmed compatible with the chain based on production codes.

October

New Brake Caliper and pads - Allows the same caliper to be used for the front and rear brake. One peice pads are curved to match the rim profile with toe in feature and improved performance.

2018

Marathon Racer - New tyre introduced in place of the Brompton Kevlar tyre.

Grips - New textured rubber lock on grip introduced for standard bikes. Foam lock on grip used on Superlight bikes only.



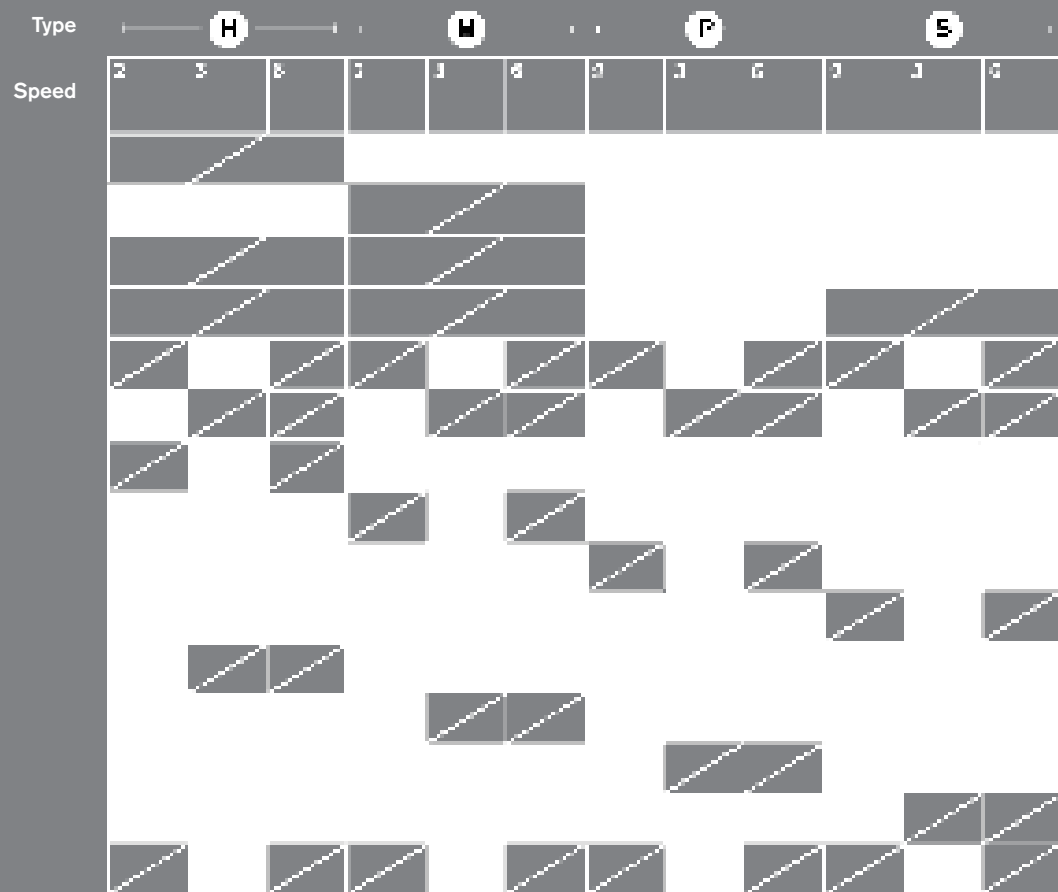
UPGRADING TO UNDERBAR GEAR SHIFTERS

This chart shows the components needed to upgrade from the over bar shifters to the integrated underbar gear shifters

-For **H and M Type bikes with the M/H type [1] Handlebar** (high rise version) 903700 the handlebar stem and handlebar MUST be changed as per the below chart

-For **P and S Type** bikes the same handlebar can be used

Part	Item	Part Number
Handlebar Stem	Handlebar Stem - M Type [1] - M/H - 1040G 25.4/31.8/40.6	9000000
	Handlebar Stem - M Type [1] - M/H - 1240G 25.4/31.8/40.6	9000000
Handlebar	Handlebar - M Type [1] - Low rise version (Standard) (20" - 7'4")	9000000
Grips	Grip - 1/2" x 7/8" x 1/4" - 1/4" - 1/4" (1/4" x 1/4" x 1/4")	9000000
Shifters	10 Speed Shifter with integrated brake lever (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Shifter with integrated brake lever (10 Speed) (1/4" x 1/4" x 1/4")	9000000
Gear Cables (9017 - 1)	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
	10 Speed Cable - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000
Cable Flange	10 Speed Cable Flange - 10 Speed (10 Speed) (1/4" x 1/4" x 1/4")	9000000



Conversion Guide

		mm
mm	1 mm = 1000 µm	1000 µm
	1 mm = 1000 microns	1000 microns
	1000 µm = 1 mm	1000 µm
mm to cm	1 mm = 0.1 cm	0.1 cm
	10 mm = 1 cm	1 cm
	1 cm = 10 mm	10 mm
	100 mm = 1 m	1 m
	1 m = 1000 mm	1000 mm
cm to mm	1 cm = 10 mm	10 mm
	10 cm = 100 mm	100 mm
	100 cm = 1 m	1 m
m to mm	1 m = 1000 mm	1000 mm
	10 m = 10000 mm	10000 mm
	100 m = 100000 mm	100000 mm
1 mm = 10 ⁻³ m		10 ⁻³ m
1 m = 10 ³ mm		10 ³ mm
1 cm = 10 ⁻² m		10 ⁻² m
1 m = 100 cm		100 cm
1000 mm = 1 m		1 m

1000 microns = 1 mm
1000 µm = 1 mm
1000 microns = 1 mm



1 mm = 1000 µm	1000 µm
1 mm = 1000 microns	1000 microns
1000 µm = 1 mm	1000 µm
1 mm = 0.1 cm	0.1 cm
10 mm = 1 cm	1 cm
1 cm = 10 mm	10 mm
100 mm = 1 m	1 m
1 m = 1000 mm	1000 mm
1 cm = 10 mm	10 mm
10 cm = 100 mm	100 mm
100 cm = 1 m	1 m
1 m = 1000 mm	1000 mm
1 mm = 10 ⁻³ m	10 ⁻³ m
1 m = 10 ³ mm	10 ³ mm
1 cm = 10 ⁻² m	10 ⁻² m
1 m = 100 cm	100 cm
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1 mm = 1000 µm	1000 µm
1 mm = 1000 microns	1000 microns
1000 µm = 1 mm	1000 µm
1 mm = 0.1 cm	0.1 cm
10 mm = 1 cm	1 cm
1 cm = 10 mm	10 mm
100 mm = 1 m	1 m
1 m = 1000 mm	1000 mm
1 cm = 10 mm	10 mm
10 cm = 100 mm	100 mm
100 cm = 1 m	1 m
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1 mm = 10 ⁻³ m	10 ⁻³ m
1 m = 10 ³ mm	10 ³ mm
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1 m = 100 cm	100 cm
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1 mm = 1000 µm	1000 µm
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1 cm = 10 mm	10 mm
100 mm = 1 m	1 m
1 m = 1000 mm	1000 mm

1 mm = 10⁻³ m
1 m = 10³ mm
1 cm = 10⁻² m
1 m = 100 cm

1000 mm = 1 m
1000 microns = 1 mm
1000 µm = 1 mm

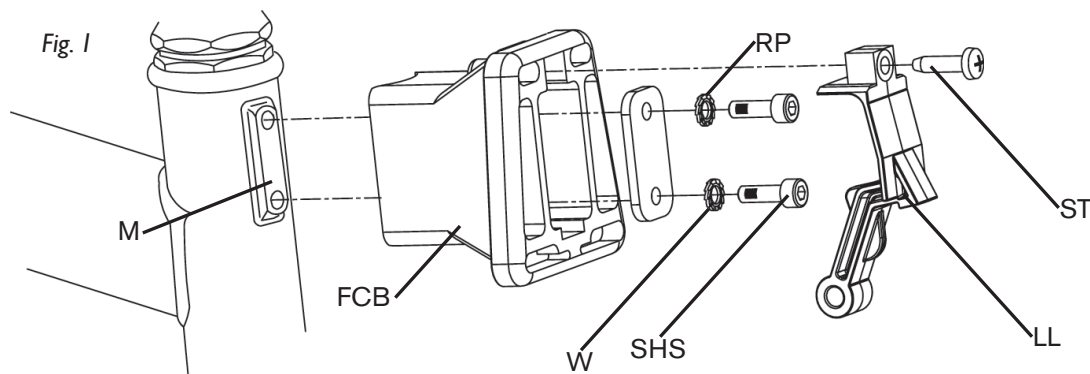
TECHNICAL DATASHEETS



FRONT CARRIER BLOCK

IMPORTANT INFORMATION

- Check that you have all the parts shown in the diagram (fig. 1, Brompton part QFCBA 9030002)
- If fitting for the first time, remove the two set screws in the brazed-on mounting block M on the front of the headtube; older bikes use a black nylon screw with slot, newer bikes a steel screw with 2.5mm hex drive
- It is vital that you do not omit either of the serrated washers W when fitting the retaining plate RP and that the correct torque is used on the screws SHS
- The blue patch on the screw is there to lock the screws in place; do not tamper with, remove or expose this patch to moisture as the locking action will be greatly reduced
- The screws should not be re-fitted after the initial installation; the blue patch will not function correctly
- The screws should be replaced with Brompton part QFCB-BOLTS or two M5x16 socket head cap screw, Class 12.9 DIN 912 with medium strength threadlock applied to the threads before installation



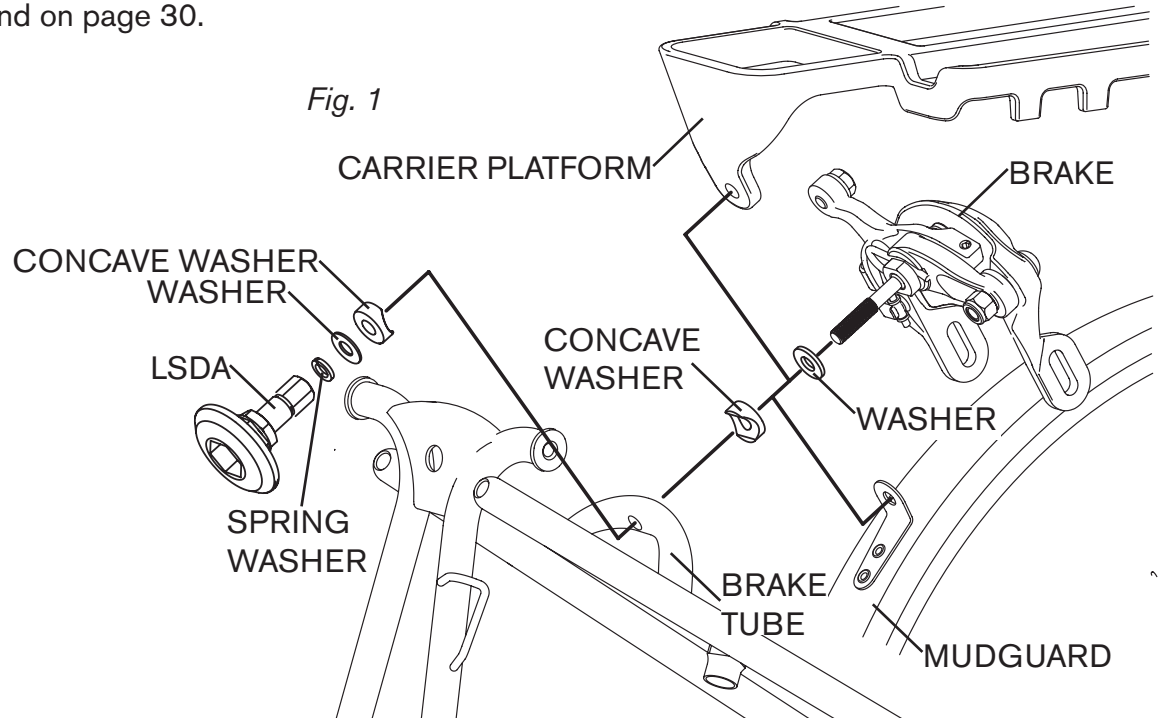
FITTING INSTRUCTIONS

You need a 4mm hex-key and a Posidriv screw-driver. Assemble the retaining plate RP and one of the M5 socket head screws SHS, together with its star-washer W into the body of the carrier block FCB. Address this to the head tube on the bicycle the correct way up as shown.

- Insert the first screw by two to three turns, do not tighten fully
- Insert and do up the second screw with star-washer W
- Finally tighten both screws firmly to a Torque of 4.5Nm
- Feed the bottom end of the latch lever LL through the hole in the base of the carrier block FCB and then, holding the bottom of the latch lever, position the top of the latch lever inside the carrier block
- Feed the self-tapping screw ST through the hole in the latch lever and secure firmly into the carrier block
- The screw ST must be fully screwed home so the latch is properly locked in place, if not it will be ineffective and luggage may fall off, which is dangerous

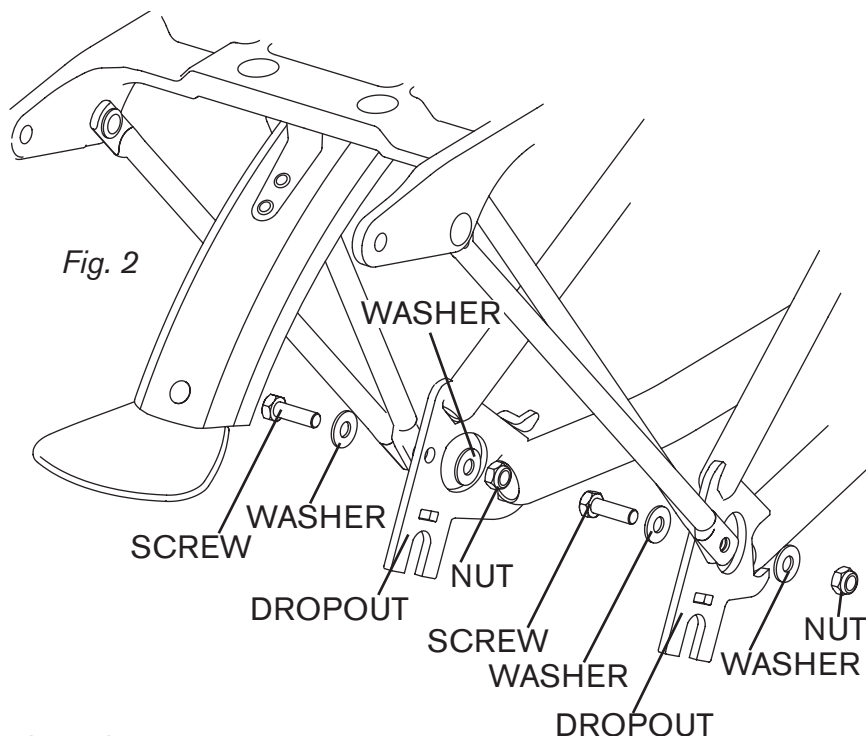
REAR CARRIER PLATFORM

The rear carrier platform mounts to the rear frame in two points, the brake tube (fig. 1) and the dropouts (fig. 2). The rear mudguard mounts to the rack (fig 1, 3) in two positions. Before starting it is worth removing the rear wheel from the bike in order to make it easier to fit or remove the rack, information on this can be found on page 30.



FITTING THE REAR CARRIER

Fit the parts as shown (fig. 1) ensuring that all components are assembled in the correct order and tighten the LSDA to 10Nm.

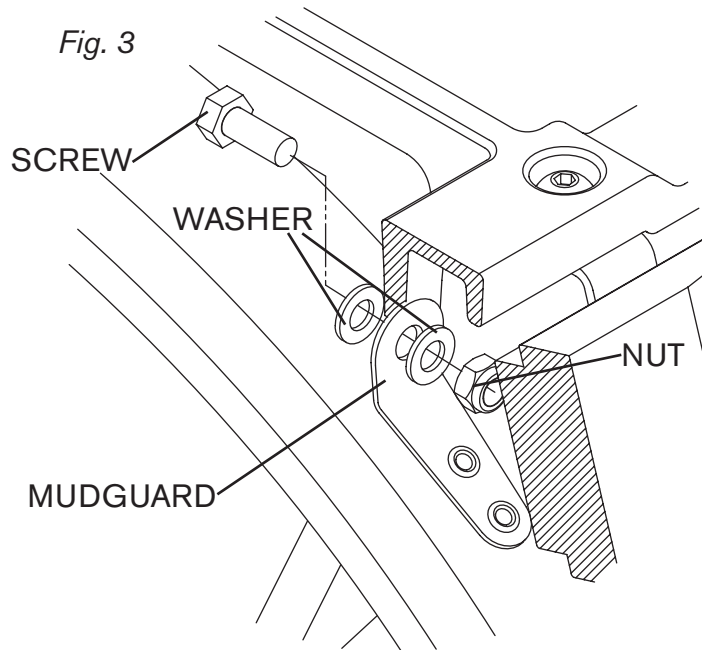


MOUNTING THE STAYS

The carrier stays mount to the dropout plates of the rear frame (fig. 2) with two M5x16 screws (A2-70 stainless DIN933) and along with a pair of washers and a Nyloc nut per side. It is important to ensure they are fitted in the correct orientation as shown, with the right hand (driveside) screw-head being on the inside of the dropout plate and the left hand (non-driveside) screw head in the opposite orientation on the outside. The mounting screws should be tightened to 3Nm.

MUDGUARD REAR MOUNTING POINT

The mudguard mounts to the rack in two positions, the forward mount at the brake/rear frame interface, as well as another mounting point at the rear of the rack. The mudguard should be attached to this point by an M5x12 screw, two M5 washers and M5 Nyloc nut as shown (fig. 3), tightened to 3Nm. Take care when tightening the nut to ensure the mudguard does not twist and stays aligned with the rack.



WARNING

The maximum load of the front carrier block is 10kg, the maximum load of the rear rack is 10kg. Do not exceed the maximum load for the front and rear luggage or modify the rear rack, front carrier block or front luggage frame. Ensure that when carrying luggage you do not exceed the maximum load for the bicycle (including luggage and rider) of 110Kg. The fixings of the front carrier block and rear rack should be checked regularly. The front carrier block and rear rack are not suitable for mounting of a child seat. Do not attempt to carry luggage anywhere else on the bicycle. The bike and rear rack are not designed to pull a trailer.

When the luggage carriers are loaded the bicycle may behave differently, steering and braking may be affected. Luggage should be loaded evenly.

Before riding ensure that the front bag, front carrier block, rear rack and rear bag are secure and there are no loose straps or items of luggage that could get caught in the wheels of the bicycle.

Ensure that any luggage fitted does not obscure the reflectors and any lighting fitted to the bike.

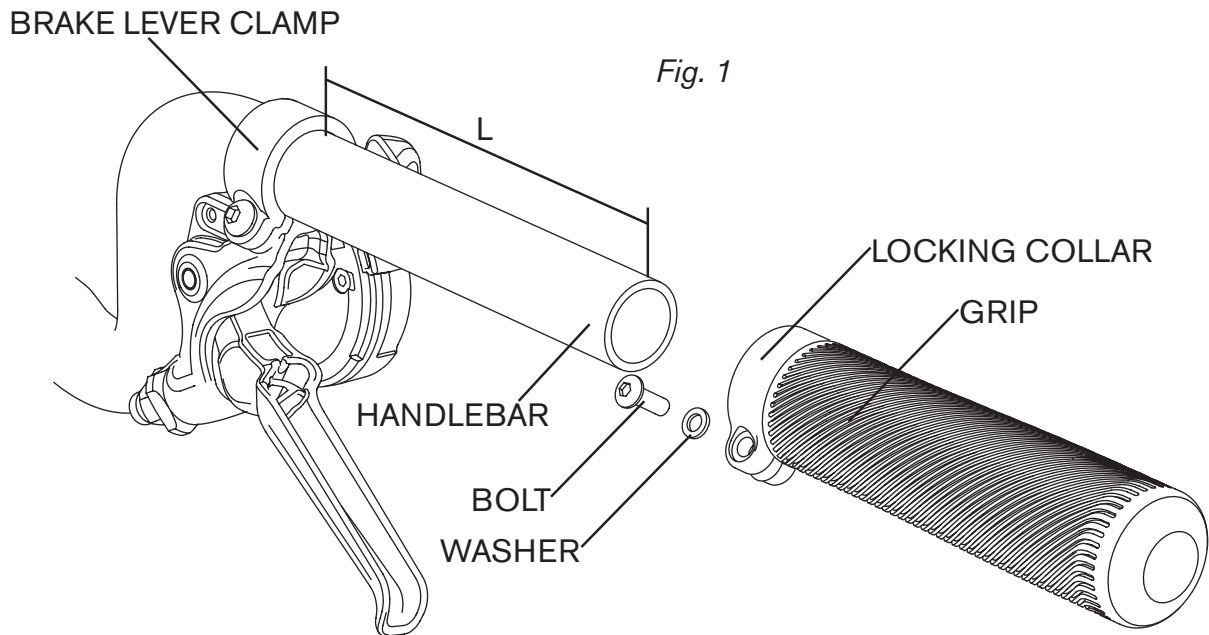
This luggage carrier is only compatible with a Brompton bicycle and Brompton luggage & luggage frames. This luggage carrier is not compatible with a Brompton Electric bicycle or Brompton Electric luggage. The Brompton rear rack and rear luggage are only compatible with Brompton bikes. Only luggage carriers and luggage manufactured or distributed by Brompton Bicycle Ltd should be used with the Brompton bike.



BROMPTON LOCK ON GRIPS

FEATURES

- Fitted to all M, H & S-Type bikes from 2017 onwards
- Easy to fit and remove with a 2.5mm hex key
- From 42g a pair for the superlight version and 102g a pair for the standard version
- No glue required
- Lightweight foam version used on Superlight bikes from MY18
- Textured rubber version used on standard bikes for MY18



FITTING

Before fitting make sure the handlebar is clean and dry and that it is free from damage. Check that there is enough length (L) on the handlebar (fig. 1) for the grip to fully engage, without the locking collar bottoming out on the brake lever clamp.

The grips are left and right hand specific and should be fitted as shown (fig. 1) with the clamp bolt head adjacent to the brake lever clamp bolt. The clamp bolt should be tightened to **1.5Nm**. Ensure that the grips are properly installed and cannot twist or slide on the bar before using the bike.

The grips can easily be removed by loosening the clamp bolt and sliding off the handlebar.

These grips are only compatible with S-Type handlebars, and M/H-Type bars from 2017 onwards.

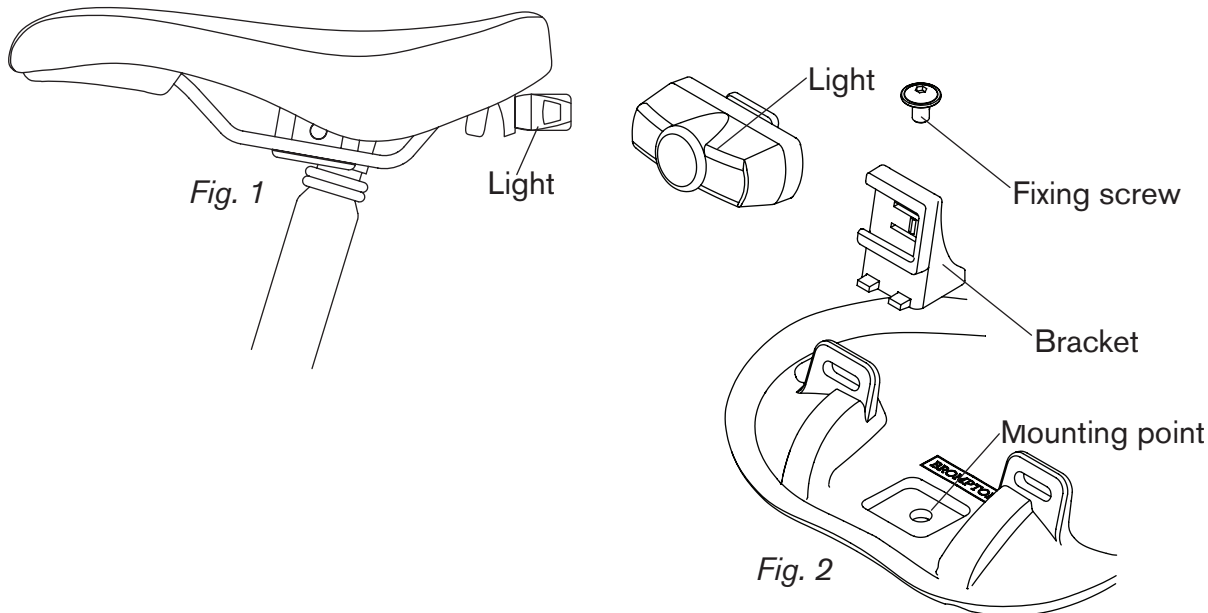
NOT COMPATIBLE WITH PRE-2017 M/H-TYPE HANDLEBARS OR P-TYPE HANDLEBARS



CATEYE RAPID MINI SADDLE-MOUNTED LIGHT

IMPORTANT INFORMATION

- Before using the bike, make sure the light is firmly secured to the bracket and functions properly
- This product is water-resistant and can be used in the rain, do not submerge in water
- If the light becomes dirty, clean with a soft cloth and mild detergent
- Aggressive solvents and detergents will damage the product
- Batteries should be disposed of in accordance with local regulations
- Charging and lighting times are approximate and will vary with environmental conditions and usage
- The battery is shipped with a small charge and needs to be fully charged before use



FITTING THE LIGHT TO THE SADDLE

The Rapid Mini light fits to a bracket, mounted to the rear underside of the saddle (fig. 1). The mounting point (fig. 2) was introduced onto the Brompton saddle midway through 2016, saddles produced before this time do not have the mount and are not compatible with the Rapid Mini light.

The bracket should be fitted to the saddle as shown (fig. 2) with the fixing screw tightened to **4Nm**. The light can then be inserted into the bracket, there should be an audible 'click' when the light is fully engaged.

HOW TO USE

Press and hold the power button to turn the light ON or OFF.

To change modes press the power button. The light has four modes: Constant, Flash, Rapid & Pulse, giving 3, 30 20 and 5 hours run time respectively.

When the battery is running low the light will automatically switch to the flashing mode and the power button will also flash, when this happens charge the light.

CHARGING

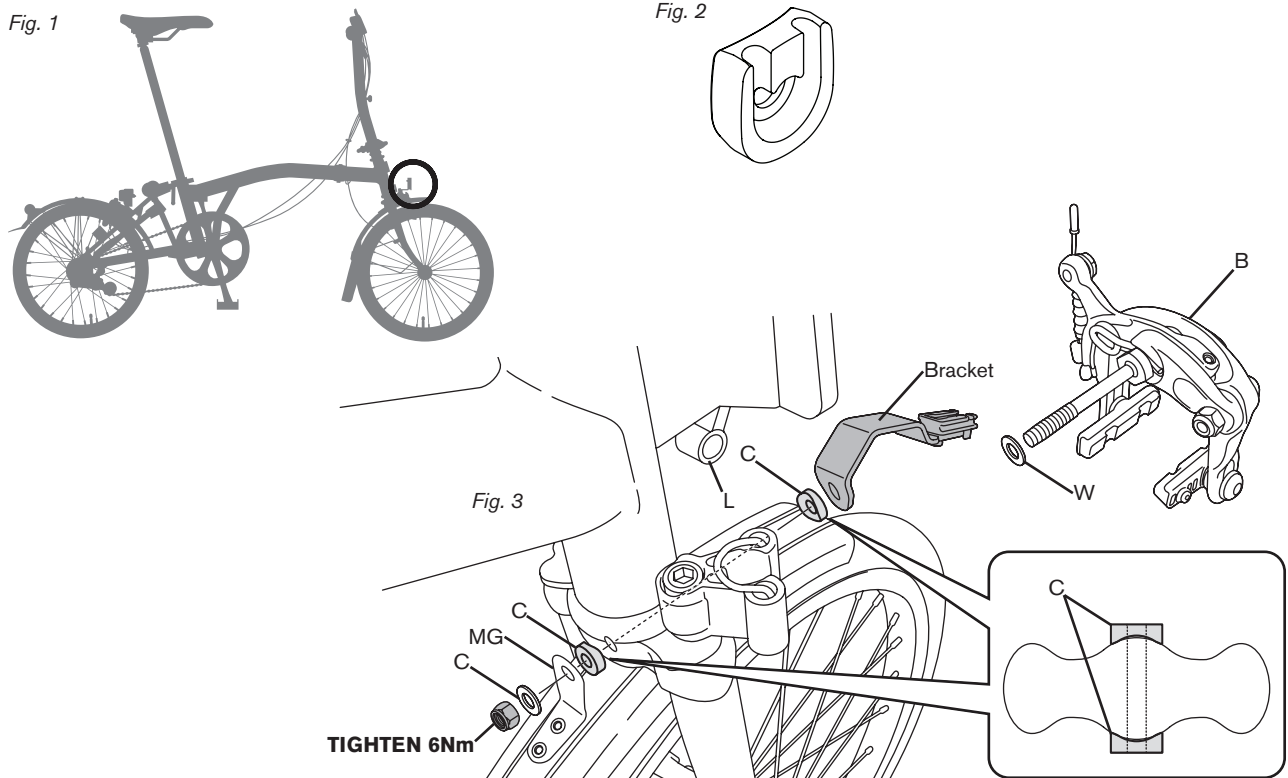
The light can be charged with the supplied USB cable, the charging port can be accessed by lifting the red rubber cover on the side of the light. We recommend using a 500+mA (USB2.0) USB charger.

The power button will be illuminated when charging and will turn off once complete. Ensure you refit the rubber USB cover properly after charging. Charging will take approximately 2 hours.

CATEYE VOLT FRONT BATTERY LIGHT FITTING & USE

- Before using the bike, make sure the light is firmly secured to the bracket and functions properly
- This product is water-resistant and can be used in the rain, do not submerge in water
- If the light becomes dirty, clean with a soft cloth and mild detergent
- Aggressive solvents and detergents will damage the product
- Batteries should be disposed of in accordance with local regulations
- Charging and lighting times are approximate and will vary with environmental conditions and usage
- The battery is shipped with a small charge and needs to be fully charged before use
- **UK Customers; this light should be used in conjunction with a British Standard 6102/3 cycle light**

FITTING THE BRACKET TO A PRE-2018 BIKE

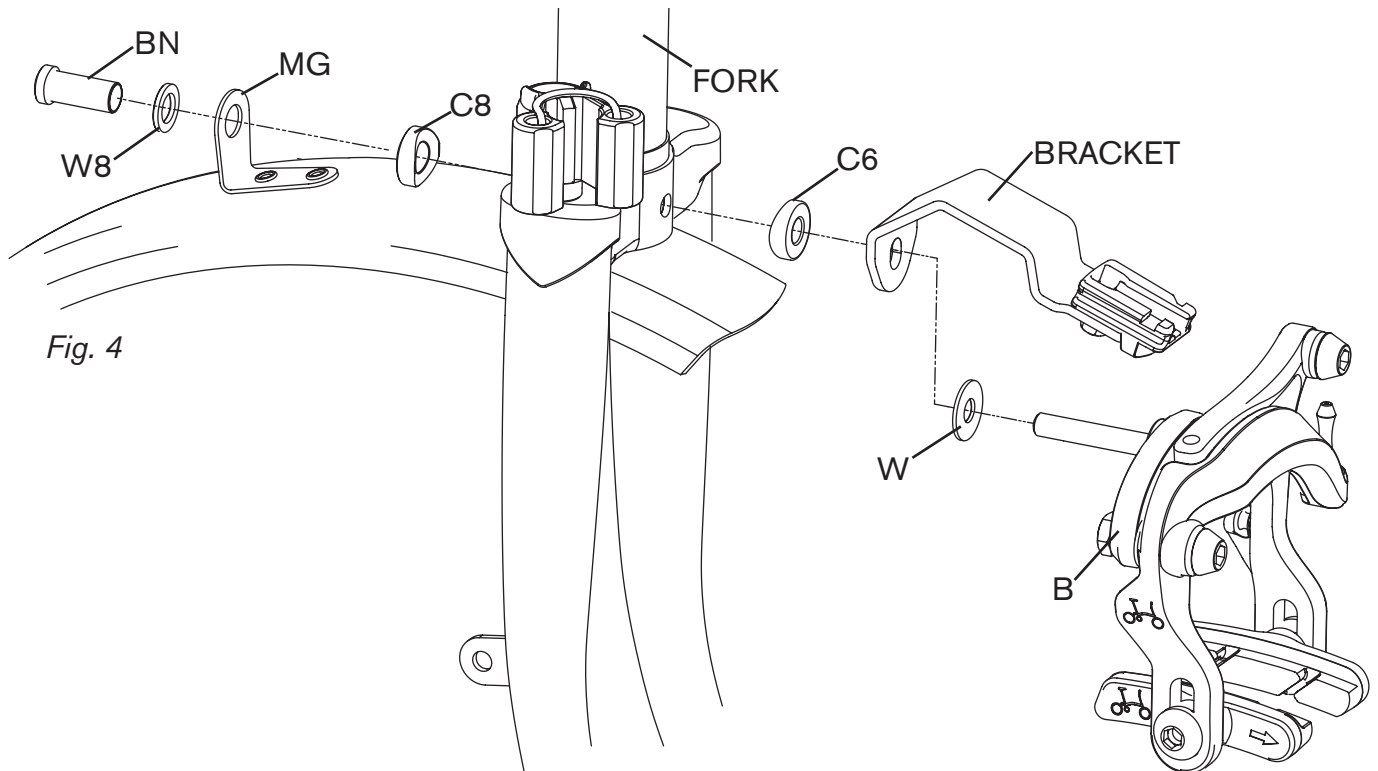


When the light is bought separately the bracket will need to be fitted to the front fork (fig. 1).
If bought as part of a complete bike the bracket is already installed on the bike, in this case skip to page 66.

- The bracket should be fitted between the fork crown and front brake (fig. 3), if the bike has a front reflector or dynamo light bracket fitted it will need to be removed, along with the die cast washer (fig. 2) if used
- Disassemble the parts by undoing the 10mm nut behind the fork crown, along with the washer (W)
- Pull the brake caliper forward and remove the concave washers (C) reflector bracket and washer (W)
- Reassemble with the light bracket in the order as shown (fig. 3) with concave washer C fitted in the correct orientation on both sides of the fork crown
- Ensure that the nut is tightened to 6Nm
- Check that the mudguard stay (MG), the bracket and the brake caliper are aligned parallel to the front wheel and that the brake pads do not rub on the braking surface of the wheel when not applied
- The mounting hole in the bracket is slotted to allow some up/down adjustment Check that the bracket is not in contact with the brake (B) and that the rear of the lamp does not touch the latch (L), if a front carrier block is fitted to the bike



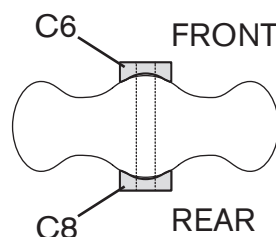
FITTING THE BRACKET TO A 2018 OR NEWER BIKE



When the light is bought separately the bracket will need to be fitted to the front fork (fig. 1).
If bought as part of a complete bike the bracket is already installed on the bike, in this case skip to page 66.

- The bracket should be fitted between the fork crown and front brake (fig. 4), if the bike has a front reflector or dynamo light bracket fitted it will need to be removed, along with the die cast washer (fig. 2) if used
- Disassemble the parts by undoing the barrel-nut (BN) behind the fork crown, along with the washer (W8)
- Pull the caliper forward and remove the concave washers (C6) reflector bracket and washer (W)
- Reassemble with the light bracket in the order as shown (fig. 4) with concave washer C6 (6mm hole) and C8(8mm hole) fitted in the correct orientation (fig. 5) on both sides of the fork crown
- Ensure that BN is tightened to 8Nm
- Check that the mudguard (MG), the light bracket and the brake caliper are aligned parallel to the front wheel and that the brake pads do not rub on the braking surface of the wheel when not applied
- The mounting hole in the bracket is slotted to allow some up/down adjustment Check that the bracket is not in contact with the brake (B) and that the rear of the lamp does not touch the latch, if a front carrier block is fitted to the bike

Fig. 5



HOW TO CHARGE

Lift the charge port cover and connect the light to a computer or mains USB charger, using the USB cable supplied (fig. 6) with the light. We recommend a 500+mA (USB2.0) charger.

When charging, the power button will light-up red; when the battery is fully charged the light will turn off. After charging is complete, remove the cable and install the port cover.

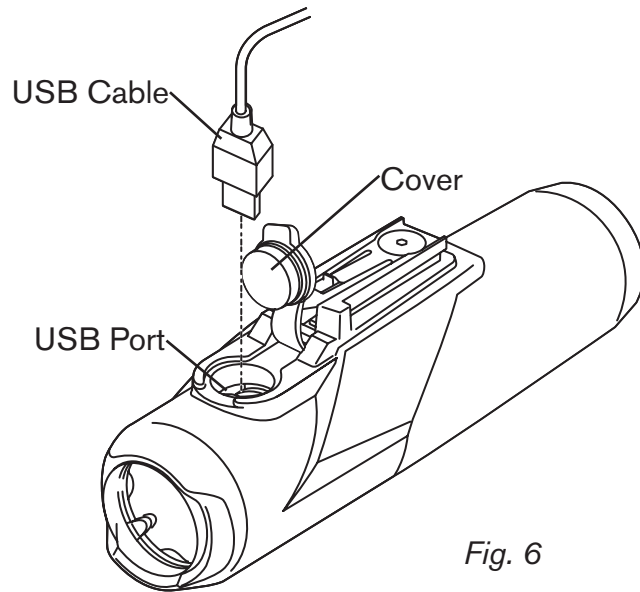


Fig. 6

FITTING THE LIGHT TO THE BIKE

- Once the lamp is installed, fit the lamp by simply sliding into the plastic housing (fig. 7) on the front of the bracket until the light 'clicks' into place
- To remove the light, pull forward while pressing the release button (fig. 8) upward, towards the body of the light
- Regularly check that the fixing screw (fig. 9) on the bracket is tight

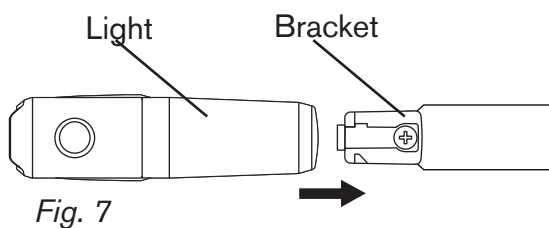


Fig. 7

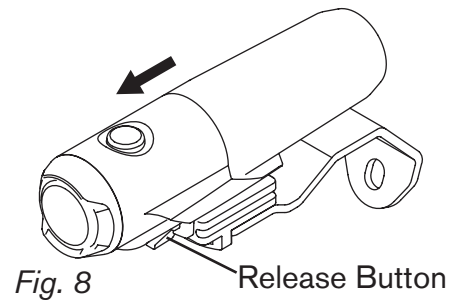


Fig. 8

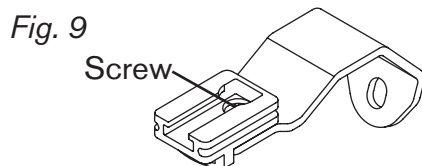


Fig. 9

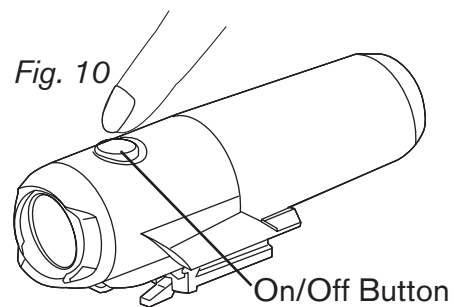


Fig. 10

OPERATING THE LIGHT

To turn the light On or Off press and hold the button (fig. 10).

The On/Off button is also used to operate the light and select the different lighting modes. When you turn the light on it will be in the mode last used. If the button lights up during use the battery power is 20% or less and the light should be charged as soon as possible.

When the light is turned on you can cycle from each mode to the next by pressing the button until you feel a click.

When the run-time decreases significantly the battery is approaching the end of its life and will need replacing.

REFLECTOR FITTING

The reflector should be fitted to the handlebar as shown (fig. 11) close to the centre of the bar, near the handlebar clamp. The reflector should be facing forward and sit 'above' the handlebar.

On an S type bike the shim will not be needed.

For M, H & S type bars the reflector should be fitted to the left hand side (fig. 12, as viewed when sitting on the bike) of the handlebar.

On a P type bike the reflector should be fitted

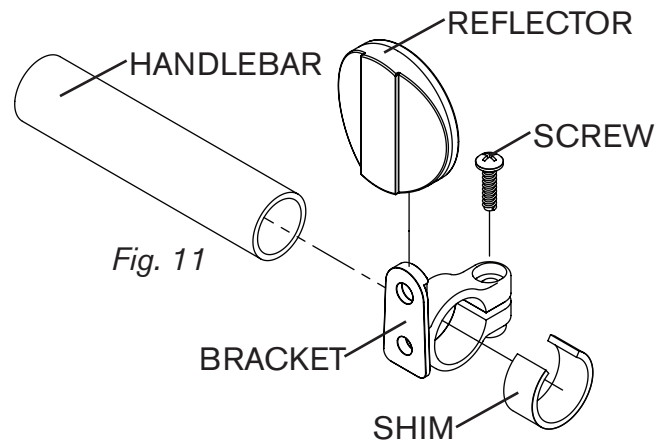


Fig. 11

⚠ WARNING

Ensure the reflector does not restrict the control cables or handlebar movement when riding.

The reflector should not contact the fork & front wheel or obstruct the control cables

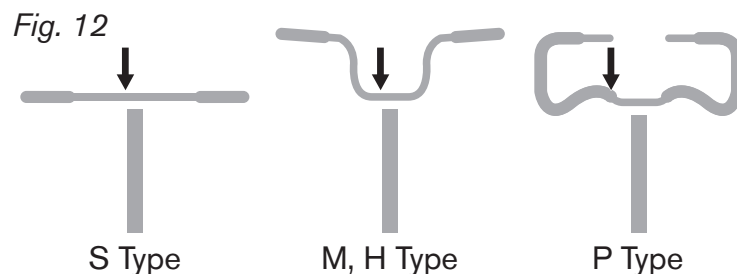


Fig. 12

SPECIFICATION

LIGHT SOURCE	High-intensity white LED x 1
CARTRIDGE BATTERY	Li-ion 3.6v 2200 mAh
CHARGE	Micro USB plug
OPERATING TIME	High: 3 hours Normal: 8 hours Low: 18 hours Pulse: 11 hours Flash: 60 hours *Average run time at 20°C
STANDARD CHARGING TIME	Approx. 6 hours (USB2.0)
TEMPERATURE RANGE	Charging: 41-104°F, 5-40°C Operating: 14-104°F, -10-40°C
RECHARGE/DISCHARGE CYCLES	Approx. 300 Cycles (until the rated capacity falls to 70%)
DIMENSIONS/WEIGHT	111.5 x 31 x 38 mm, 120g

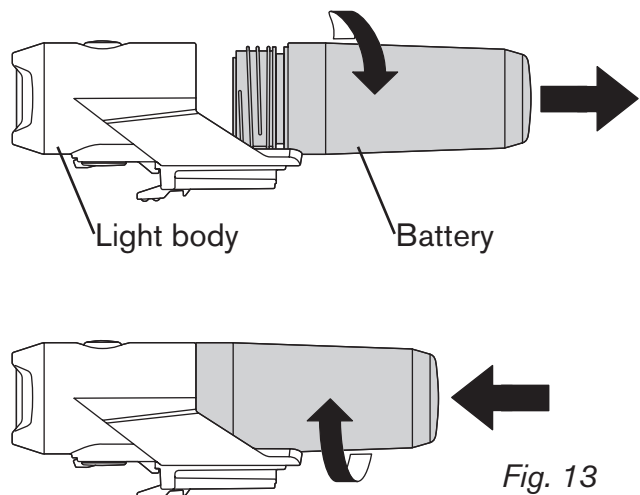


Fig. 13

REMOVING/REPLACING THE BATTERY

The battery can be unscrewed from the light (counter clockwise) and a replacement fitted by screwing onto the light body (fig. 11).



THE CHAIN TENSIONER ASSEMBLY

When the chain tensioner is off the bike, the moving arm (CTARM) is being pushed by the spring to bear against boss B (fig. 1). Before taking it completely apart you have to lift the CTARM away from the base, CTB, and allow it to move clockwise over boss B to the position shown dotted (where the spring is relaxed). The correct procedure is:

Undo the centre screw, S, by 3 turns, lift the CTARM and allow the spring to move it round till the spring is relaxed. Undo screw S completely: be careful not to lose the inner washer W2

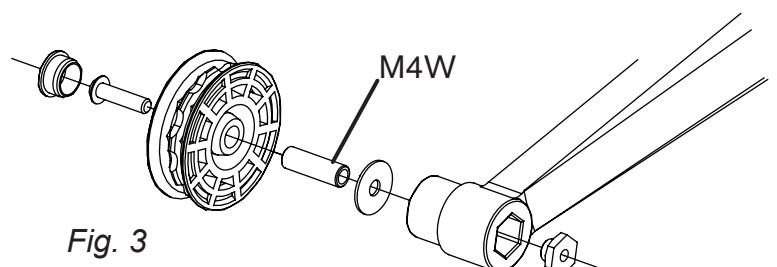
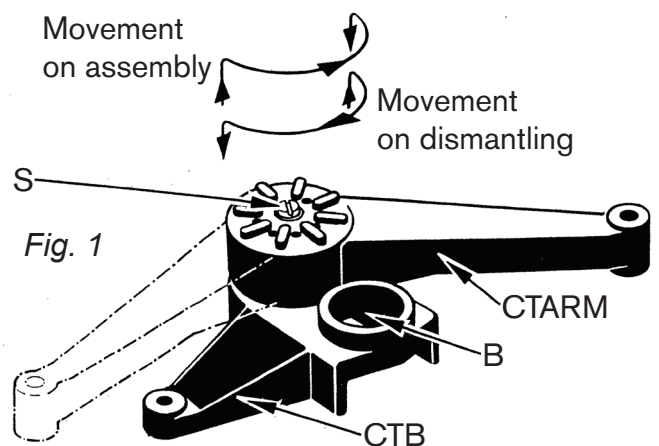
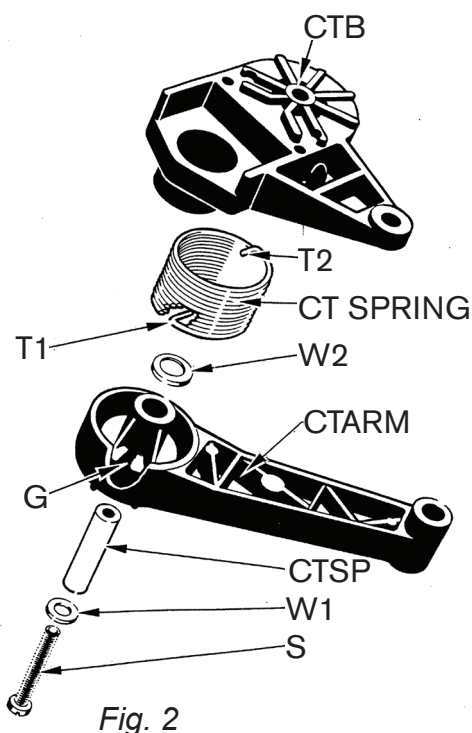
REASSEMBLY

Lightly grease the outside of the spacer, CTSP (fig. 2), feed the screw S through the washer W1 and the CTSP, and press these through the bore of the CTARM. Hold the CTARM with the inner side upwards (with a finger on the screw S to stop it falling out) and fit the spring into it so that the tongue T1 enters the groove G. Fit the washer W2 over the projecting end of the screw S. It is vital not to omit this washer and to make sure that it does not fall off during assembly.

Address the CTB to the spring (oriented as in fig. 2), so that the tongue T2 enters its groove and push it down against the end of the screw S (avoid pushing out the pressed-in nut in the CTB). Do up the screw S by 2 1/2 turns. Now move the CTARM anti-clockwise (fig. 1) past boss B, and push it down against the CTB. Finish doing up the screw S, and secure firmly. The two parts of the chain tensioner should now move freely: if they don't, the washer W2 has almost certainly fallen from its place, or else one of the tongues of the spring is not seated correctly.

DERAILLEUR IDLERS

Remove the cap from the back of the idler wheel (fig. 3). Undo the M4 screw (2.5mm hex key), and remove this screw, with the spindle, idler-wheel and washer. If changing the nut pressed into the moulding, tap it out with a suitable drift, and fit the new one. On reassembly, lightly grease the spindle. Do not forget to fit the large M4 washer under the spindle. Check that the idler can spin and is able to move from side to side freely.



DERAILLEUR ADJUSTMENT

After any changes or maintenance on the rear frame fittings or wheel, the settings should be checked. With a new chain pusher, the derailleur stop screws must be adjusted.

You should also be aware that, for satisfactory gear changes and smooth running, apart from these stop screws, two key elements of the system have to move freely: the actuator (or “chain-pusher”), and both idlers on the chain tensioner.

CHAIN PUSHER ADJUSTMENT

Use the stop screws, (fig. 1), on the chain pusher. The idea is that, in high gear, the inner face of the inner upright IU (fig. 2) shall be as close as possible to the idler wheel, without any rubbing pressure while the idler rotates (to give the slickest change with minimum wear): when the setting is right, you should just be able to see daylight between the two while turning the cranks forwards, perhaps with occasional contact. Use a 2mm hex key in the forward stop screw H for adjustment.

The same principle applies for the lower gear setting, only this time (fig. 3) the inner face of the outer upright OU has to just not rub on the idler, and the rear stop screw L is used for adjustment.

Cable adjustment should seldom be necessary, as the trigger moves the cable twice as far as the movement of the chain-pusher (an over-ride spring inside the dogleg DL absorbs this movement).

TROUBLE SHOOTING

If the derailleur still malfunctions after adjustment, or if turning the adjustor screws has no useful effect, and there is no obvious sign of dirt obstructing free movement, then the procedure for diagnosis is as follows. Step 1, remove the chain tensioner: this allows you to identify whether the problem lies with the idlers on the chain tensioner (they should be free to move in and out 7mm) or with the chain-pusher. If the chain-pusher does not move freely, and the cause is not obvious, try slackening the M3 screw slightly (there is supposed to be clearance). Step 2, remove this M3 screw completely: this allows you to identify whether there is a problem with the cable and the dogleg link DL (e.g. dirt on the spring, misalignment of cable and cable stops, etc.), or with the chain-pusher (e.g. hidden dirt, seized bearing: you may need to remove the chain pusher from the frame).

Fig. 1

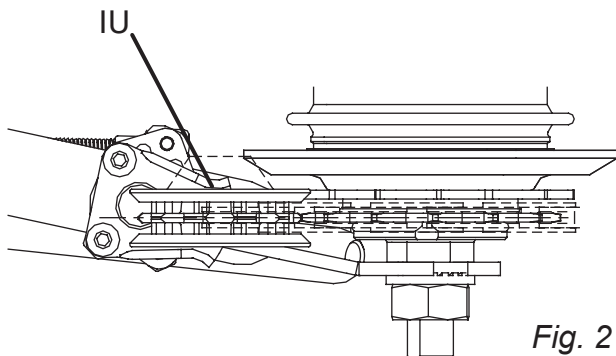
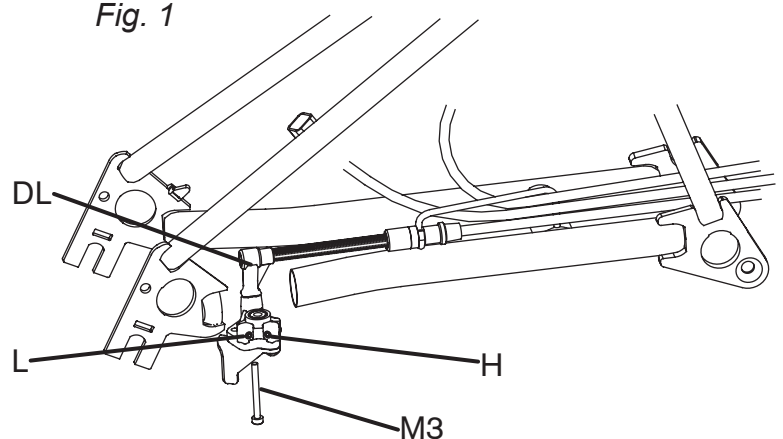


Fig. 2

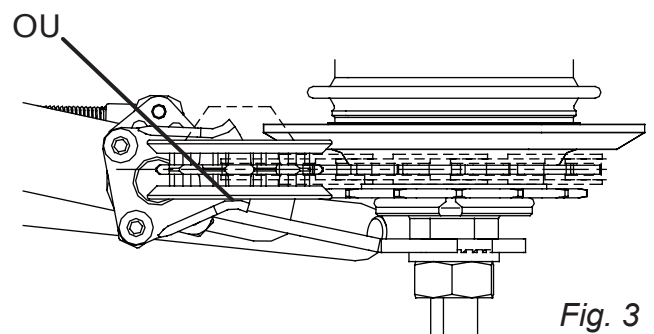


Fig. 3

HUB-GEAR ADJUSTMENT

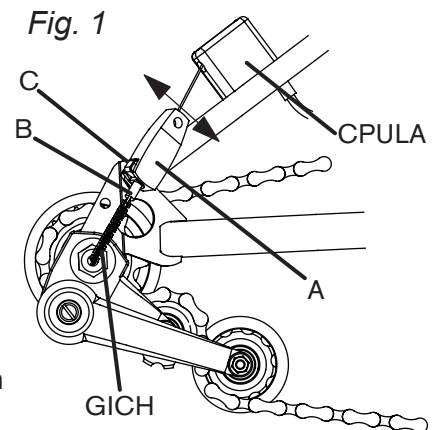
Adjustment must be carried out with the bike fully unfolded and with the indicator rod screwed into the hub (backed off not more than half a turn to align with the cable). The aim is to make sure that the indicator rod & chain move to the correct position in response to moving the trigger. For this the cable has to be running free of kinks or sharp bends, with the cable pulley rolling freely.

While setting gears, keep the wheel spinning forwards, and pedal back and forwards, to ensure the gear engages. It's easiest, when altering the setting, to have the cable slack: select top gear and back and forward pedal. If you cannot set the gears correctly, then the most likely cause is either the cable not running freely, or damage to the indicator chain itself, where it runs into the axle end. Otherwise, the fault may be with the hub internals.

SRAM 3 SPEED ADJUSTMENT

The cable tension is increased by pushing the adjustor A further onto the grooved end B of the indicator chain GICH (fig. 1). To loosen, the spring clip C has to be depressed.

You can usually set things right first time by moving the trigger into top gear, pulling on the adjustor (away from the pulley housing CPULA), and then feeding the grooved end B of the indicator chain into the adjustor until it is just not loose, i.e. **WITHOUT** pulling the indicator chain out of the axle at all. The setting is correct when:-



With top gear selected, there should be up to 5mm side-to-side movement at D-D, with a Brompton shifter and with a SRAM Torpedo trigger, much less). If, when you try pulling the adjustor A away from the CPULA, you can see any movement of the indicator chain back into the axle where it enters it, then the setting is too tight.

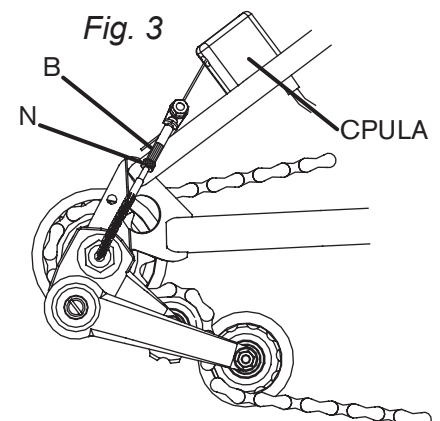
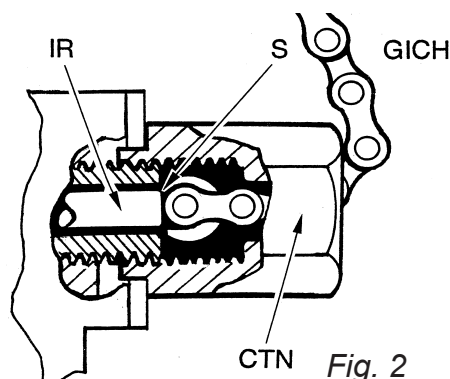
With the trigger in low, the indicator chain (where it enters the end of the axle) should either move not at all, or perhaps up to 1mm, when you pull the adjustor towards the CPULA. If it moves more than this, then the setting is probably too loose. The setting is too tight if you see that the indicator chain stops moving out of the end of the axle before the trigger has clicked into low-position, when back-pedalling and shifting into the lowest gear.

When pedalling forwards (under no load) and changing through the 3 gears, both up and down, all three gears are positively selected. **Do not change gear when pedaling under load, this can damage the hub.**

STURMEY ARCHER 3 & 5 SPEED ADJUSTMENT

Adjustment is carried out by slackening the lock nut N, turning the barrel B (fig. 3) to obtain correct setting, and relocking the nut N. Ensure the indicator rod is the correct length for the hub-type.

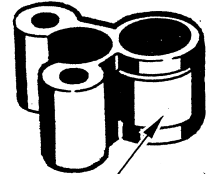
the indicator chain is correctly adjusted (fig. 2) when the shoulder S on the indicator rod IR is proud of the axle end by no more than 1mm (this can be seen by looking through the hole in the chain tensioner nut CTN) when in the middle position on the shifter is selected.



HANDLEBAR CATCH AND NIPPLE

In 2003 Brompton introduced a new handlebar catch, which has to be used in conjunction with a new nipple. Both are supplied as part of the kit. Since March 2005 the catch has been fitted with a spring.

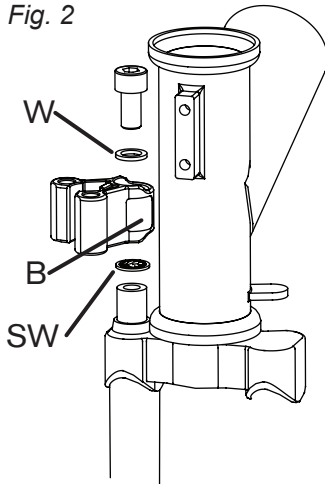
Fig. 1



If you are replacing a handlebar catch of the earlier, pre-2003 type (fig. 1):-

- You should remove the old nipple and replace it with the new nipple – if you don't do this swap, the new catch will not be effective
- The new nipple has to be screwed further onto the stud on the handlebar stem than the old nipple. If you don't do this, the handlebars will end up sticking out from the folded package (fig.8, 9)
- The nipple should be parallel to the catch (fig. 6, 7)

Fig. 2

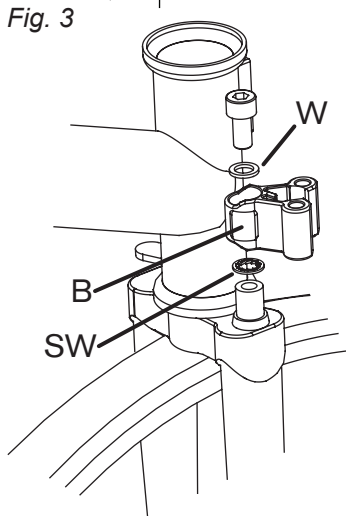


FITTING THE CATCH

There is a bulge, B, on the body of the catch: this should, on a hub gear equipped bikes, be directed forwards and to the left (fig. 2), and, on any other bike, rearwards and to the right (fig. 3). It does not matter whether the spring is on the top or bottom. Before assembly, make sure that the star washer, SW, is in place under the catch, and that the small washer W is under the head of the screw. The correct torque for the securing screw is 9NM.

On early superlight bikes with alloy headsets, a second star washer may have been fitted to ensure that the back of the catch does not rub on the lower bearing cup. On such bikes you should retain this second star washer under the catch.

Fig. 3



The bulge B determines the angle at which the front wheel lies relative to the folded package. If you find that, having fitted the catch with the bulge pointing aft, the front wheel is slightly loose (i.e. is still free to turn a bit when folded), you can improve things by bending out the left-hand side of the front mudguard stay, and/or by reversing the handlebar catch so that the bulge is pointing forward. Conversely, if the bulge is pointing forward, and if, as you hook the front wheel to the rear frame, things are a bit tight, you can bend the LH side of the mudguard stay inwards a bit, or else reverse the handlebar catch.

Fig. 4

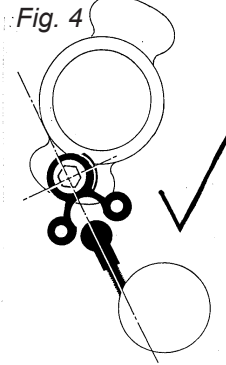


Fig. 5

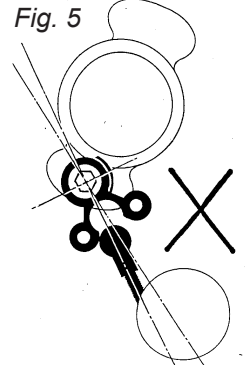


Fig. 6

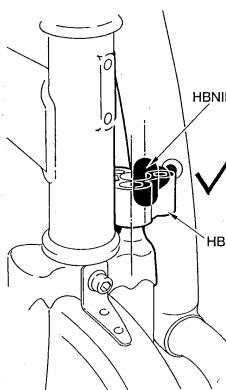
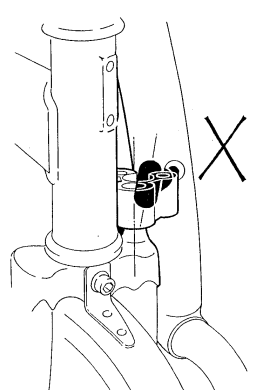


Fig. 7



SETTING THE CATCH AND NIPPLE

If set wrongly, the catch will lose its spring effect and the handlebars can become unlatched too easily.

- The catch itself must be aligned so that the nipple enters centrally (fig. 4 not fig. 5)
- The nipple HBNIP should be in line with the catch HBC (fig. 6 not fig.7)

If the handlebar itself, or the control levers/cables, are set too far forward, they may, on folding, foul against the front wheel and so prevent the nipple from fully entering the catch (fig. 9). To remedy, either reset the handlebar or levers further back (further out when folded), or unscrew the nipple so that it is further from the support tube, HBS: the nipple must be able to enter the catch HBC fully (fig. 8).

If the set-up is correct and the catch remains ineffective, the catch should be replaced.

Fig. 8

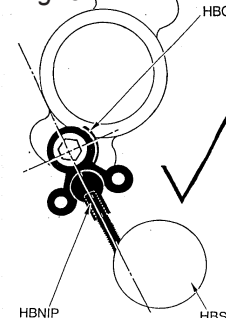
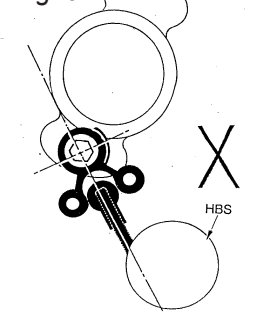


Fig. 9



FRONT WHEEL HOOK FUNCTION

The hook retains the front wheel in place when the bike is folded.

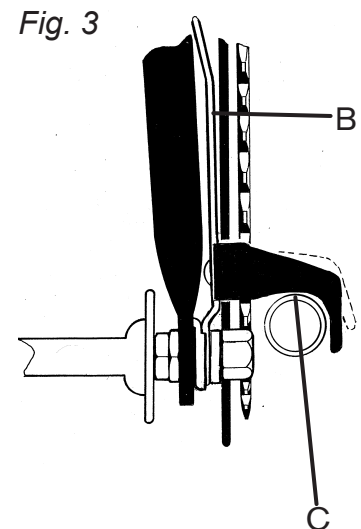
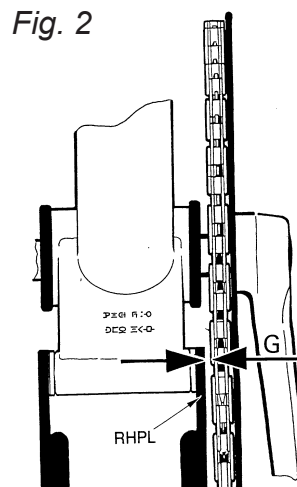
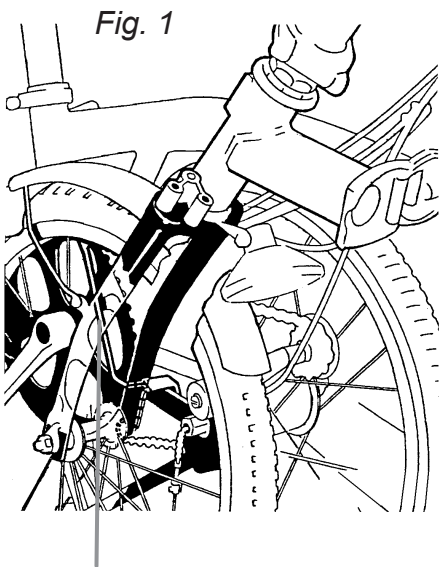
The hook is attached to the front mudguard stay (or, if there are no mudguards, to a special wire form, not illustrated). Fitting a new chainring or front mudguard stay might affect its function. And if it is knocked out of position, the design allows it to be bent back. For the function to be correct:-

1. The chainring must not be too far out. Part of the stay, B (fig. 1), acts as a buffer against the chain wheel during folding, and steadies the folded front wheel. The gap G (fig. 2) between inside of chain and hinge plate RHPL when the bike is parked, should be 0 - 3mm, if this gap is too large then the hook will be a tight fit over the chainstay CHS, and may stick when trying to unfold the front wheel.

2. The hook must not be bent out of position (fig. 3): if it is bent up too far, then a) it may catch on the rear spokes, and b) it may slide off the tube CHS, causing the bike to unfold inadvertently.

If it is bent down too far, then the hook will contact the chainstay at C before the front wheel (and the rest of the bike) has dropped to its fully folded position. If it is bent fore/aft it may strike the chainwheel or (if fitted) the derailleur changer, and if the stay is "crushed" in, the front wheel spokes will clash with the chain tensioner nut as the bike is folded.

If the hook is ineffective, and/or sticks during unfolding, then it may be possible to rectify the issue by bending the mudguard stay back into shape.



LOWER STOP DISC

The LSD assembly currently used is a MK3 (fig. 1), this can be used to replace the LSD on bikes equipped with the MK2 (fig 2). Ensure that you retain a spring washer, a plain washer and a concave washer in the stack under the "RBNUT". With the assembly secured in place, you will always need to set the correct gap.

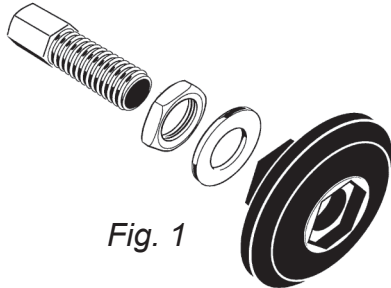


Fig. 1

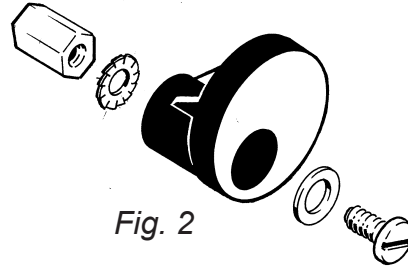


Fig. 2

REPLACING A MK2 STOP DISC

The original rear brake nut, RBNUT, must be removed and replaced with the new style RBNUT of the Mk 3 version: secure firmly, torque 10NM. The brake caliper will need re-centering.

Replacing a Mk 3 lower stop

The rear brake nut, RBNUT, should be secured firmly, 10NM. If the LSD is detached, screw the M10 lock-nut onto the back of the RBNUT, followed by the special washer and the LSD itself (in which there is a captive locknut). If you need only to replace the nylon disc, you can usually leave the original RBNUT in place.

SETTING THE LSD

When you pick up the folded bike, the rear wheel cannot unfold because the lower stop disc, LSD, butts against the "folded" seat pillar, SP. The LSD can be adjusted to obtain the correct gap between itself and the SP: if the gap is too small, then the SP may foul, irritatingly, against the LSD during folding: if the gap is too large, then the rear wheel will drop away too far when the bike is picked up, so that the hook retaining the front wheel slips off the chainstay tube (CHS) on the rear frame.

The lock-nut should be slackened off. Fold the bike completely, and spin the LSD along the thread to give the correct gap of 1-2mm (fig. 3). Finally, using 2 spanners, 19 AF and 15 AF, tighten the lock-nut: do not overtighten, correct torque 8NM.

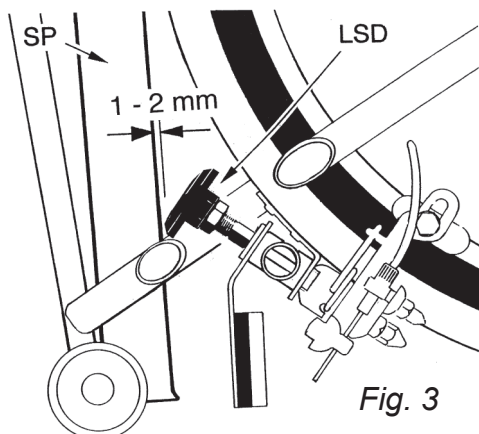


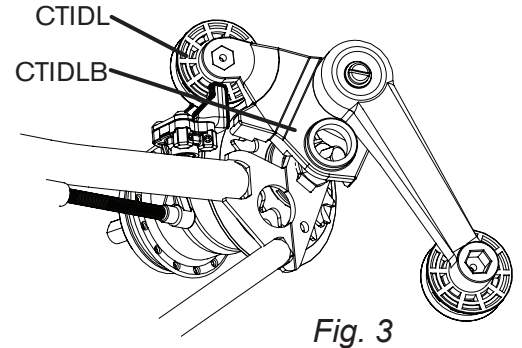
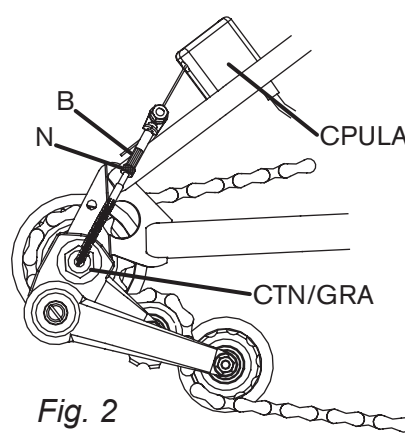
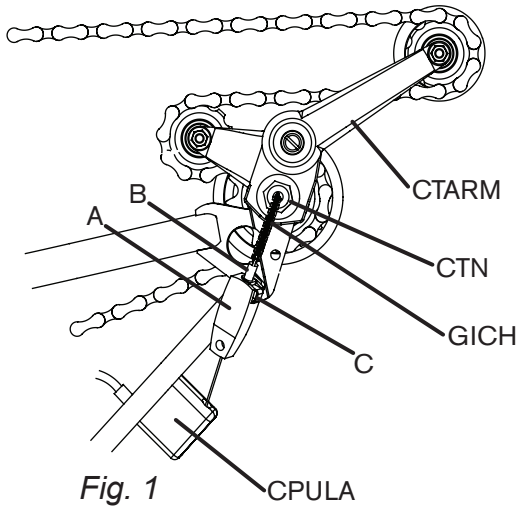
Fig. 3



REAR WHEEL – REMOVAL AND REFITTING

If you are replacing an earlier 3 speed Sturmey Archer wheel (with steel hubshell) with a new wheel (with alloy hubshell), you must use a new indicator chain (two marks instead of one) and a new Chain Tensioner Nut (longer than the earlier type), and a flanged black nylon chain-guide-disc inside the rear sprocket (with no dust-cap or spacer).

SRAM, Sturmey Archer and Brompton 2 speed axle-threads are all different, and the correct axle nuts must be used. To allow wheel removal, one brake block should be removed, the brake cable released or the tyre deflated.



REMOVING THE CHAIN TENSIONER

Move the gear trigger/s to top gear and back/forward pedal a little to engage, then fold the rear frame under and park the bike. On a bike with a SRAM 3 speed hub, press the spring clip C on the adjuster A to disconnect the adjuster from the gear chain (fig. 1). On a bike with a Sturmey Archer hub, slacken off the knurled locknut N and unscrew the barrel B (fig. 2).

The indicator chain GICH will be left hanging loose from the end of the axle, this should be unscrewed and removed. On a 5-speed, the guide roller assembly GRA must also be withdrawn from the end of the axle. Move the sprung arm, CTARM, anti clockwise and lift the chain off; allow the CTARM to move back clockwise until it comes to a stop; undo the securing nut CTN (on a 3/6-speed this is a special nut, and on a 1/2/5-speed it is a standard wheel nut) and remove it together with its washer. The chain tensioner assembly may now be removed by drawing it sideways off the end of the axle.

REMOVING THE WHEEL

Slacken the wheel nuts by few turns, enough to allow any tab-washer to disengage from the axle plate. If the axle or tab-washer tends to stick in the slots, push the rim from side to side or tap the axle end (with care, as the axle can snap).

FITTING THE WHEEL

Make sure the chain passes round the rear sprocket. Drop the axle into the slots, with the tab washers, if handed, the correct way round. On earlier bikes with a Sturmey hub and sintered tab-washers, the tabs on these serrated washers under the wheel nuts must project into the axle slot, and it is these (not the axle) that should be in contact with the end of the slots on the frame. Make sure that on each side the axle is seated against the end of the slot, and do up the wheel nuts, torque to 18Nm for 3/6 speed wheels and 15Nm for 1/2 speed wheels.

FITTING THE CHAIN TENSIONER

Arrange the chain so that it is running over both chainring and rear sprocket (on a derailleur, providing high gear is selected, this should be the smaller sprocket). The chain tensioner body has two flanges on its inner face - these pass either side of the axle plate when fitting the chain tensioner; address the chain tensioner to the axle plate and press home. Make sure that the fixed idler sprocket CTIDL (fig. 3) lies above (with the rear frame inverted) the chain. On a 2 or 6 speed bike the CTIDL should lie between the "uprights" of the chain-pusher-plate. Feed the chain-tensioner base onto the rear axle plate till it fits squarely.

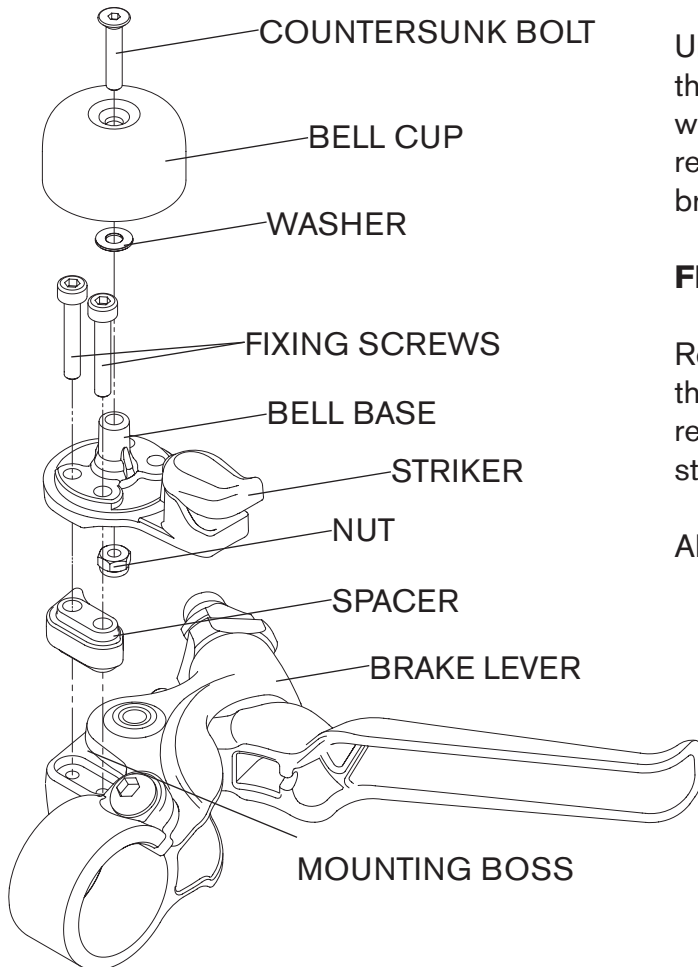


BROMPTON BELL

FEATURES

- Fitted to all bikes built from 2017 onwards
- Improved ergonomics
- Intuitive operation, simple to use
- Integrated mount on the new brake lever for a cleaner look
- More compact and 5g lighter than previous design
- The bell is fitted to the right hand brake lever as standard, it can also be fitted to the left hand lever

Fig. 1



REMOVAL

Unscrew the countersunk bolt in the centre of the bellcup (fig. 1) remove the bolt, bell cup and washer. Remove the two fixing screws and then remove the bell base and the spacer from the brake lever.

FITTING

Refit the parts in the order shown. If mounting to the left hand brake lever, invert the spacer and reverse the orientation of the bell base, so that the striker is adjacent to the grip.

All fixings should be tightened to **0.3Nm**



TELESCOPIC SEATPOST ASSEMBLY

IMPORTANT INFORMATION

- A new design of telescopic seatpost was introduced in early 2017
- The components of the new design are not compatible with the previous design
- Do not extend the upper post further than the maximum height mark, in the highest position this marking should not be visible above the top of the plastic sleeve
- The plastic sleeve in the telescopic post, along with the sleeve in the mainframe are wearing parts, these should be inspected periodically and replaced if necessary
- The saddle height insert is not necessary when using a telescopic post and can be removed before fitting
- The seatpost tube, upper post and both the plastic sleeves should be clean and free from grease and oil
- For fitting instructions for the old design telescopic post please see **ds-spta**
- If you need any other information please contact **tech@brompton.co.uk**

USING THE TELESCOPIC SEATPOST

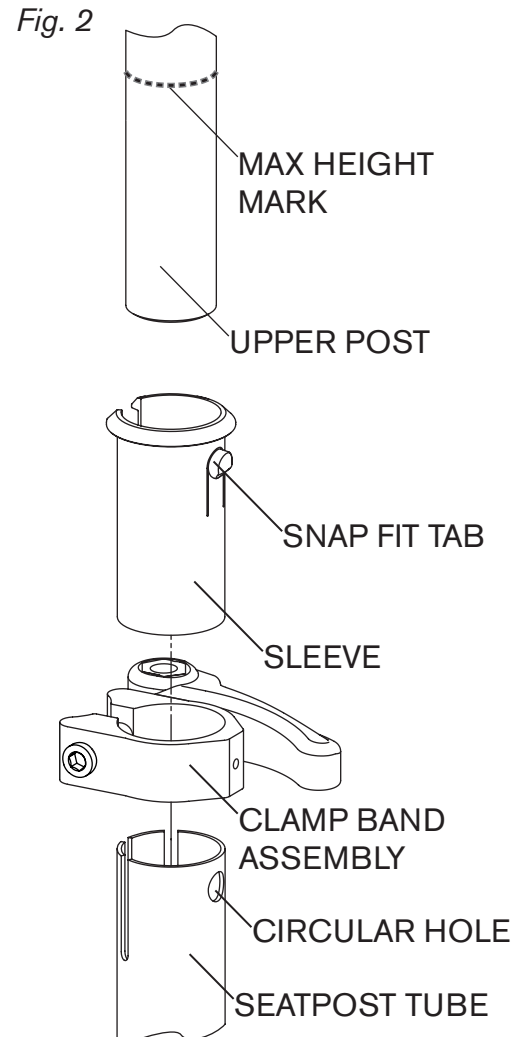
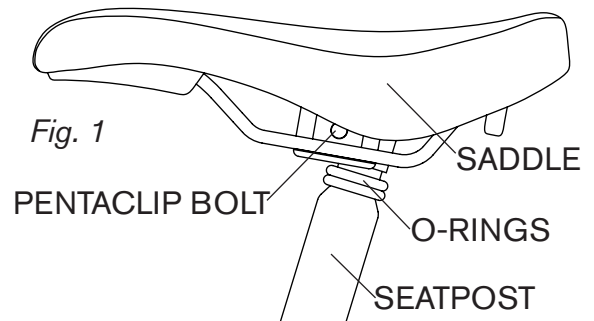
For normal daily folding it is easiest to lower the main seatpost tube and to leave the upper post (fig. 2) clamped in it's extended, riding position: the upper post and saddle would only be lowered when maximum compactness is needed. Generally it is easier to raise and lower the upper post when the main post is up (if you try and move it with the main post down, you may also have to release the clamp on the mainframe).

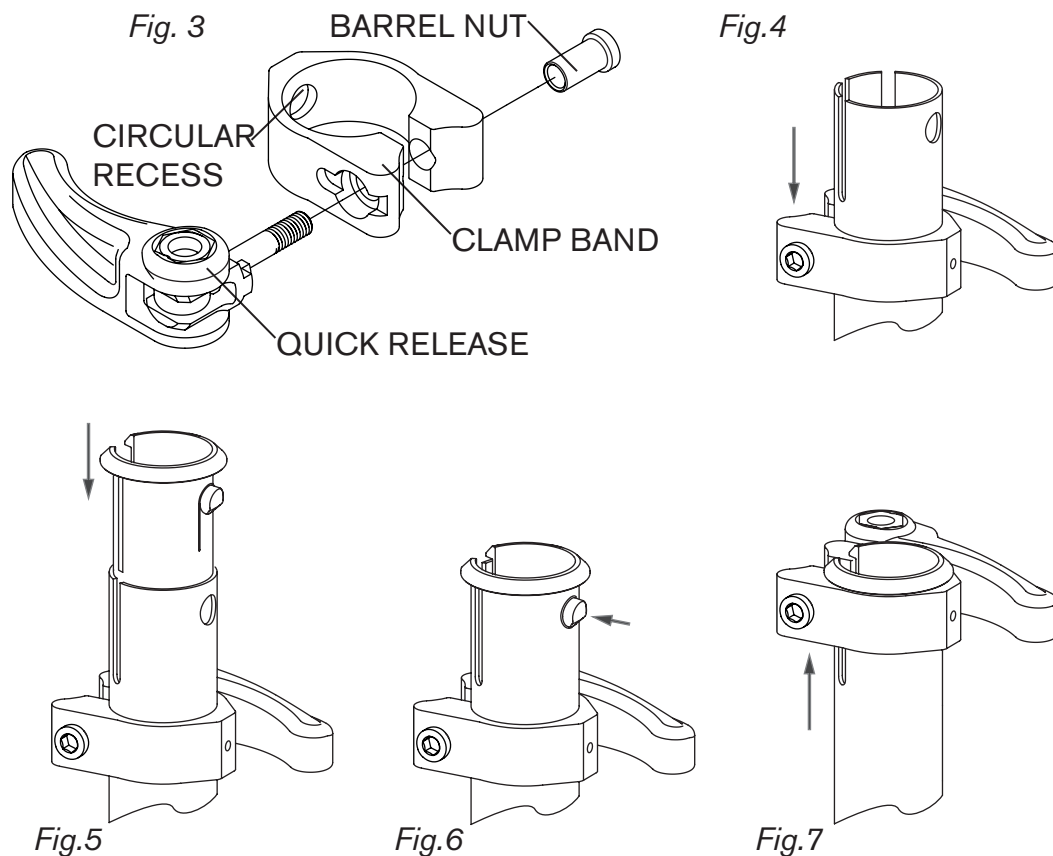
If you remove the upper post for any reason, on re-assembly, take care not to damage the plastic sleeve in the main seatpost tube.

Do not extend the upper post further than the maximum height mark, in the highest position this should not be visible above the top of the plastic sleeve. If the maximum height mark is visible the post is set too high. This could cause damage to the seatpost or frame in use; do not attempt to ride the bike with the upper post in this position, doing so will invalidate your warranty.

Before fitting the new seatpost you will need to remove the existing post. With the bike unfolded, remove the saddle and pentaclip from the top of the seatpost (fig. 1), along with the rubber o-rings if fitted. Take a note of the saddle angle and fore-aft position before removing the saddle from the seatpost. Undo the seatclamp on the main frame and allow the seatpost to drop down through the main frame.

The new telescopic post is supplied unassembled (fig. 2) with the exception of the seatclamp assembly (fig. 3) which has the quick release, clamp band and barrel nut pre-assembled.





FITTING THE TELESCOPIC SEATPOST

Feed the main tube through the main frame from below. Take care as it passes through the plastic sleeve in the main frame, gently turn the tube to ensure that it feeds through without catching. Pull the tube all the way up, and then do up the seatclamp on the mainframe.

- Slide the seatclamp onto the seatpost until it is below the slots in the top of the post (fig. 4)
- Push the plastic sleeve into the post with the slot, ribs and snap fit tab aligned with the corresponding slots and hole in the post (fig 5)
- Push the snap fit tab inward, so that the sleeve can pass all the way into the post until the top lip rests against the top of the post (fig. 6)
- The snap fit tab should now protrude from the hole in the seatpost and the two ribs on the back of the sleeve should engage with the slots in the seatpost (fig. 6)
- Push the seatclamp upwards towards the top of the post, aligning the hole in the front of the clamp with the snap fit tab (fig. 7)
- The snap fit tab should engage into the seatclamp with an audible click
- Open the clamp lever on the top of the post
- Slide the upper post into the plastic sleeve and close the clamp lever, adjust the barrel nut if the clamp lever feels too stiff or loose at this stage

You can now refit the saddle and pentacclip to the upper post, any o-rings removed from the old post do not need refitting. Ensure the saddle position is correct before tightening the pentacclip bolt to 15Nm.

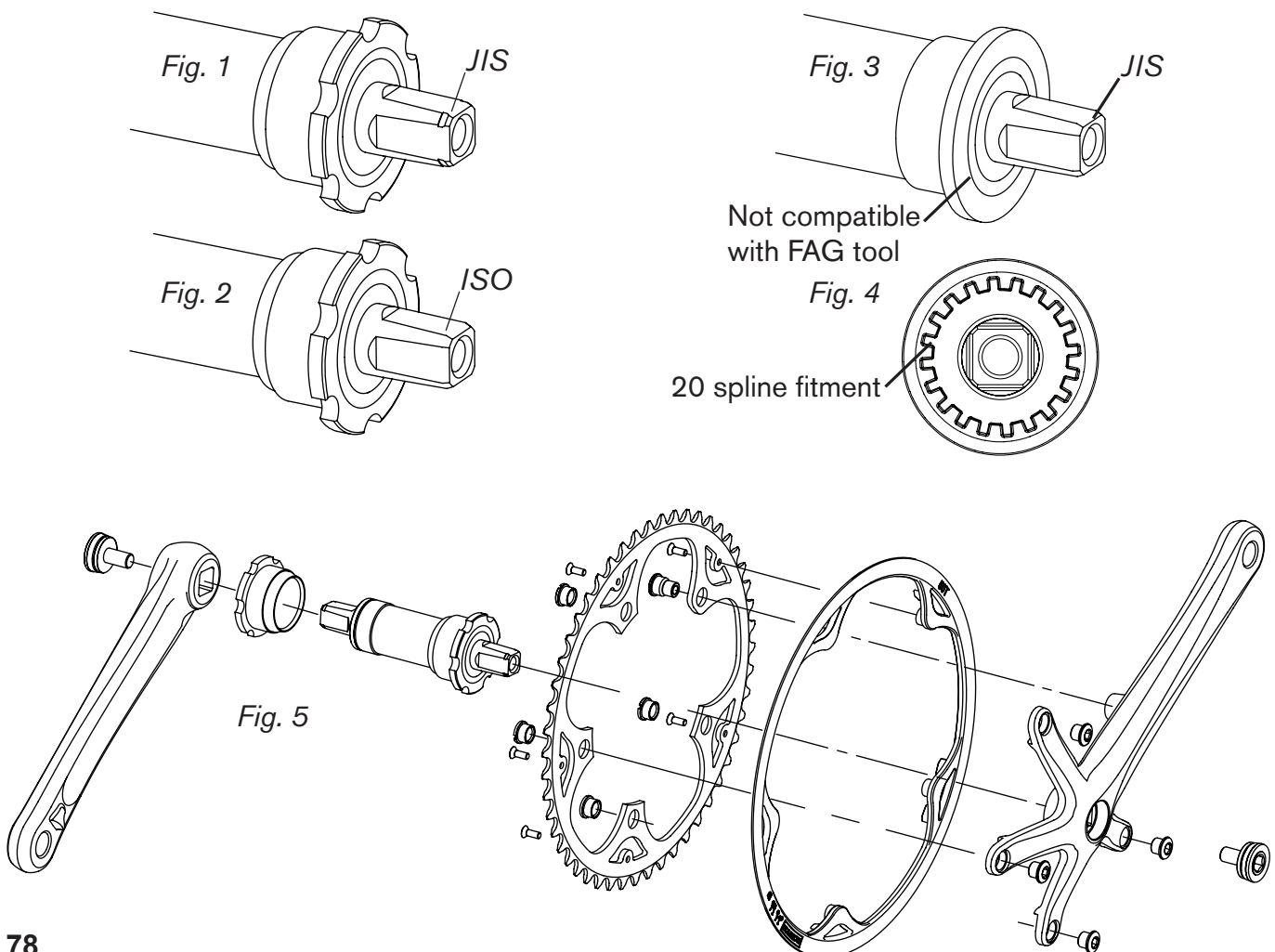
The seatclamp on the mainframe will need readjusting for the new post, by loosening or tightening the nyloc nut slightly with a 10mm spanner; a small adjustment of the nut makes a big difference to the closing force. If this clamp is overtightened the frame can become permanently damaged. With both clamps closed it should be difficult to twist the saddle from side to side when the bike is unfolded.

CRANKSET & BOTTOM BRACKET

- In January 2013 a new crankset was introduced with detachable chainrings, this crankset is designed to mount to a JIS taper bottom bracket, it is not compatible with ISO bottom brackets
- We recommend using the 'fixed chainring' crankset (pre 2013) with a 119mm ISO bottom bracket spindle
- Crank bolts, the square taper surface and pedal threads should be lightly greased then tightened to 30Nm
- Chainring bolts should be greased and tightened to 10Nm
- Crank bolts, pedals and chainring bolts must be re-checked after approximately 50 miles of riding

BOTTOM BRACKET COMPATIBILITY

- The FAG branded JIS bottom bracket (fig. 1) has a notch at the end of the spindle, whereas the FAG branded ISO bottom bracket does not (fig. 2)
- FAG bottom brackets use a 6 point tool to fit and remove the cups, additionally the newer JIS bottom brackets will accept a 20 spline (fig. 4) Shimano style BB tool
- In 2015 a new Stronglight JIS was introduced (fig. 3), this can be identified by the black spindle and lack of external notches on the cup, this bottom bracket accepts a 20 spline (fig. 4) tool only
- In 2017 a new THUN JIS bottom bracket was introduced (fig. 3), this can be identified by the bright chrome plated spindle and lack of external notches on the cup, this bottom bracket accepts a 20 spline (fig. 4) tool only
- The 5 bolt crankset (fig. 5) is only compatible with a JIS bottom bracket (fig. 1, 3)
- All bottom bracket cups should be greased before fitting and tightened to 30Nm

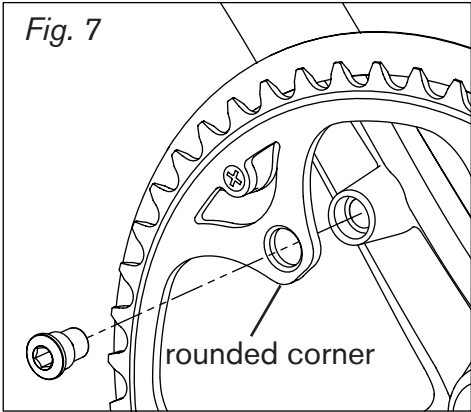
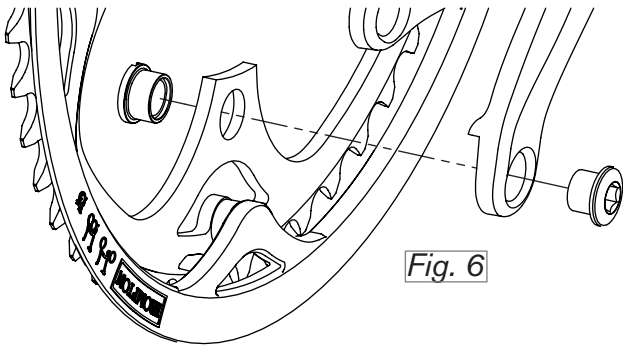


CHAINRINGS & CHAINRING BOLTS

Chainrings are available in 44t, 50t and 54t sizes and all use the same two-part chainring bolts to mount them to the crank arm (fig. 5, 6). It is very important to use the correct size chainring bolts to ensure a secure connection.

The fifth chainring bolt on the back of the crank (fig. 7) is only available from Brompton. Do not use alternatives as it is likely they will be ill fitting and unsafe. All threads and mating surfaces should be lightly greased before assembly.

The counterbored features around the chainring holes must face in, towards the centre of the bike, otherwise the slotted nuts may protrude and foul the frame. The bolt hole with the adjacent rounded corners (fig. 7) should align with the back of the crank.



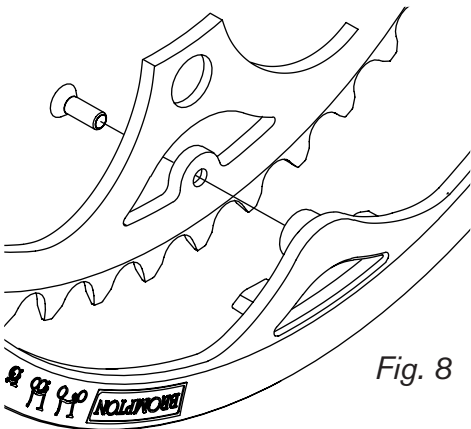
CHAINGUARDS

Chainguards are an important part of the folding function, as they interact with the front mudguard stay during the fold. Removing the chainguard will compromise the integrity of the folded package.

Chainguards are retained with five self tapping countersink screws and can be fitted while the crankset is attached to the bike (fig. 5 & 8). Using incorrect screws may damage the guard or fail to provide a secure fit.

Repeated removal and refitting may cause the screws to become less effective, so is best avoided.

When fitting the chainguard ensure all screw heads are flush to the inside face of the chainring.



CHAINS

Brompton chainrings all have a 2mm tooth thickness best suited for 3/32" chains but 1/8" chains can also be used. Always use a 1/8" chain if a 1/8" sprocket is fitted to the rear wheel. Sprockets should be replaced when fitting a new chain, as both parts will wear during use and a new chain will not engage properly with a worn sprocket.

Correct chain length is essential for a smooth running drive train and trouble free folding of the bike. The table below shows the number of links required for the different chainwheel and sprocket combinations fitted by Brompton.

Chainring	Sprocket size	Chain length	Sprocket stack sizes (2 and 6 speed)	Chain length
54t	12 or 13t	100 links	12/16t, 13/16t, 13/15t	102 links
50t	12 or 13t	98 links	12/16t, 13/16t, 13/15t	100 links
44t	12 to 14t	96 links	12/16t, 13/16t, 13/15t	98 links

BROMPTON BRAKE CALIPER

WARNING

Read this document thoroughly before fitting the caliper. It is vital that brakes function correctly in order for your Brompton bicycle to be safe to use. We recommend having the brakes fitted, serviced and adjusted by a qualified bicycle mechanic to ensure they function correctly. Stop using the bike immediately if the brakes are not functioning correctly and take the bike to your local Brompton dealer for service. If you are unsure of the correct fitting process consult your Brompton dealer.

Do not modify, disassemble or tamper with any of the braking components, other than as stated in this document.

We recommend that you use only genuine Brompton components; other components may not be compatible or may cause the braking system to not function correctly.

In wet weather the braking distance will increase, reduce speed and apply brakes earlier in a controlled manner in wet conditions.

Do not allow oil, grease or other lubricants to come into contact with the braking surface of the rim or brake pads. This could severely reduce the braking performance and the bike should not be ridden in this circumstance.

IMPORTANT INFORMATION

When fitting the new brake caliper you should also replace the brake cable and housing. Make sure the brake cable is marked as compatible with the 2018 brake caliper (fig. 1), your handlebar type (M, P, S or H) and braking orientation (standard RH front, or reverse LH front etc.). If you do not use the correct cable and housing you may have problems with the function of the brakes, or the folding function of the bike.

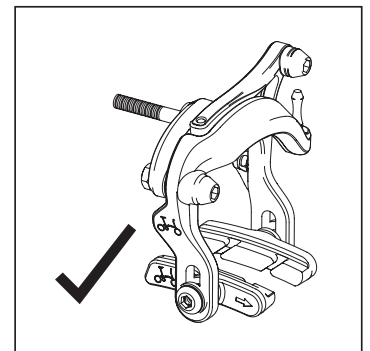


Fig. 1

If you are fitting the caliper to a bike/fork manufactured before 2018 model year, you will need to enlarge the hole on the rear of the fork crown (fig. 2) to accept the 8mm diameter barrel nut. Use an 8mm drill bit to enlarge the 6mm hole on the back of the fork crown. **DO NOT DRILL THROUGH THE HOLE IN THE FRONT OF THE CROWN.** Use a file to remove any sharp edges and then grease the unpainted surface in the hole. This hole should then be large enough to allow the barrel nut to pass through it. We recommend removing the fork from the bike to do this.

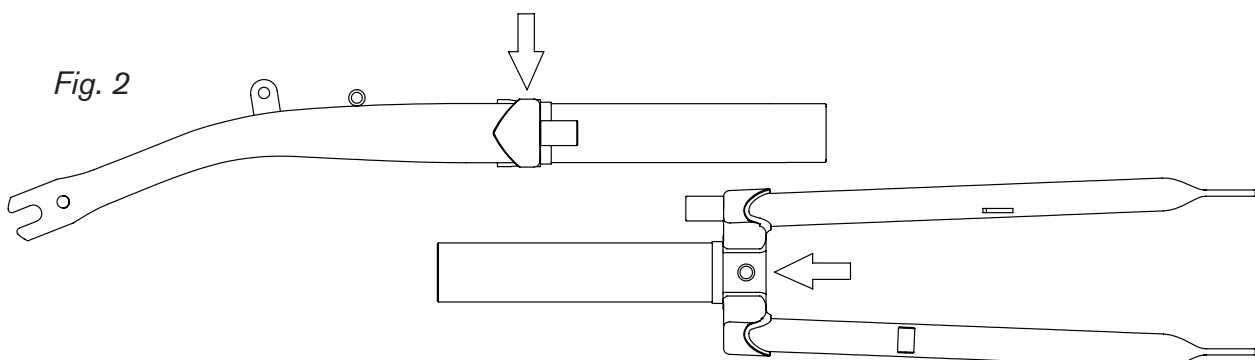


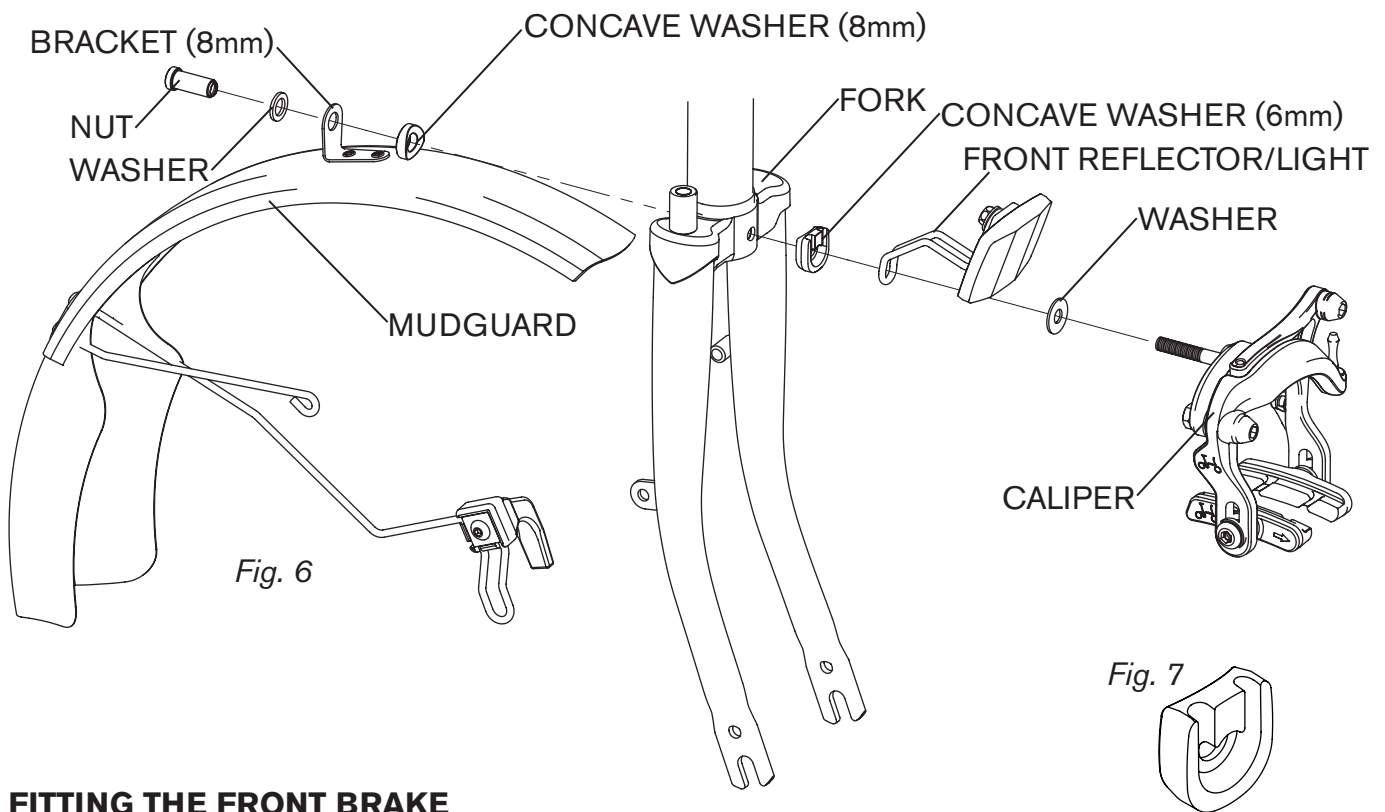
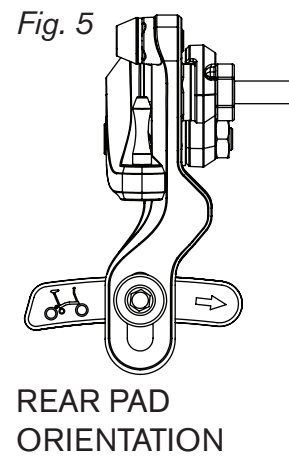
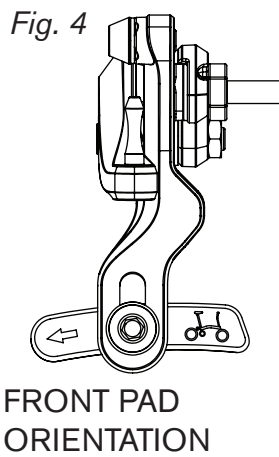
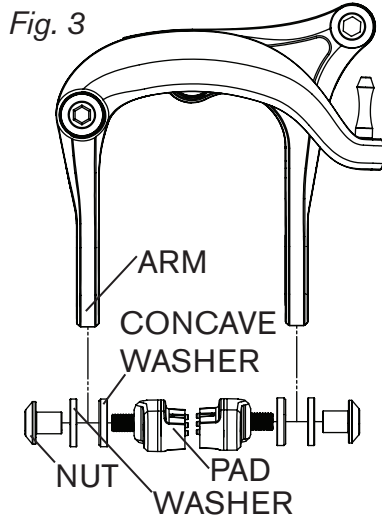
Fig. 2

If the bike is fitted with a front mudguard, you will need to replace this with a new version which has an 8mm hole in the bracket (fig. 6).



FITTING THE PADS TO THE CALIPER

The brake caliper is supplied with all the necessary parts to fit it to either the front or rear of the bike. The brake pads will need fixing to the caliper, with the washer and concave washer in the correct position (fig. 3) and the pads in the correct orientation for front (fig. 4) or rear (fig. 5) use. Ensure that the flat side of the concave washer is contacting the brake arm and the concave side is contacting the brake pad.



FITTING THE FRONT BRAKE

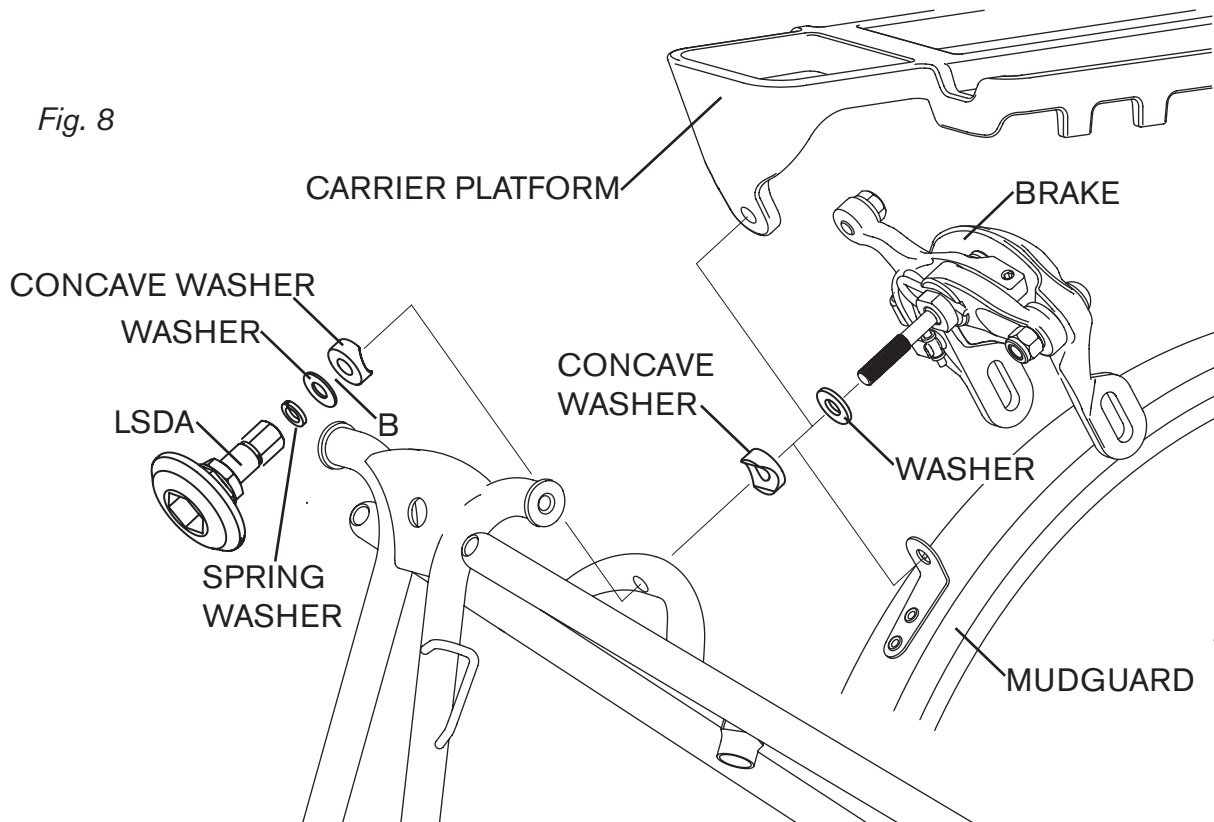
Remove the existing front brake and fit the new caliper as shown (fig. 6) with the parts fitted in the order shown. If the bike is not fitted with mudguards the washer will sit directly against the concave washer. The nut holding the caliper in place should be tightened to 8Nm.

If the bike is fitted with a wireform front (reflector or front dynamo lamp) bracket, you will need to use the existing die-cast concave washer (fig. 7) which has a recess in the front for the wire bracket to fit into. If the bike has a flat-plate reflector bracket or lamp bracket, use the supplied concave washer (6mm hole, fig. 6) on the front side of the fork.

FITTING THE REAR BRAKE

Remove the rear brake and fit the new caliper as shown (fig. 8). If the bike is not fitted with a rack there will be an additional lamp/reflector bracket which fits in position B. On E version bikes there will not be a mudguard. Tighten the LSDA to 10Nm.

Fig. 8



NOTE The concave washers used for the rear brake are a tighter radius (to match the shape of the mounting tube on the rear frame) than the front brake concave washers.

BRAKE PAD SETUP

The brake pads have a toe-in feature (fig. 9) which consists of three raised points on the rear end of the braking surface. This helps angle the pad slightly when setting it up (fig. 10) to 'toe-in' the pad and reduce vibration and noise when braking.

Fig. 9

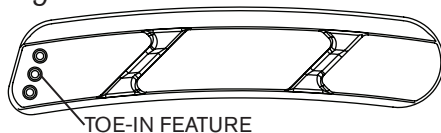


Fig. 10

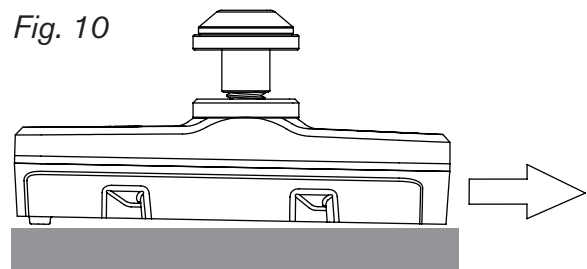
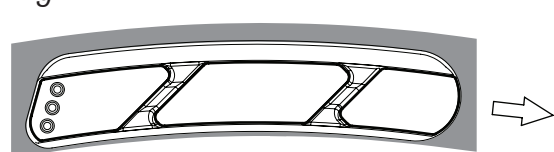


Fig. 11



When the brake caliper has been fitted and secured, you can set the position of the brake pads. Ensure that the surface of the brake pad is aligned with the curvature of the rim (fig. 11) and is just above the bottom edge of the braking surface on the rim. Once the pads are correctly positioned they should be tightened to 4-6Nm.

For information on setting the brake lever position, angle, reach, bite-point etc. see datasheet **ds-brlevel**

SECURING THE CABLE & SETTING THE CALIPER

Once you have fitted the new caliper and cable and have set the brake pads and caliper position, you should secure the cable into the caliper, trim the cable and carry out final adjustments of the brakes.

The clamp bolt should be tightened to 8Nm. trim excess inner cable from above the clamp bolt using some good quality cable cutters, leaving 10-15mm of cable. Cap with a cable end crimp.

Check that the pads do not contact the rim when the brake is not applied. Spin the wheel and check for contact on both sides.

You can use the centring screw on the top of the caliper to set the relative left-right offset of the pads. The barrel adjuster on the brake lever can be adjusted to change the pad clearance and contact point of the pads. Double check that the pads are correctly aligned with the braking surface, adjust as necessary. If you are unsure about any part of the fitting process, consult your Brompton dealer.

It is vital that brakes function correctly in order for your Brompton bicycle to be safe to use. Do not use the bike if the brakes are not in good working order.

CABLE ROUTING

Once the caliper is fitted you can install the new brake cable. ensure that the cables are marked as compatible with the new caliper (fig. 1) and that they are the correct version for the handlebar and braking orientation.

Correct routing of the control cables is essential if these are not to be damaged during folding. All cables should be routed as shown (fig. 12) and **MUST** pass in front of the handlebar, to the left of the handlebar stem and to the right of the main frame tube.

The front brake cable must pass:

- through the body of the cable gatherer, CABGATH (outer cable in two parts)
- through the forward cable guide, CGF, and
- to the left of the front mudguard

The rear cable(s) must pass:

- through the ring on the cable gatherer, CABGATH
- through the centre cable guide, CGC
- inside the tube TT
- through the rear cable guide, CGR
- for the brake cable, BRCABR, inside the tube SS

The gear cable(s) GCAB should lie below the brake cable. If there are two gear cables, then the derailleur cable should lie below the hub-gear cable.

When replacing a cable to which a dynamo wiring loom is attached, cut the tie wraps holding the loom to the old cable, and re-tie the loom (at the same positions as before) to the new cable.

Feed the inner cable through the brake lever and cable housing, into the brake caliper and gently push it through the rubber seal (fig. 13).

Fig. 13

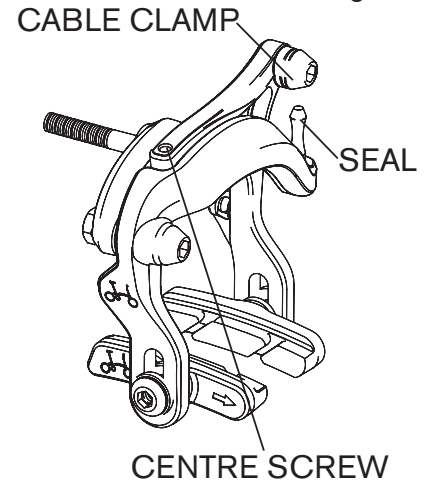
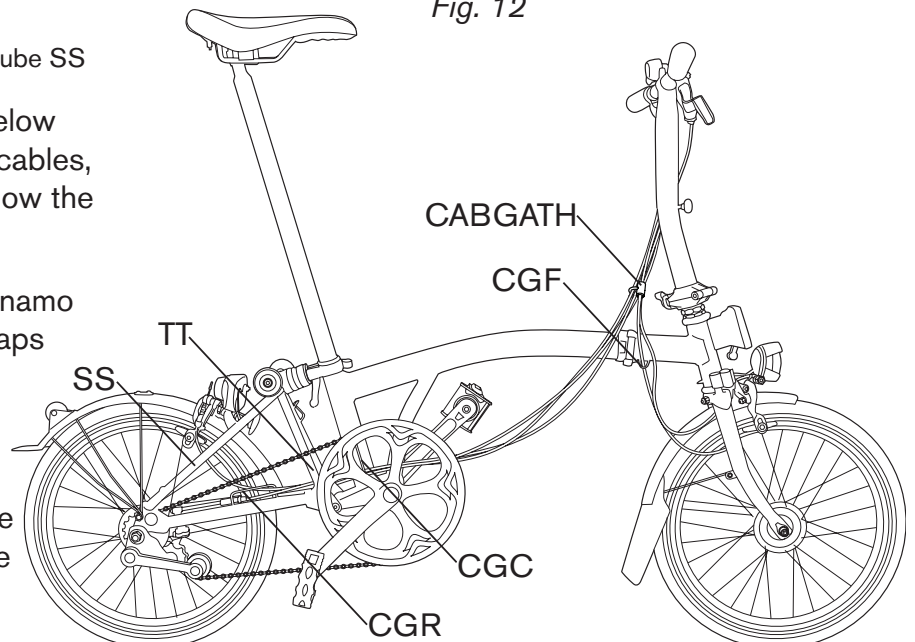


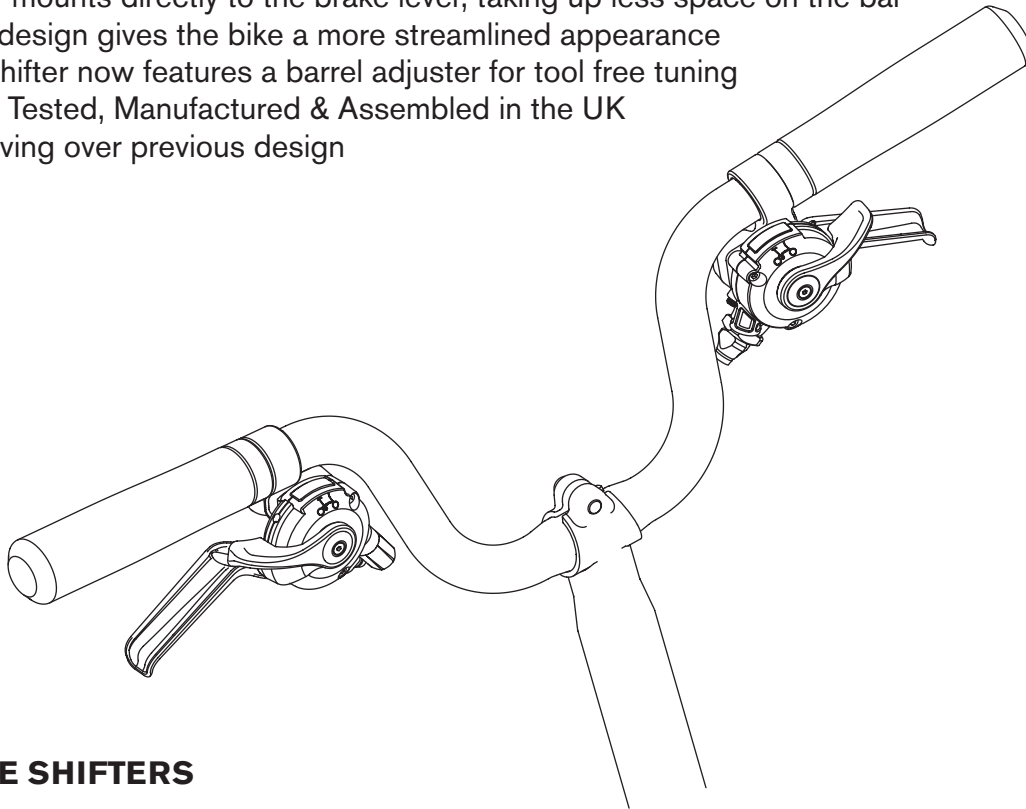
Fig. 12



BROMPTON UNDERBAR GEAR SHIFTERS

FEATURES

- Fitted to all bikes from 2017 onwards
- Improved ergonomics
- Intuitive operation, simple to use
- Two way self returning lever
- The same feel and action across both shifters
- Gear indicator window helps you see which gear to select
- The shifter mounts directly to the brake lever, taking up less space on the bar
- Underbar design gives the bike a more streamlined appearance
- 2-speed shifter now features a barrel adjuster for tool free tuning
- Designed, Tested, Manufactured & Assembled in the UK
- Weight saving over previous design



USING THE SHIFTERS

A Brompton can be fitted with either 1, 2, 3 or 6 gears. 2-speed bikes feature a left hand shifter, 3-speed bikes a right hand shifter and 6-speed bikes use both a left and right hand shifter.

On a 3-speed bike you pick 1, 2 or 3 for a low, medium and high gear. Using a 2-speed bike is as simple as selecting + or - on the shifter for a higher or lower gear.

To sequentially change gear on a 6 speed, the gear levers must be operated in the correct order; another way to think about it is that there is a high and low option (left hand shifter) for each of the three hub gears (right hand shifter). The left hand shifter gives a small change between gears, whereas the right hand will give a large change.

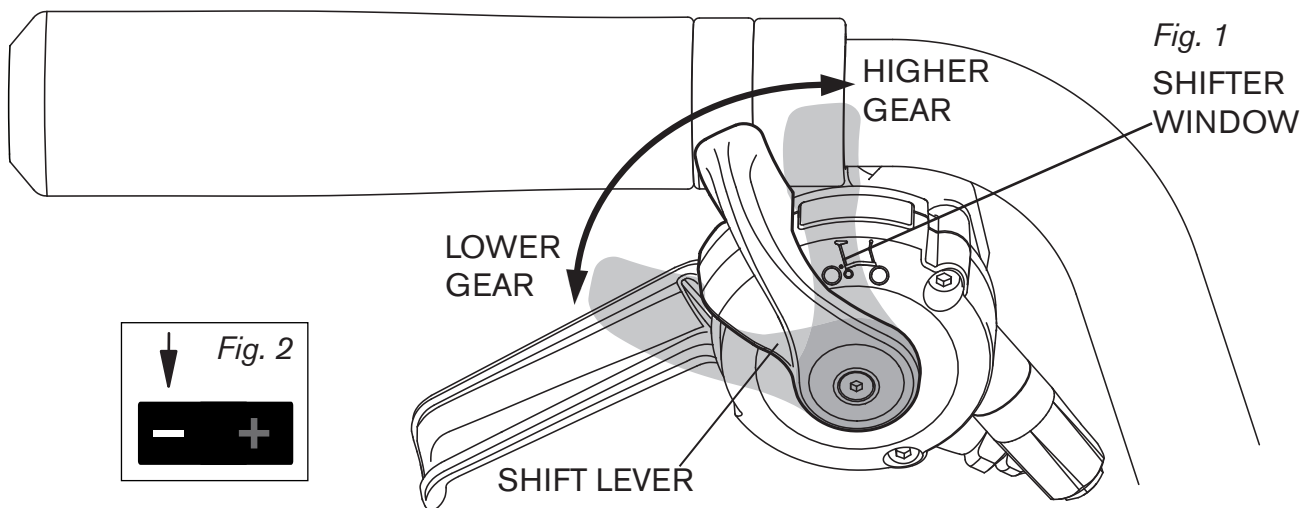


2-SPEED GEAR SHIFTER

- 2-speed shifters are used on 2 and 6 speed bikes
- These shifters were introduced on 2017 bikes
- This shifter is not compatible with older brake levers or pre 2017 M/H Type bars

USING THE SHIFTER

The 2-speed shifter uses a self-returning lever to change between the two gears. Pushing it down with your thumb will shift into an easier gear and flicking the lever upwards with the back of the thumb will shift into a harder gear (fig.1). It is possible to change gear while pedalling or stationary, though the gear will not engage until the pedals are moving forward. The indicator window (fig. 1, 2) shows you which gear is selected.

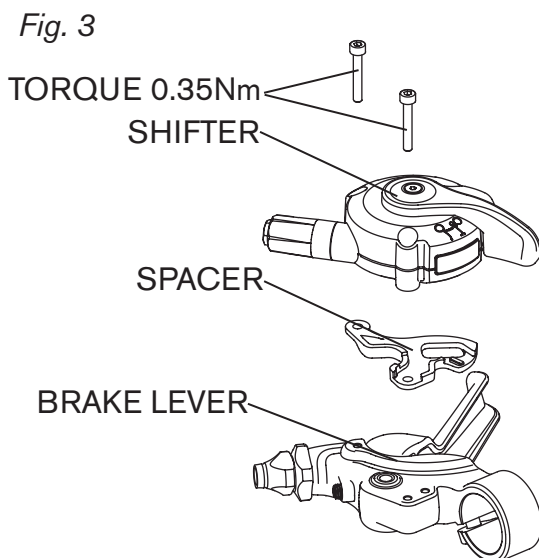


FITTING THE SHIFTER

The shifter mounts to the right hand brake lever, it is held in place by two M3 screws, these should be tightened to **0.35Nm**. Do not overtighten the screws as this can reduce the performance of the shifter and damage the parts.

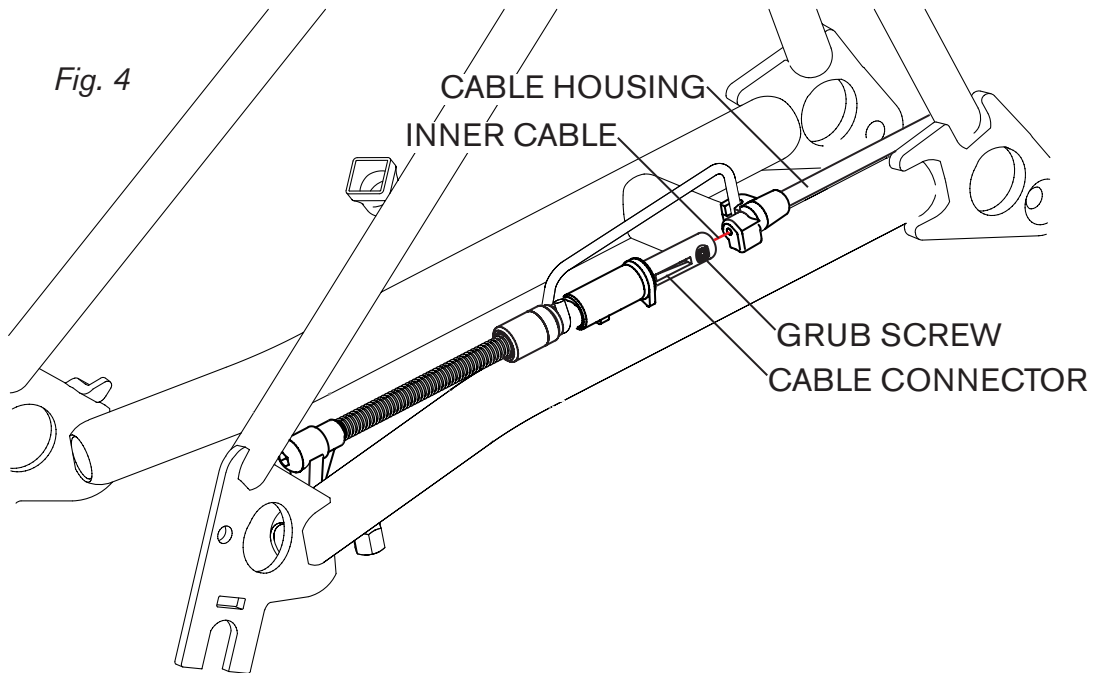
As standard a spacer (fig. 3) is fitted between the shifter and brake lever. This spacer is vital to ensure clearance between the shift lever and the grip.

On P-Type bikes and also on M, H & S-type bikes using non-standard grips, the locking collar or grip material can interfere with the lever operation, if the spacer is not fitted.



REMOVING THE GEAR CABLE

- Select the highest gear (+)
- Release the cable from the cable connector (fig. 4) by loosening the grub screw
- Select the lowest gear (-) and then press the shift lever downward so it does not obscure the cable entry hole
- Separate the inner cable from the outer housing
- Push the inner cable through the barrel adjuster, until the cable nipple is fed out from the entry hole (fig. 5)
- Pull the cable from the entry hole until it is separated from the shifter



FITTING A NEW CABLE

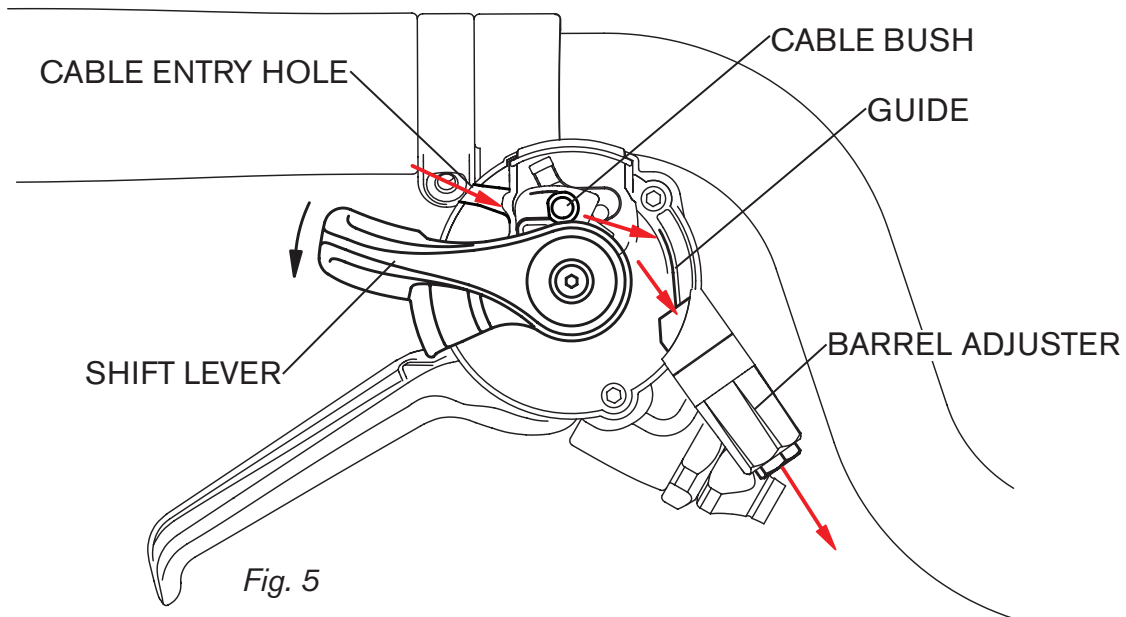
- Screw the barrel adjuster fully clockwise so that it is at its shortest setting, then unscrew by 2 turns
- Select the lowest gear (-) and then press the shift lever downward so it does not obscure the cable entry hole
- Feed the gear cable into the shifter in a slightly downward direction and through the cable bush
- If there is resistance pushing the cable through the bush pull the cable back a little and try again
- Once you can feel the cable pass through the bush keep feeding it until you feel slight resistance
- Keep feeding it through so that it follows around the guide inside the shifter and exits through the barrel adjuster

DO NOT FORCE THE CABLE AS THIS MAY DAMAGE THE SHIFTER



SETTING THE GEARS

- Insert the gear cable into the housing
- Thread it all the way through so that it exits through the end of the housing
- Using some needle nose pliers or similar pull the cable through the housing and insert fully into the connector
- Tighten the grub screw to secure the cable in the connector
- Use the barrel adjuster on the shifter to make adjustments to the cable tension as needed
- Unscrewing the adjuster will add more tension to the cable and improve shifting into the lower gear
- Screwing the adjuster inwards will reduce tension and improve shifting into the high gear



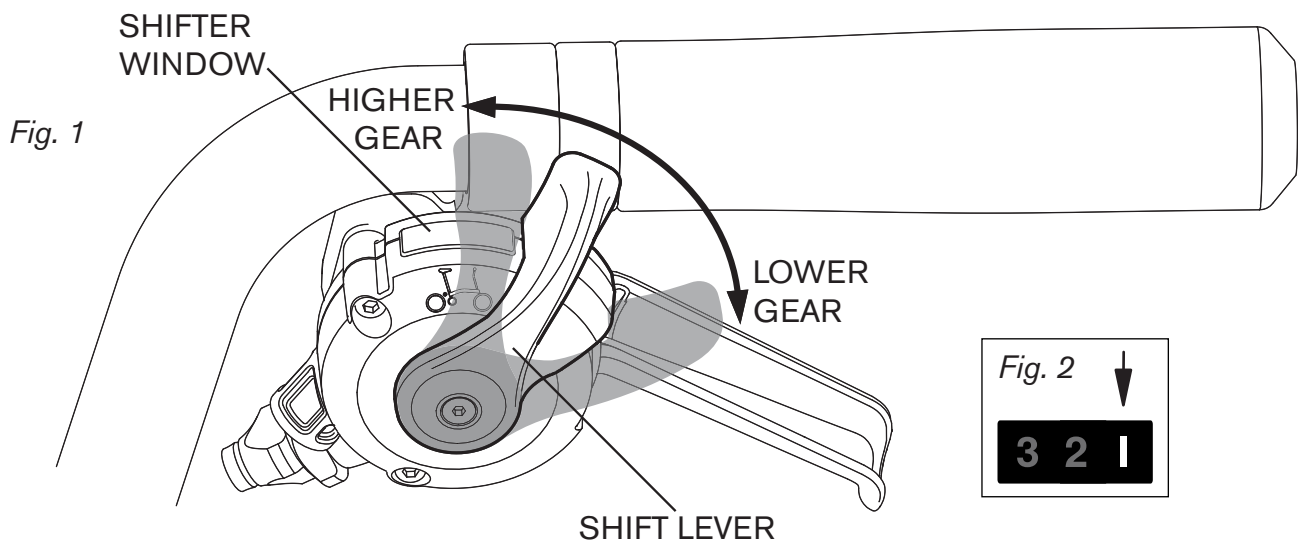
3-SPEED GEAR SHIFTER

IMPORTANT INFORMATION

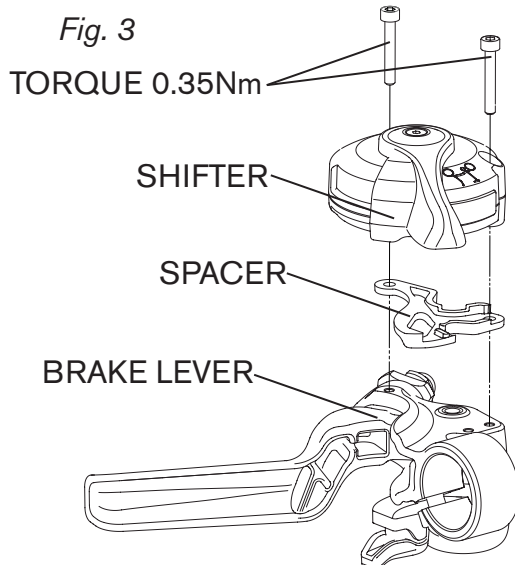
- 3-speed shifters are used on 3 and 6 speed bikes
- These shifters were introduced on 2017 bikes
- This shifter is not compatible with older brake levers or pre-2017 M/H Type bars
- If you are unsure about any fitting or operation instructions please contact a Brompton dealer

USING THE SHIFTER

The 3-speed shifter uses a self-returning lever to change between the three gears. Pushing it down with your thumb will shift into an easier gear and flicking the lever upwards with the back of the thumb will shift into a harder gear (fig.1). It is important to stop pedalling or back pedal slightly when changing gear, if you do not do this it is possible to damage the hub internals. The indicator window (fig. 1, 2) shows you which gear is selected.



FITTING THE SHIFTER



The shifter mounts to the right hand brake lever, it is held in place by two M3 screws, these should be tightened to **0.35Nm**. Do not overtighten the screws as this can reduce the performance of the shifter and damage the parts.

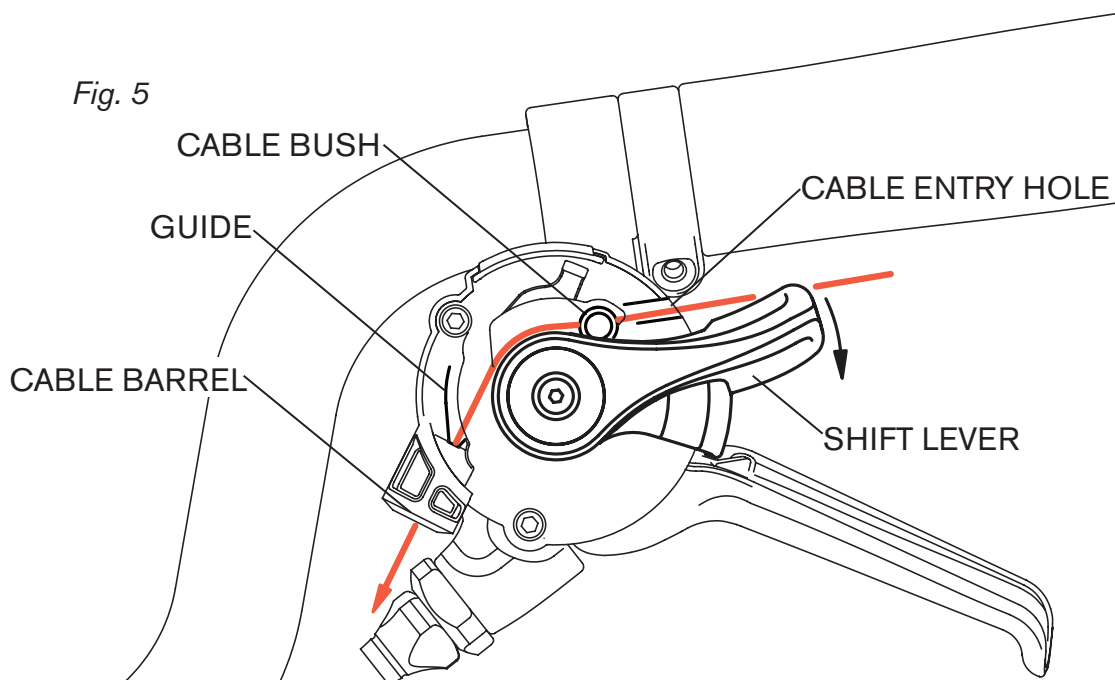
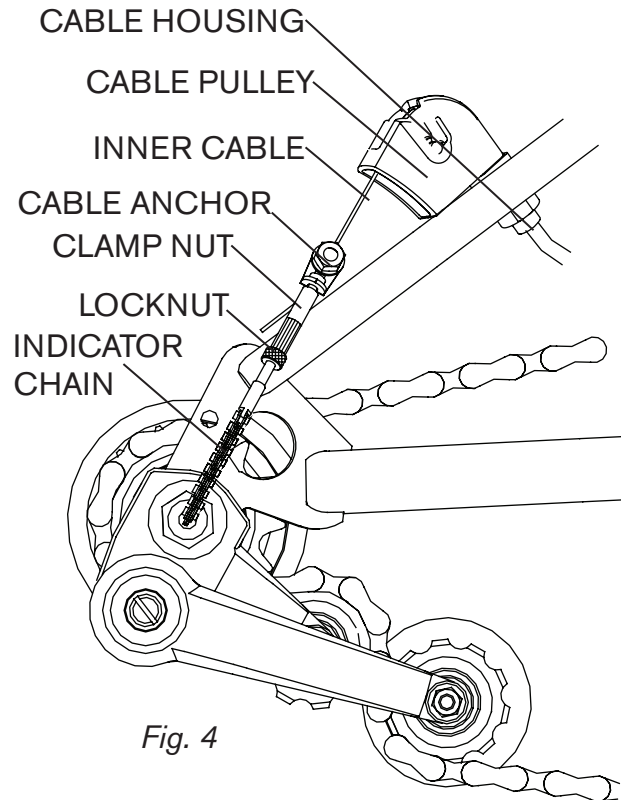
As standard a spacer (fig. 3) is fitted between the shifter and brake lever. This spacer is vital to ensure clearance between the shift lever and the grip.

On P-Type bikes and also on M, H & S-type bikes using non-standard grips, the locking collar or grip material can interfere with the lever operation, if the spacer is not fitted.



REMOVING THE GEAR CABLE

- Select gear 3 on the shifter, backpedal to engage the hub
- Unscrew the indicator chain locknut (fig. 4)
- Unscrew the indicator chain from the gear cable anchor
- Undo the gear cable anchor clamp nut and release the inner gear cable
- If there is a cable crimp fitted to the cable end you will need to remove this, then pull the cable out of the clamp
- Pull the cable housing away from the shifter
- Remove the inner cable from the cable housing
- Select gear 1 and then press the shift lever downward so it does not obscure the cable entry hole
- Feed the gear cable through the shifter so that the cable nipple ejects from the cable entry hole
- If there is resistance pushing the cable through the bush pull the cable back a little and try again
- Keep feeding the cable through until the cable can be fully removed from the shifter



FITTING A NEW CABLE

- Select gear 1 and then press the shift lever downward so it does not obscure the cable entry hole (fig. 5)
- Feed the gear cable into the shifter and through the cable bush
- If there is resistance pushing the cable through the bush pull the cable back a little and try again
- Once you can feel the cable pass through the bush keep feeding it until you feel slight resistance
- Keep feeding it through so that it follows around the guide inside the shifter and exits through the cable barrel

DO NOT FORCE THE CABLE AS THIS MAY DAMAGE THE SHIFTER

REFITTING THE GEAR CABLE

- Thread the inner cable through the housing and around the cable pulley (fig. 4)
- Thread the cable through the clamp on the cable anchor and pull through before tightening the clamp nut

HUB-GEAR ADJUSTMENT

Adjustment must be carried out with the bike fully unfolded and with the indicator rod screwed into the hub (backed off not more than half a turn to align with the cable). The aim is to make sure that the indicator rod & chain move to the correct position in response to moving the trigger.

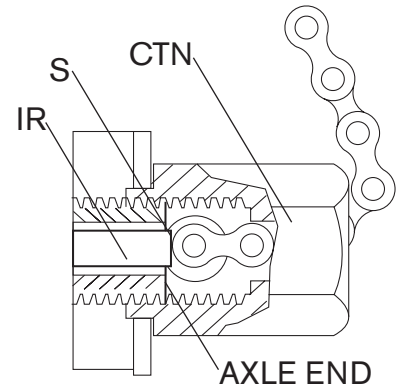
For this the cable has to be running free of kinks or sharp bends, with the cable pulley rolling freely.

While setting gears, keep the wheel spinning forwards, and pedal back and forwards, to ensure the gear engages. It's easiest, when altering the setting, to have the cable slack: select top gear and back and forward pedal.

Adjustment is carried out by slackening the lock nut, turning the cable anchor barrel (fig. 4) to obtain correct setting, and relocking the nut.

The indicator chain is correctly adjusted (fig. 6) when the shoulder S on the indicator rod IR is proud of the axle end by no more than 1 mm (this can be seen by looking through the hole in the chain tensioner nut CTN) when in the middle position on the shifter is selected.

Fig. 6



BROMPTON

DEALER MANUAL

