

## BROMPTON BICYCLE - OWNER'S MANUAL

### INTRODUCTION:

Before using your Brompton, we recommend you read the sections on safety and folding. You should also be aware how important it is to keep your tyres well pumped-up: soft tyres make for a lot more pedalling effort (which takes much of the fun out of riding), wear out quickly, and also have an adverse effect on handling. We cannot over-emphasise the need to keep tyres well inflated.

If you carry out any adjustments or maintenance work yourself, do read the relevant section of this manual first, as it's quite easy to get things wrong, and to impair the folding process or damage the machine. If you take your bike to a dealer for any servicing work, wherever possible use an authorised Brompton stockist.

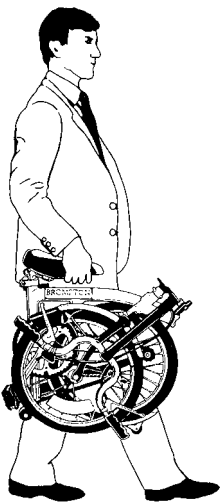
Serial and Frame Numbers. The label at the back of the seat tube on the main frame carries the serial number. The frame number is stamped on the main frame just forward of the rear suspension pivot: it's a good idea to keep a record of both numbers. The serial number will be useful if you have any maintenance or technical queries.

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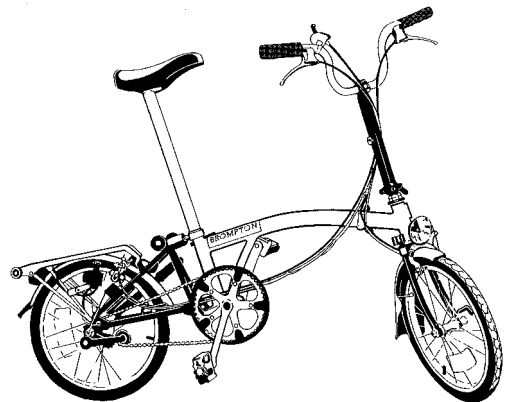
## SECTION A: SAFETY.

1. Before riding, see that the seat pillar clamp is properly secured, and that the hinge clamps are in place, with levers firmly screwed up.
2. Carrying the Brompton: it is obviously less critical that the bike is correctly folded than assembled, but bear in mind that, if the machine is not properly locked together, unexpected unfolding of the folded package, for instance on a staircase or lifting it off a luggage rack, could cause injury.
3. When riding on a gritty surface, or obliquely across a groove or step, small wheels have less grip. Take due care, especially in the wet. Wet metal is particularly slippery.
4. Keep the gears properly adjusted, and brakes and control cables in good condition. Remember that in rain the brakes may be less effective.
5. During folding and unfolding, avoid putting your hands anywhere that they may be trapped.
6. High mileage and hard riding: aluminium alloy is used on the Brompton and this has a limited fatigue life. *Failure in use can cause injury*, so follow the recommendations in section K regarding routine replacements of ALLOY components of the bike.
7. On an S-type, do not use any front luggage except the S-bag (other luggage items are taller, and interfere with steering). For the same reason, avoid overfilling panniers or basket on a P-type.
8. When riding a P-type, remember you have *no brakes* to hand when using the lower grips. Also, take care when changing your hand-position.
9. The Brompton is designed a) for loads not exceeding 110kgs, and b) for use on roads and well made paths. It is not designed for cross country riding or for higher loads: this can overstress the frame, and the tyres and wheels are unsuitable.



10. Do NOT try to alter the height of the handlebar stem where it enters the front forks.

11. Use lights, front and rear, when riding after dark.



## SECTION B: FOLDING AND UNFOLDING.

If you have not had the Brompton demonstrated or explained to you, read this section before trying to unfold or fold the bike. If you have used a Brompton before, part 3 may still be a useful source of tips.

### Part 1: **ORDER OF UNFOLDING & FOLDING - OVERVIEW.**

#### a) UNFOLDING:

Stage 1: raise **saddle & handlebar** and (if a folding pedal is fitted) unfold **pedal**: these items can be dealt with in any order, but they must be unfolded before moving on to stage 2.

Stage 2: unfold **front wheel**. The bicycle is now in its "parked" position and ready for use.

#### b) FOLDING:

Always "park" the bike by swinging the rear wheel under before folding:

Stage 1: fold back **front wheel** (right hand pedal should be moved out of the way if necessary).

Stage 2: lower **handlebar & saddle** and, if fitted, stow folding **pedal**; again, these items can be dealt with in any order once the front wheel has been folded back and latched onto the rear frame.

### Part 2: **OTHER POINTS TO REMEMBER.**

1. *The seat pillar, when folded, is what locks the folded package together: it projects down from the main frame, so preventing the rear frame from rotating. So, if the seat pillar is projecting below the main frame, DON'T try to park or unpark the Brompton: also DON'T try to latch or unlatch the front wheel from the rear frame, as this requires that the rear frame rotates relative the main frame. Also if the saddle is not fully down, the folded package may fall apart when you pick the bike up.*

2. The folded bicycle can be carried by the main tube. Alternatively grip the front of the saddle, but to do this a) re-clamp the seat pillar after folding (best with the saddle pointing slightly rightwards, over the centre of gravity), and b) avoid pulling the padding away from the saddle frame.

3. Turning the cranks/pedals to get the RH pedal out of the way when the bike is parked: on any bike you can back-pedal, but if the bike has mudguards, you can also move the pedals forward. Note that:

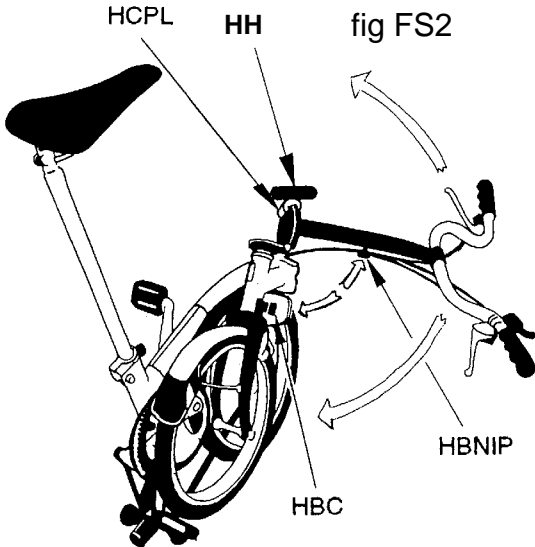
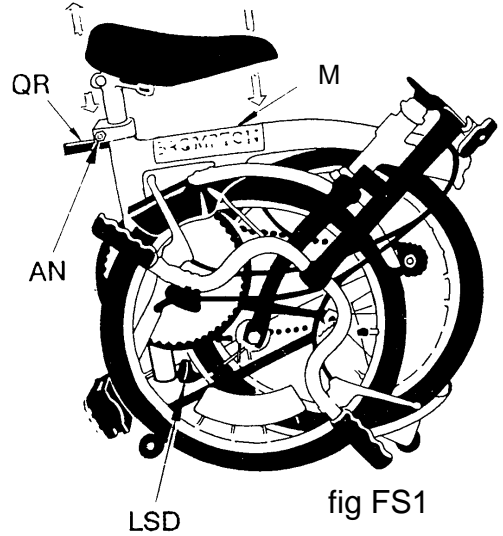
- the LH pedal should *not be folded* when turning the cranks, as it can catch on parts of the rear frame
- if back-peddalling, particularly with a new hub-gear in top, turning the cranks quickly can cause the chain to go slack, or even come off. To avoid this, keep the bike in middle gear when folding, or else (if possible) pedal forwards instead.

### Part 3: UNFOLDING AND FOLDING EXPLAINED IN DETAIL.

If you have not seen the Brompton being folded, you may get the impression on reading this section that the process is difficult: it involves in practice only a few easy movements.

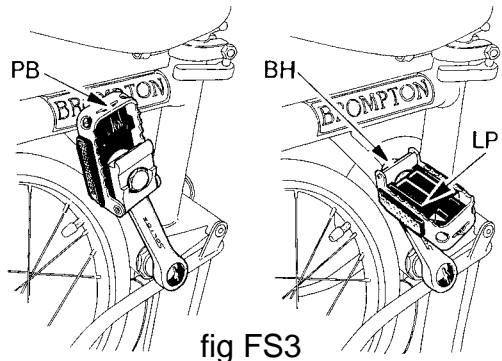
#### UNFOLDING, stage 1 - Saddle & Handlebars (and folding pedal):

*Saddle, fig FS1.* Undo the quick release lever, QR, under the saddle (swing it outwards and backwards). Grip the saddle at the rear end, and, resting one hand on the main frame tube near M, draw the saddle upwards until it comes to a stop: get the saddle pointing straight ahead, and do up the lever QR (it should lie alongside the main frame). To obtain a smooth action when moving the saddle up or down, you should pull or push along the line of the seat pillar itself. If you need a saddle higher than normal, see section D.



*Handlebar, fig FS2.* The handlebar assembly is kept folded by the nipple, HBNIP, being trapped in the clip, HBC. To release, pull the handlebar outwards and forwards and swing it round and up. To secure, make sure that the hinge clamp plate, HCPL, straddles both hinge plates, and screw up the lever at HH, firmly.

*Left Hand pedal, fig FS3.* If this is fitted, unfold it by swinging the pedal body, PB, outwards. The latch plate, LP, will snap into position to lock the pedal in place.



## UNFOLDING stage 2 - Front wheel, figures FS4 & 5:

*Do not attempt to unfold the front wheel assembly if either the saddle or the handlebar is still folded.*

Unfolding or folding the front wheel requires only a single action, described below: however, it's a help to understand what goes on. The front wheel/fork is held in place when folded by means of the *hook, H, passing over the tube, CHS, on the rear frame*. To release, the whole bicycle must be tipped slightly back relative to the rear wheel underneath it, so that the hook clears the tube, fig FS4. The front wheel is then moved out and forward into position: during this action there is no need to turn the front wheel - it should be kept pointing forward (and slightly leftwards), fig FS5. During this action the top of the handlebar assembly remains roughly in the same position, with the bottom moving round a small half circle.

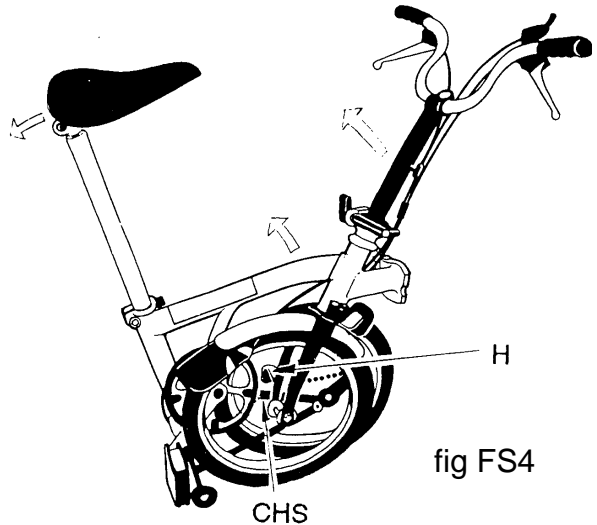


fig FS4

You will find that there is a variety of methods for carrying out this action, but to begin with try the following: grasp the handlebar support, HBS, lift it slightly (maybe lifting the main frame or pushing back on the saddle at the same time), and then, using a "stirring" action move the front wheel out and round to its unfolded position. No strength is needed for this, but if you find the action awkward to begin with, take hold of the front mudguard with your other hand and help the wheel round and forward. Finally, do up the hinge clamp on the main frame at MH, securing the lever firmly (*again ensure that the locking plate straddles both hinge plates: leaning the bike to the right helps keep it in place whilst doing up this lever*).

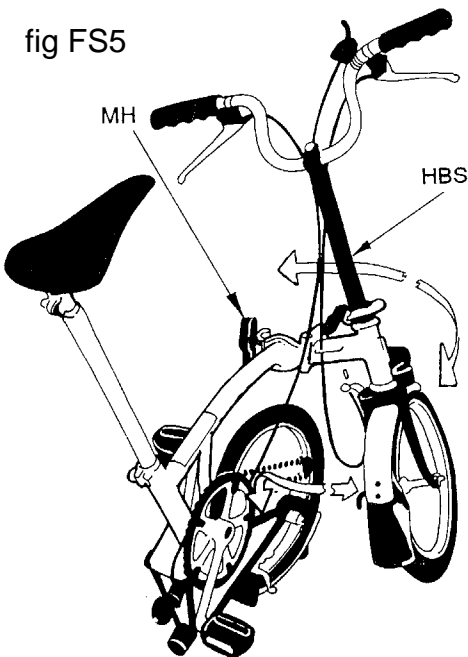
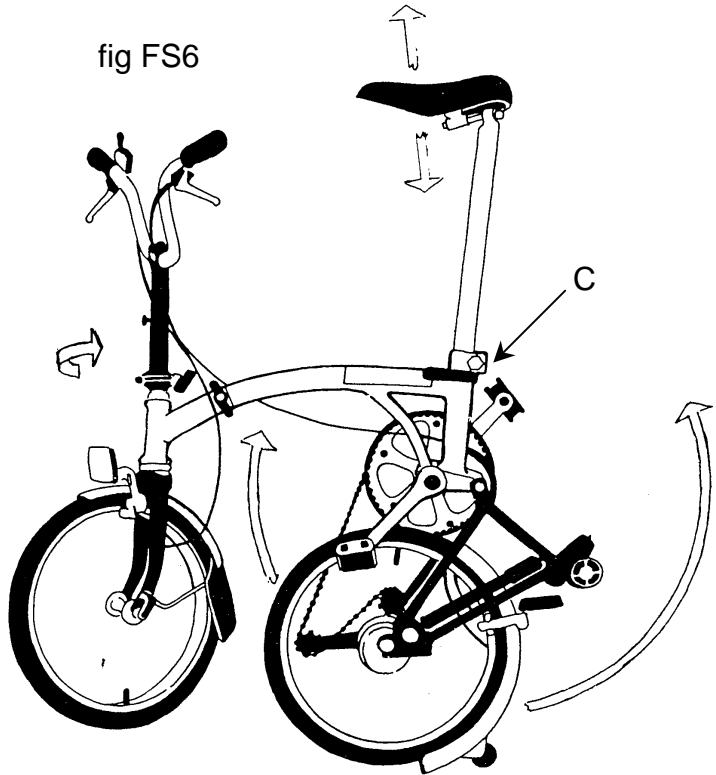


fig FS5

The bicycle is now parked, in effect ready for use: to unpark (fig FS6), lift the bike by the saddle (keeping the front wheel turned slightly leftwards) and allow the rear frame/wheel to rotate down and back into its unfolded position. By controlling the way in which you raise and lower the saddle, this can be done in a single smooth movement: if to begin with you find the wheel hanging in the halfway position, help the wheel round by hand or with your foot. There is no need to lock the rear wheel assembly, as your weight, when you are on the bike, keeps it in place (but you can, if you wish, use a clip at C to latch this - see Section C5 below).



### **FOLDING: stage 1 - Parking & Front wheel:**

Start by parking the bike, fig FS6: while doing this, turn the front wheel slightly leftwards (if you don't, no harm would result, but the rear wheel would clash with the front wheel). If the rear-frame-clip at C is engaged, release it. Raise the bike by the saddle, and allow the rear wheel to swing down and forward to lie under the main frame. The bike is now parked, and providing it's on reasonably level ground will stand up unsupported.

It is tempting to start folding with the "easy" items, the seat or handlebars. The bike cannot be folded properly if you do start with these: *you must fold back the front wheel/fork FIRST.* See fig FS5.

Have the right hand pedal out of the way of the front wheel: best if the right hand pedal ends up positioned backwards and downwards.

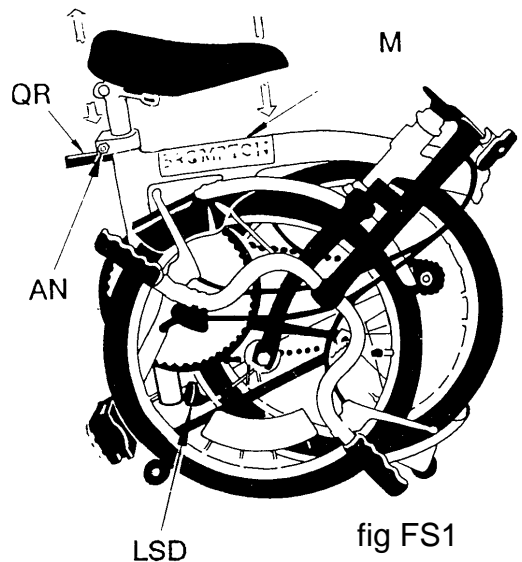
Unscrew the hinge clamp at MH on the main frame (three or four turns of the handle normally suffice). Grip the handlebar support, HBS, lift slightly (maybe pushing back on the saddle at the same time) and, *keeping the front wheel pointing roughly forwards*, use a "stirring" action to move it out and back round till it lies alongside the rear wheel (again no strength is

needed for this, but if it helps, take hold of the front mudguard with your other hand and guide the wheel round). Make sure that the hook, H, has passed over the tube, CHS, on the rear frame, and allow the front wheel assembly to drop (the whole bike actually rotating relative the rear frame). With the front wheel now folded, you can move on to the other parts.

## **FOLDING stage 2 - Handlebars and Saddle (and folding pedal):**

*Handlebar, fig FS2.* Undo the hinge clamp at HH (handlebar stem). Swing the handlebars down to lie alongside the front wheel, and push home so that the nipple, HBNIP, engages in the clip, HBC: alternatively, simply let the handlebars drop into position on their own.

*Saddle, fig FS1.* Undo the lever, QR, push the saddle right down, and re-clamp the lever. During this action, the lower end of the seat pillar passes behind the plastic disc, LSD, on the rear frame: it is because of this that the rear frame remains folded, in turn retaining the front wheel in its folded position. So if you don't push the saddle fully down, the folded package can come apart when you pick the bike up.



*Folding pedal, fig FS3.* It is best to fold this with the left hand crank as high as possible (i.e. with the cranks turned so that the right hand pedal touches the front wheel): also, the ridged side of the nylon latch plate on the pedal should face upwards. Press the outer part of the latch plate downwards, so that the inner part clears the top of the bearing housing, BH, and stow the pedal PB.

*Front wheel assembly, other methods for folding and unfolding:* the method described above, viz. holding the handlebar support and using a stirring action to move the front wheel assembly, is perfectly satisfactory. However, if you frequently fold and unfold your Brompton, you'll become aware of other, easier, techniques for this stage of folding.

[The titanium seat-post has an anti-wear surface treatment, giving a blue colour: it may, in places, fade with use, but this won't affect performance.]

# SECTION C: USING THE BROMPTON.

## 1. Tyre pressures:

	BROMPTON HP & Marathon:		STELVIO	
	Normal	Max.	Normal	Max.
FRONT	<i>60 - 80 psi</i>	<i>100 psi</i>	<i>85 - 100 psi</i>	<i>120 psi</i>
REAR	<i>70 - 90 psi</i>	<i>100 psi</i>	<i>95 - 110 psi</i>	<i>120 psi</i>



The most appropriate pressure depends on your weight and preference. On rough roads, it's obviously more comfortable if you keep the pressures near the lower end of the ranges. However, for minimum pedalling effort, use the higher pressures.

With under-inflated tyres, pedalling is hard work, and the risk of punctures is higher: **KEEP YOUR TYRES WELL INFLATED.**

A car-type valve is used, allowing various methods of inflation. The Brompton HP pump is well suited, and can be kept on the rear frame (unless it's titanium). You can also use

a standard car foot- or hand-pump, or an air line. With compressed air, the pressure in the tyre may rise very quickly: so let the air enter in short bursts, checking the pressure all the time. If you use a bike pump with a flexible connector, you have to unscrew the connector *very* swiftly to avoid air loss.

## 2. Gears:

Two gear systems are used on Bromptons, derailleur (left hand trigger) and hub gears (right hand trigger). To keep things simple, follow two rules for changing gear:

- a) **when moving**, keep pedalling, but take the pressure off the pedals while making the change, and
- b) **when stationary**, avoid using the left hand trigger, and for the right hand trigger, back pedal a little to allow the new ratio to engage (if, when pulling the lever on the RH control down, you encounter unusual resistance, do not force the control: instead, back pedal and try again).

Gear adjustments will be needed from time to time, particularly during early use: see section F. With hub gears, if transmission is not smooth in any gear, take remedial action straight away, as otherwise damage could result.

If your bike has a derailleur, do not neglect to use it: if you use only one sprocket all the time, wear will be uneven.

### 3. Lighting.

To engage a *tyre-driven dynamo*, either, if the dynamo is fitted with a lever, depress the lever, or, if there is no lever, push the body of the dynamo down relative to its bracket. To release the dynamo, pull the body of the dynamo away from the tyre, and the dynamo will latch off.

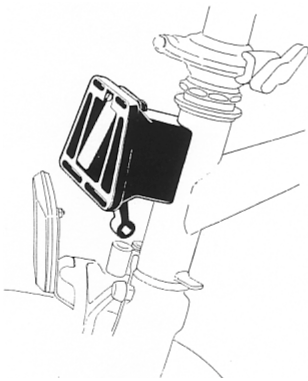
For a *hub-dynamo*, use the switch on the back of the front lamp.

*Rear battery lamp*: to change the batteries remove the lens from the back-plate, using the two small cross-head screws each side of the main lens.

### 4. Luggage.

**Front luggage:** recommended max load 10 kgs:

- On an S-type bike, the only suitable luggage option is the S-bag (using the other, taller, luggage options is *dangerous, as these interfere with steering*).
- On a P-type, do not overfill your pannier, as this also can interfere with steering.



**Fitting front luggage.** The front carrier frame has an integral tapered latch plate. To attach the frame, slide this plate down onto the front of the carrier block: you will hear a distinct click as the frame approaches its rest position, an indication that the sprung latch lever in the carrier block has engaged. To remove luggage, pull the bottom of the lever backwards (this projects underneath the carrier block, just above the brake), and then draw the frame upwards and off: slight side-to-side rocking may be needed to free the luggage from the block.

**Rear luggage:** recommended max. load on a rear rack is 10kgs.

### 5. Parking the Brompton & the Rear-frame-clip.

If your bike has a rear-frame-clip, you have the choice of latch mode or non-latch mode. Without a clip, there's no choice, just non-latch mode.

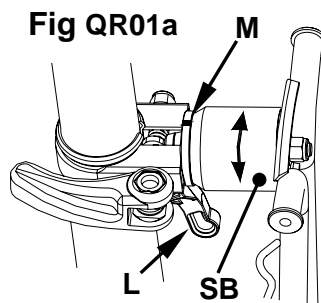
- In non-latch-mode (or for a bike without a clip), the rear wheel falls away whenever you pick up the unfolded bike, which allows you to park the bike instantly. This is a great convenience, and many users value this Brompton feature, but you may find it disconcerting.
- In latch-mode, the clip engages *automatically* every time you unfold, and the bike remains fully as-a-piece when you pick it up (the same as with a normal bike), but you have the disadvantage that, whenever you wish to

park or fold the bike, you have to release this clip. In latch mode, the clip is released by pushing lever L forwards

The latching facility comes into its own when wheeling the bike around with luggage on, and for those who feel more comfortable riding a bike with rear-frame attached.

To switch from latch to non-latch-mode, turn the rubber suspension block SB through at least a quarter turn. **Note**, the rear-frame must be released/unclipped while you do this.

To switch the other way, from non-latch to latch mode, simply turn the suspension block so that the indicator mark M is on top, near enough central (in this position the clip will automatically engage).



## 6. Wheeling the folded-bike around.

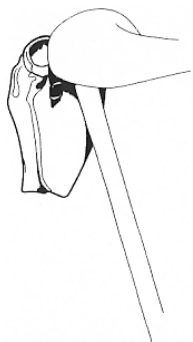
The small rollers fitted as standard on a Brompton are fine for pushing the folded-bike into tight spaces. You can also, using the raised handlebar as a handle, pull it around on these rollers, but this only works for short distances and on a smooth surface.

But for a bike fitted with **eazy-wheels**, rolling it around is much easier, but:

- remember to raise the seat pillar slightly from the fully-down position
- *don't subject the wheels to impact*. this could damage the rear-frame or rack
- keep the elasticated shock-cords on the rear-rack *crossed* when they aren't in use (to prevent the rollers chafing them)
- if you want to prevent the folded bike from rolling off on its own, you should push the seat pillar fully down so that the rubber bung in its base can act as a brake
- if you use the raised saddle as a handle (rather than the h'bar), the folded package will *not be locked together* if you try to pick it up.

## 7. Using the cover.

The cover comes with a saddlebag for storage when it's not in use. If you don't use the saddlebag for the cover, you may find it useful as a container for other small items.



The two-way zip on the cover helps fitting, and allows access at the top for carrying the bike. If you wish to make a neater package and also partially to cover the base of the bike, pull the lower edge of the cover right down, and then draw the pull cord tight.



## SECTION D: SADDLE POSITION.

If folded size is critical (and you are happy with the saddle nearer to the handlebars) then, for maximum compactness, fit a saddle adaptor pin, pointing forwards and “downwards”. With the saddle mounted in any other way, it ends up projecting somewhat from the minimum folded envelope.

### BASIC ADJUSTMENTS:

Height of the saddle: for the maximum height, draw the seat pillar up until it reaches a positive stop, and for lower positions slide it down. If you wish to select a very low position, take care, as the bottom of the seat pillar may project below the main frame and prevent the rear frame from swinging between parked and un-parked positions.

**PU saddle with nylon frame:** the angle is adjusted in the normal way (slacken the nut securing the mounting clip, “click” into the desired position, and re-tighten the nut: torque 13-15NM). The saddle can be moved 30mm back by reversing its clip so that the seat pillar passes forward of the bolt.

**Rail saddle with “Pentaclip”:** the angle and fore-aft adjustment are steplessly variable: slacken the clip-bolt (5mm hex-key), and re-secure with a torque of 15-20NM. As above, the saddle can be moved still further back by reversing the clip on the seat pillar.

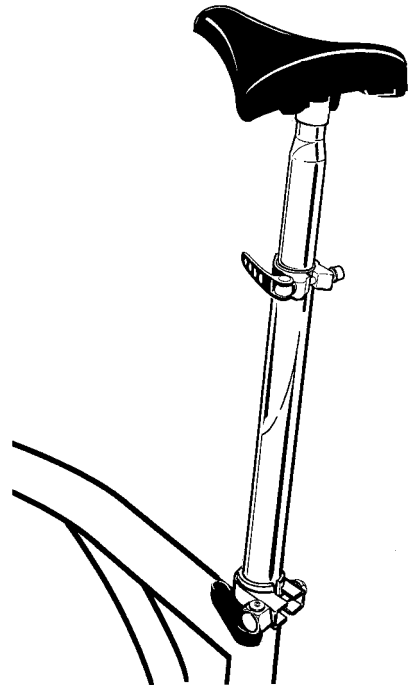
### ADDITIONAL HEIGHT:

Riding with a saddle even slightly too low is no fun. You can win around 15mm of extra height by moving the saddle-clamp up the seat pillar itself. And with a rail saddle, you can win a further 19mm by having the clip-bolt below the rails rather than above: with a Pentaclip, undo the clip-bolt, remove it and the two lock-plates, move the rails up, and re-fit the bolt with the lock-plates inverted (avoid letting the clip-assembly fall apart, but if it does, make sure that the *four clutch plates on each side are correctly re-assembled*).

If you can't win enough height by re-positioning the saddle, there are three Brompton options which allow more height, a telescopic seat pillar, a plain pillar extended 60mm, or a saddle adaptor pin pointing "up".

The telescopic pillar can accommodate the needs of even the tallest rider, with negligible change to the folded size.

Note: if you do opt for a saddle adaptor pin, *don't mount it pointing backwards* as this could easily overstress the frame.



## SECTION E: HANDLEBAR & CONTROL POSITIONS.

The handlebars and control levers on the Brompton are factory set to provide a compromise between compactness and riding comfort. For most users the riding position should be fine.

There is no *vertical* adjustment, and **UNDER NO CIRCUMSTANCES** should you attempt to set the handlebar at a higher position by withdrawing the lower part of the handlebar stem from the steerer tube on the front forks.

However, some adjustment in the *fore/aft* direction is available (except on an S-type). Control levers can also be moved, but only within limits.

You should be aware that if you do choose to make any changes, then the folded handlebar or stem cannot lie as close to the front wheel as normal. Also, it is important that the handlebar is properly re-clamped at the top of the stem: secure the clip-bolt with a torque of 18NM.

- Handlebar moved *aft*. This gives a more upright riding position, and allows the brake levers to be moved a bit further forward, but the folded package will be wider.
- Handlebar, or brake-levers moved *forward*. Again the folded package will be wider, as the h'bar/levers will clash against the wheel (or the cables against the fork-blade). And also the plastic *catch-nipple on the stem will have to be adjusted* so that it can engage properly in the catch (see Section H).

If the handlebar *stem* assembly has to be moved for any reason, then, on reassembly, a) leave a gap of 0.5mm-1.5mm between the top of the steering locknut and the step in the stem under the hinge, b) use a tightening torque of 20NM for the expander bolt (whose 6mm AF socket head is visible when the handlebar is folded), and c) check the alignment of the handlebar catch (section H).

## SECTION F: RUNNING ADJUSTMENTS & CHECKS.

It is important that certain of the jobs listed here are carried out at least once, if not two or three times, during the first few hundred miles of use when parts are bedding in (see chart on centre page). Thereafter, except for brake adjustment, they need to be carried out less and less frequently. If you are not confident about carrying out these jobs yourself, your dealer can help.

### Hub Gear adjustment:

Adjustment of the gear control must be carried out with the bike fully unfolded (i.e NOT parked), and with the indicator rod screwed **fully home** into the hub (and backed off not more than half a turn to align with the cable). The aim is to make sure that the indicator rod & chain down at the rear axle moves to the correct position in response to moving the trigger.

For this the cable has to be running well: it must be free of kinks or sharp radii, with the cable pulley rolling freely.

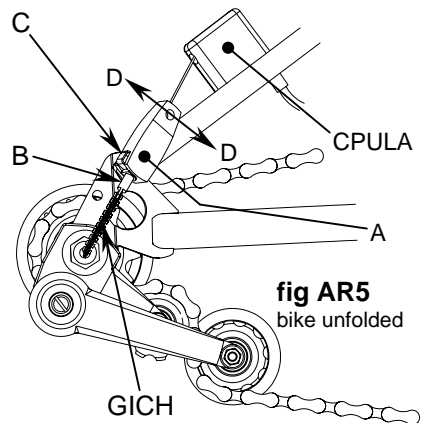
While setting gears, you should ensure that the gear you select by moving the control trigger has indeed engaged in the hub, and to this end, each time you are moving the trigger, keep the wheel spinning forwards, and pedal back & forward, to ensure the gear engages. It's easiest, when actually altering the setting, to have the cable slack: so select top gear and back & forward pedal a bit first.

If you cannot obtain a satisfactory setting, 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-spd gear adjustment:**

The cable is made tighter by pushing the cable adjuster A further onto the grooved end B of the indicator chain: to obtain a looser setting, the spring clip C has to be depressed.

You can usually get things right first time by moving the trigger into top gear, pulling on the cable adjuster A (away from the pulley housing CPULA), and then lightly feeding the grooved end B of the indicator chain into the cable adjuster A until an increase in resistance is felt.



The setting is correct when:-

- with the trigger in top, the cable is just slack, in other words the cable adjuster A can be easily deflected sideways (D-D in fig AR5) for a movement up to around 5mm each side of the mid position. (if, when you try pulling the cable anchor A away from the CPULA, you can see

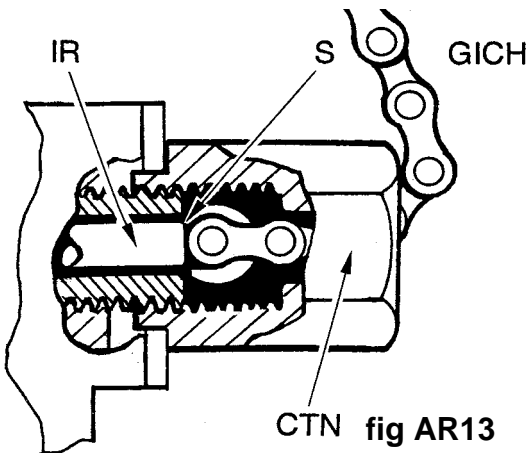
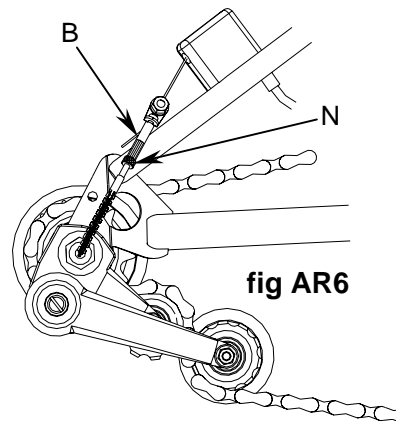
any movement of the indicator chain back into the axle where it enters it, then the setting is too tight).

- 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 0.5mm, when you pull the cable adjuster A towards the CPULA (if it moves more than this, then the setting is probably too loose: on the other hand, if, while back-peddalling and moving the trigger slowly from position 2 to 1, you see that the indicator chain stops moving out of the end of the axle *before* the trigger has clicked into position 1, then the setting is probably too tight), and
- when pedalling forwards and changing through the 3 gears, both up and down, all three gears are positively selected.

### STURMEY ARCHER 3-spd gear adjustment:

Adjustment is carried out by slackening the lock nut N, turning the barrel B until the correct setting is obtained, and relocking the nut N, fig AR6.

Engage top gear, then move the control trigger to the middle position: the step, S (fig AR13), towards the end of the indicator rod, IR, should be level with the end of the axle, visible through the hole in the CTN. Next, select bottom gear, then middle, then top, and check that all three are engaging correctly.



It's important that you have the correct indicator rod. For Sturmev Acher 3 speed hubs, with alloy shell, post 2004, the correct indicator has two marks (2 short parallel lines on indicator rod).

## Derailleur maintenance and adjustment.

For satisfactory gear changes and smooth running, two stops need correct setting, and 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 DR9, on the chain pusher. The idea is that, in high gear, the inner face of the inner upright IU, fig DR16, 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.

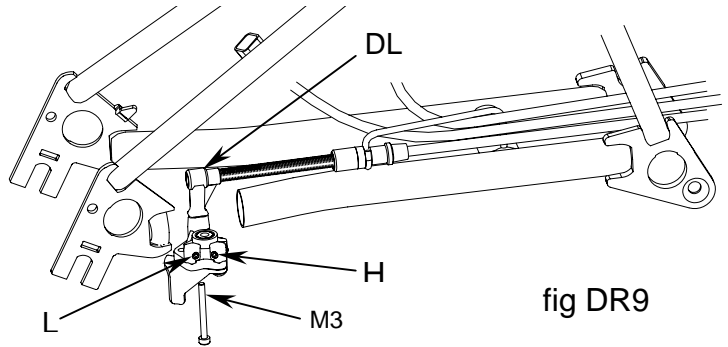


fig DR9

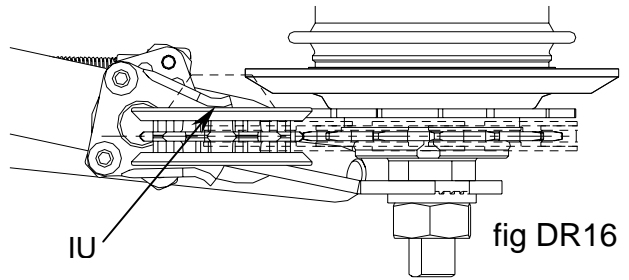


fig DR16

The same principle applies for the lower gear setting, only this time, fig DR17, 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.

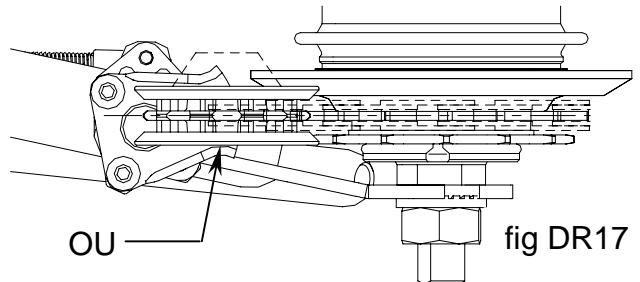


fig DR17

**Adjustment of the derailleur cable** 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).

### Derailleur 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

# ROUTINE CHECKS & ADJUSTMENTS

More info in text of Manual

SADDLE CLIP BOLT torque:-  
nylon frame 12-13NM  
rail frame 15-20NM

SEAT CLAMP:  
Action firm, but  
not overtight

**RUNNING IN:** after the first few hours of use, the items in the **bold boxes** MUST be checked. Thereafter, continue checking, but less often.

**NEVER** allow lubricant onto seat pillar

BRAKES

**HUB-GEAR ADJUSTMENT**

WHEEL BEARING ADJUSTMENT (geared-hubs only)

**REAR SPOKE TENSION**

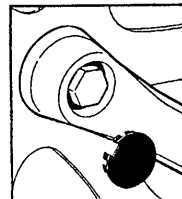
DERAILLEUR ADJUSTMENT (if fitted)

CHAIN CONDITION

**PEDALS:**  
torque 30NM

BB cartridge: needs no maintenance

**CRANK-AXLE BOLTS:**



torque 30NM

H'BAR CATCH & NIPPLE

- alignment
- function
- not loose

CABLES: if cables are worn, replace. Fresh cables **transform** the feel of the bike.

H'BAR CLIP BOLT torque 18NM

STEERING BEARINGS

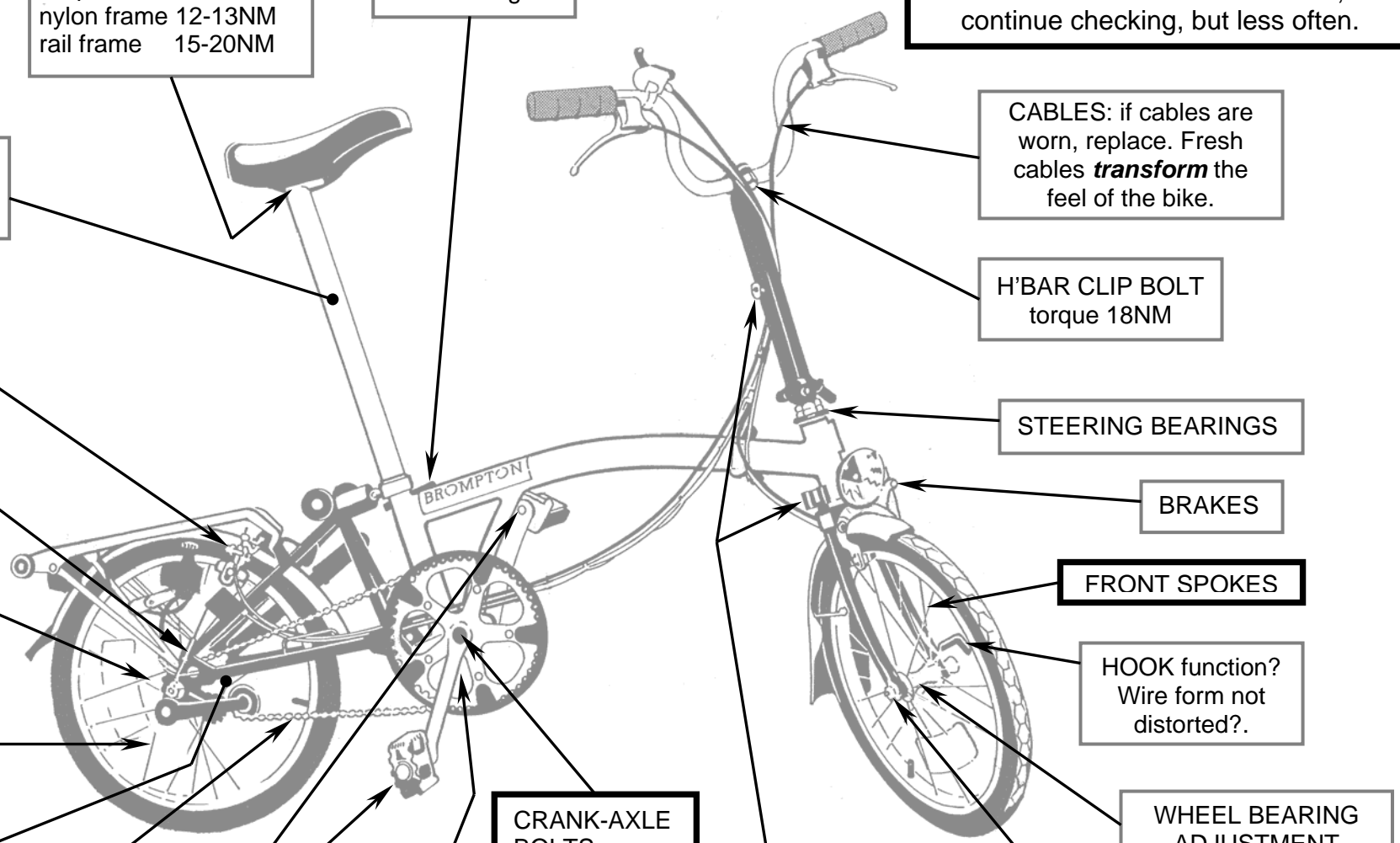
BRAKES

**FRONT SPOKES**

HOOK function?  
Wire form not distorted?.

WHEEL BEARING ADJUSTMENT (none on dyno-hubs)

FRONT WHEEL NUTS:  
torque 15NM  
(dyno-hub 6NM)



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).

## **Crank axle bolts and pedals:**

The crank axle bolts should be torqued down (32NM, using a 14mm AF socket or 8mm hex-key to suit) after the first few hours of use, with occasional checks thereafter. Check also that the pedals are secure (torque 30NM: note that the LH pedal has a LH thread).

## **Seat clamp:**

The quick release clamp (QR, fig FS1) should be kept adjusted so that the lever closes firmly when doing the clamp up; if the movement is slack and easy, with little resistance, the seat pillar will not be properly secured. As a guide, with the seat clamp lever forward (i.e. done up), the adjustor nut AN should be tightened with a torque in the range 5-8NM and the maximum closing force needed at the end of the lever while securing the clamp should lie in the range 80-120N. The correct setting will depend on the weight and strength of the user.

Do not over-tighten, as this can cause damage. For normal adjustment during the life of the machine, a sixth of a turn or less of the adjustor nut will normally be quite sufficient.

If, after adjusting the clamp, the seat pillar slips in use, then the cause is almost certainly oil or grease on the pillar. Remove the seat pillar from the bike, and using soapy water, thoroughly clean both the seat pillar and the sleeve in the main frame.

## **Spokes:**

These tend to bed in during early use, and to lose some of their initial tension. which can cause ***spoke failure, particularly for heavier riders.*** Re-tension spokes correctly after initial use, and check thereafter.

## **Saddle clip-bolt:**

On a polyurethane saddle with nylon frame, some settling of the nylon during early use may reduce the clamping force: check that the clip-bolt is firmly secured (torque 13NM).

On a rail saddle, with the Brompton Pentaclip, if you adjust the saddle, use the correct torque on re-clamping, 15-20NM: if the bolt is too loose, the saddle may slip, or if too tight, the clip-band will be overstressed.

## Handlebar clip bolt:

Check that this is properly secured, torque 18NM. If it is loose, the handlebars may slip without warning.

## Brakes:

The brakes should be set so that the pads are as close to the rim as practical without actually interfering with the free running of the wheel. Adjustment is carried out using the threaded cable stop on the brake lever (or, on a C-type, at the caliper).

- When setting the rear brake, the bicycle should be un-parked.
- When setting the front brake, do not set the pads so close that they bind on the rim when the wheel is turned to the right.

Brake-pads should be replaced if the chevrons are less than 2mm deep.

**Dual-pivot calipers, centering.** These are not self-balancing, and need to be trimmed so as not to exert any side force on the rim. Apply the brake and watch for any trace of sideways motion of the rim or tyre as the pads engage: adjust the M5 set-screw (visible on top of the caliper - use a 2.5mm hex key) in order to get the caliper properly balanced. (If after doing this, the caliper appears "lop-sided", with one arm lower relative the rim than the other, then the whole caliper assembly needs to be re-positioned in the frame. Slacken off the main nut (10 AF) holding the brake spindle, adjust the M5 set-screw to get rid of the uneven look of the brake, and do up the main nut again while pulling on the brake lever. Finally, re-trim the caliper so as to centre the pads using the M5 set-screw.)

**Dual-pivot calipers, pad position.** As these wear down, or after any adjustment as above, the pads may no longer bear centrally against the braking surface on the rim: re-position as needed.

## Cup and cone bearings:

If these are set over-tight, damage is likely, and in the case of a geared rear hub, the freewheel will tighten up as well (in turn causing chain problems during folding). Always ensure that the relevant locknut is secure after adjustment:

a) **Wheel hubs.** No bearing adjustment is needed for a front dyno-hub or for a 2/1-spd rear free-hub. For other hubs, set so that very slight play is just discernible at the wheel rim. On a rear geared hub, do **not** use the RH cone for bearing adjustment: instead adjust the cone at the LH end (on a Sram hub, the LH bearing cone is unthreaded, and its position on the axle is set by the inner of the two 22AF nuts, which is in turn locked in position with the outer nut).

b) **Steering head:** set so that no play is discernible, and so that (after tightening the lock-nut) the steering is still free, and without tight spots.

## SECTION G: WHEELS, REMOVING AND REFITTING.

If the brakes are properly adjusted and the tyre is well inflated when removing or fitting a wheel, you won't be able to move the tyre past the brake pads. One way round this is to deflate the tyre: alternatively, loosen the cable adjuster (if it's possible) or remove a brake pad.

### Front wheel.

**To remove** a *standard* front wheel, undo and remove the nut and washer on the left hand end of the axle, move the hook (and mudguard stay) out of the way, and detach the special LH tab washer. Slacken the RH nut, disengage the tab washer and remove the wheel (see note 3 below).

For a front wheel *with hub-dynamo*, undo the long M5 bolt (4mm hex-key), and withdraw it: on the LH side there is a "nut" (with plastic cover), and you may have to hold this to stop it rotating. Move the hook (and mudguard stay) out of the way, and detach the special LH tab washer. Retain the special spacer and tab-washer on the RH side.

**To re-fit**, follow the above in reverse. While you tighten the wheel nuts (or bolt), make sure that each tab washer engages the hole near the fork end, and also that the axle remains seated against the end of each slot: torque 15NM for std. wheel nuts, and 6NM for the M5 bolt.

### Notes:

1. Do **NOT** swap the LH tab-washer with the RH tab-washer.
2. With a *hub-dyno*, it's essential that the spacers & washers are correctly assembled, omitting none, nor adding any (the front wheel may well not be properly secured if the stack is wrong):
  - a. the M5 bolt must be fed in from the RH end, through its special spacer, with the RH tab-washer abutting the fork-blade.
  - b. on the LH side (under the hook), the stack, working out from the fork-blade, is tab-washer, then the loop of wire under the hook, then the LH "nut" (if the plastic cover has become detached from this nut, ensure that its counter-bored recess faces inwards, towards the hub).
3. With a *standard* front wheel, if it has not been removed for some time, you may find, on undoing the second of the two nuts that the axle starts to turn with the nut so that the nut cannot be slackened off. If this happens, re-tighten both nuts, then slacken and re-tighten the right hand nut a few times till it turns easily on the axle; partially re-tighten this nut and then slacken the left hand nut, and finally undo the RH nut again.

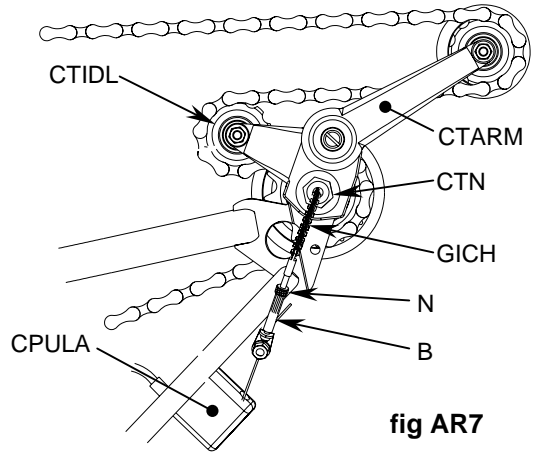
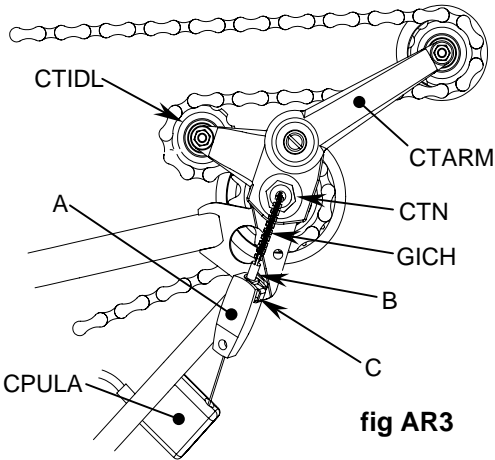
### Rear wheel.

Move the gear trigger(s) up to high gear and, in order to engage the high gear(s), move the pedals forward and backwards. Park the bike.

### Removing the chain tensioner, figs AR3 and AR7.

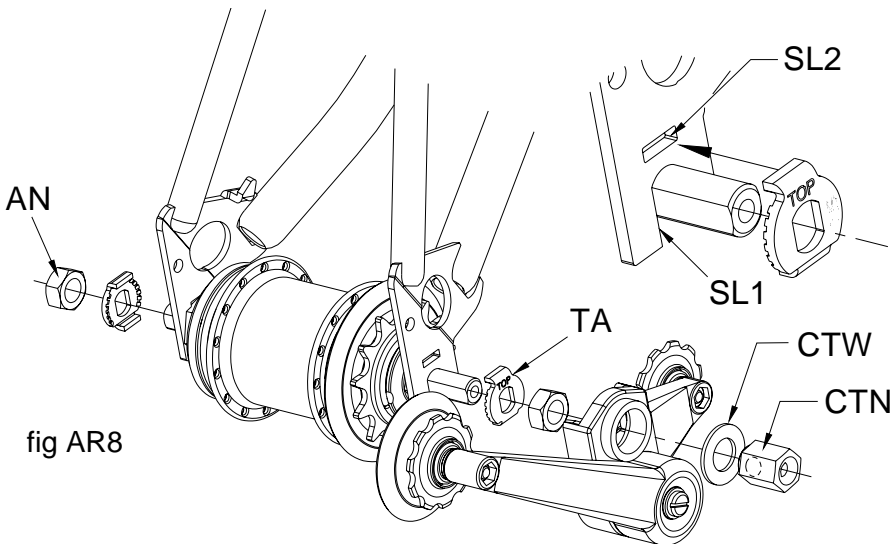
For a hub gear, the control cable has to be disconnected: a) *for Sram* (fig AR3) - press the spring clip C on the adjustor A, and withdraw it from the end B of the gear indicator; b) *for Sturmey Archer* (fig AR7) – slacken off the knurled locknut N and unscrew the barrel B. The indicator chain GICH will be left hanging loose from the end of the axle and should be unscrewed from the hub and withdrawn.

Move the sprung arm CTARM anti-clockwise and lift the drive-chain off: let the CTARM move back clockwise till it comes to a stop; undo the securing nut CTN 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 (if a derailleur is fitted, it has to be tilted to clear the changer).



### Removing the rear wheel, fig AR8.

Slacken the axle mounting nuts. For hub gears at least 4 or 5 turns are needed, so that the tab-washers TA can disengage from their slots, SL2: if these are stuck in place, try rocking the wheel sideways to release, or else you may need to prise them out with a small screw-driver.



### Fitting the rear wheel.

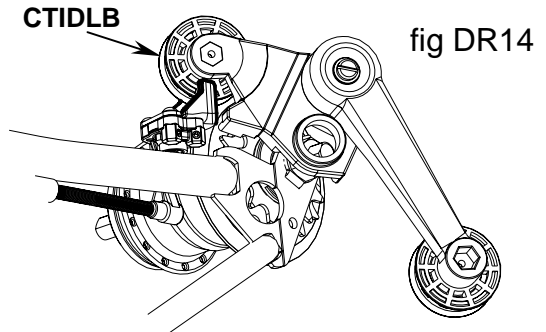
Make sure that the chain passes round the rear sprocket. Drop the axle into the slots: *for hub-gears*, the tab-washers TA **must** be in place, and the **correct way round** (i.e. tabs marked "TOP" aligned with slots SL2). Make sure that each end of the axle is seated against the end of the slot, SL1, and do up the wheel nuts, torque 22NM.

### Fitting the chain tensioner:

First arrange the chain so that it is running true over both chainwheel and rear sprocket (for a derailleurs, the outer sprocket): next note that the chain tensioner body has two flanges on its inner face - these should pass either side of the axle plate when fitting the chain tensioner:

a) *for a non-derailleur bike*, address the chain tensioner to the axle plate and press home, making sure that the chain passes between the fixed idler sprocket CTIDL and the rear sprocket.

b) *for a derailleur bike*, the chain and the fixed idler on the chain-tensioner-base, CTIDLB, have to lie between the "uprights" of the chain-pusher-plate. So, with the LH trigger up and the chain-tensioner inclined slightly outwards as in fig DR14 (chain not shown in this figure), feed the idler CTIDLB between these uprights, and then feed the chain-tensioner base onto the rear axle plate till it abuts squarely.



Next secure the chain tensioner using the chain tensioner nut CTN and its washer CTW. This nut should not be done up too tightly: somewhat more than hand tight suffices, max torque 8NM.

Now draw up the slack in the chain and feed it over the idler wheel on the sprung arm CTARM - check that the chain is flowing correctly by turning the cranks.

For a hub gear, the control cable has to be reconnected. First screw the indicator chain GICH into the hub, and make sure it is fully screwed home, then unwind through not more than half a turn so that it points towards the gear cable. Next connect the cable adjuster to the indicator chain and, with the bike unfolded, make sure that it is correctly adjusted (see Hub Gear Adjustment, Section F).

# SECTION H: OTHER DESIGN POINTS TO DO WITH FOLDING

## Hook:

Correct function of the hook is important for satisfactory folding: it retains the front wheel in place when the bike is folded. It is attached to the front mudguard stay (or, if there are no mudguards, to a special wire form, not illustrated). If it is knocked out of position, the design allows it to be bent back. For the function to be correct:-

1. The chainwheel mustn't be too far out. Part of the stay, B (fig HK1), acts as a buffer against the chain wheel during folding, and steadies the folded front wheel. If the chainwheel lies too far out (the gap G (fig HK4) between inside of chain and hinge plate RHPL when the bike is parked, should be 0-3mm, not more), 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 wrong (fig HK3): 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 tube CHS 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, bearing the above in mind, judicious bending of the wire stay (say by pulling on the hook) should cure the problem.

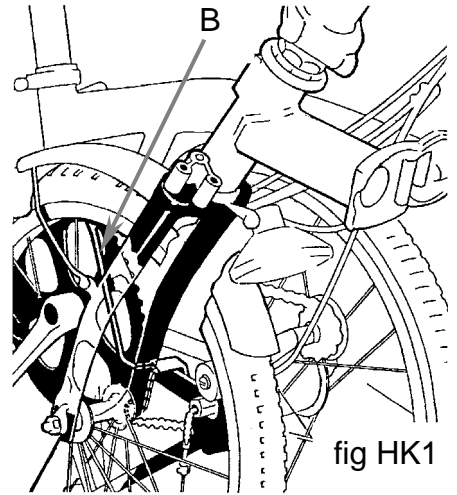


fig HK1

fig HK4

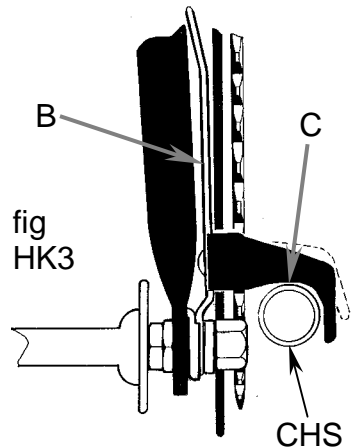
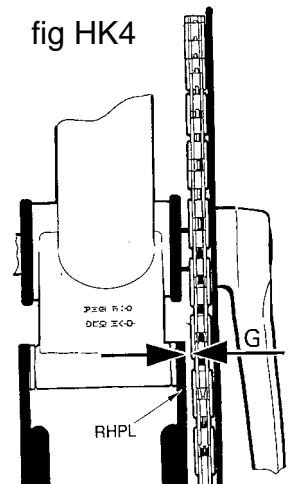


fig HK3

CHS

## Handlebar catch and nipple:

The "body" of the handlebar catch acts as a stop to align the front wheel correctly during folding. The correct torque for the securing screw is 9NM.

Operation of catch and nipple: keep these correctly set, for, if wrong, the handlebar catch will loose its spring effect, with the irritating result that the handlebars unlatch too easily from the folded package.

*Alignment of the catch, HBC:* the catch itself must be aligned so that the nipple enters centrally (fig HB3 rather than HB4).

*Alignment of the nipple, HBNIP:* this should be in line with the catch HBC as it enters it during folding (fig HB5 rather than HB6). Bear this in mind if making adjustments as described below.

*Offset of the nipple, HBNIP:* if the handlebar itself, or the control levers/cables, are set too far forward, they may, on folding, foul against the front wheel or fork-blade and so prevent the nipple from fully entering the catch (i.e. as per fig HB8). To remedy, either reset the handlebar or levers further back (i.e. 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, as per fig HB7.

If the set up is correct and the catch remains ineffective, either replace the h'bar catch, or you may obtain a temporary cure by twisting the nipple slightly (i.e. as not normally recommended, fig HB6).

fig  
HB3

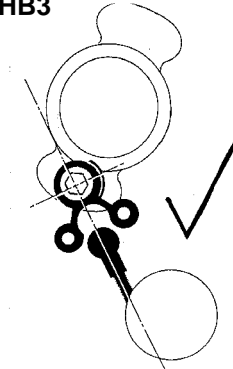


fig  
HB4

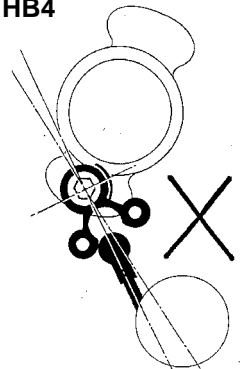


fig  
HB5

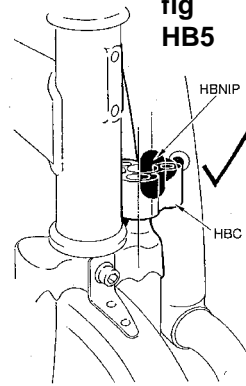


fig  
HB6

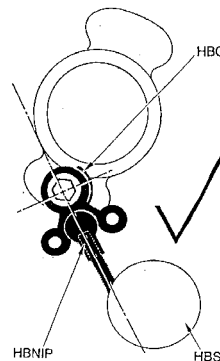
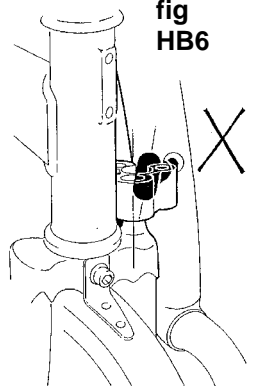


fig  
HB7

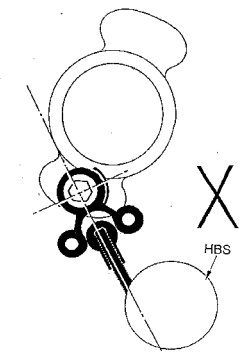
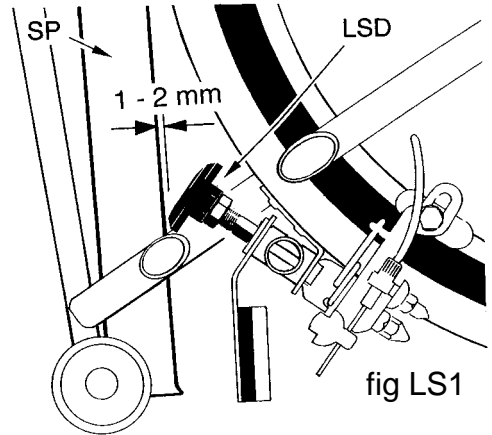


fig  
HB8

## Lower stop disc:

When you pick up the folded bike, the rear frame cannot unfold because the lower stop disc, LSD, butts against the "folded" seat pillar, SP. The LSD can be adjusted to give 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 tube CHS on the rear frame. The correct gap is 1-2mm (fig LS1).

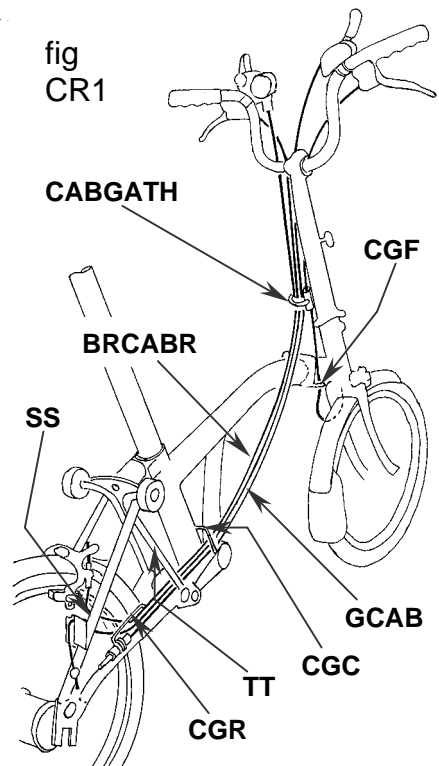


To set the lower stop correctly, you need a 15AF and a 19AF spanner. Do not over-tighten the lock-nut, correct torque 8NM.

## Cable routing, fig CR1:

The routing of the cables is carefully worked out, and when replacing cables, correct routing is vital if these are not to be damaged during folding. Also the outers should be exactly the same length (+/- 2mm) as the original cables, and also have same ferrules (if fitted): always use lined outers, and PTFE coated inner cables.

All cables 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 forward cable guide CGF. The REAR cable(s) must pass through the cable gatherer CABGATH on the front brake cable, the centre cable guide CGC and the rear cable guide CGR as shown: they should also pass inside the tube TT and the tube SS. Any gear cable GCAB should lie below the brake cable BRCABR (if the bike has both derailleur and hub gears, the derailleur cable should be lowest).



## Rear hinge screws:

These are factory set with a torque of 10NM, using thread-locking fluid, and (unless there is a problem) should NEVER be checked or moved.

## SECTION J: LUBRICATION.

When lubricating your Brompton, avoid getting oil or grease on the seat pillar or the wheel rims.

Grease is the right lubricant for all wearing parts (oil does not last as well), and where it is practical to dismantle an assembly and apply grease, it's best to do so. However, this is often inconvenient or impossible, and oil can be used instead, but note that applying oil to a greased assembly can cause the remaining grease to be washed away fairly quickly, and frequent re-lubrication is needed thereafter (unless you clean and re-grease).

Choice of lubricant: any good quality general purpose grease is satisfactory, especially lithium based. For the chain, proprietary chain lubricants with good penetrating properties give the best results. As for oil, some spray-on products are convenient to use, otherwise employ an ordinary light mineral oil. For the rear geared-hubs:

- Sram: for the bearings and gears, Sram grease "Fett type A": and for the pawls, light mineral oil.
- Sturmey Archer: for the internals (gears etc.), Castrol CLS lithium grease: and for the main bearings, Castrol LMX lithium complex grease.

The chart on p.25 shows what to lubricate. For medium frequency items (marked "3"), a sensible guide for the interval between lubrication is a year, or say 4,000 miles.

### Notes:

a) *Chain*: for smooth pedalling the chain HAS to be well lubricated: if the bike is used in the wet, this should be done frequently. The easiest way to cover the whole chain is to turn the pedals backwards while applying oil: make sure that the oil flows both onto the rollers and between the side plates: turn the pedals a few more times to allow the oil to work in, and then wipe off excess oil.

b) *Hinge clamps*: a thin smear of grease on the inside faces of the clamp plates is needed for these to release OK: the thread of the clamp bolt, and its washer, should also be greased.

c) *Folding pedal*: the pivot spindle on which it folds likes greasing from time to time. The main bearing, which is grease packed, should not be oiled: however, if the bearing is not running freely, some oil fed in past the seal will extend its useful life.

d) *Rear hinge*: this comprises a stainless steel shaft running in pre-greased bushes and these will normally give a very long maintenance free life; however, after the first say 10,000 miles or 2 years, an occasional application of oil is recommended.

e) *Hub gears*: the gears and bearings are sealed; greasing need only be carried out during a major service.

# LUBRICATION

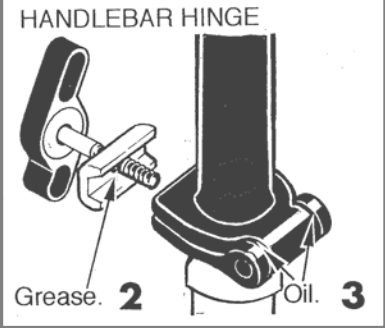
Use GREASE in preference to oil wherever possible (see text of Manual). Avoid excess lubrication, and wipe off any surplus.

Frequency of lubrication depends on conditions and on whether you use oil or grease, but the frequency is rated, *roughly*, on a scale of 1 - 5, where 1 means frequent, and 5 means rare lubrication.

**NEVER** allow lubricant onto seat pillar

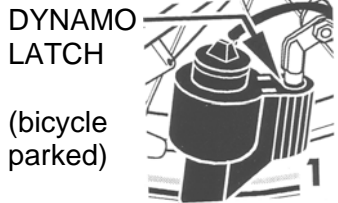
SEAT CLAMP quick release: oil only 3

SUSPENSION BLOCK under head of bolt 2



STEERING BEARINGS 4

BRAKE SPINDLES (front and rear) 3



GEAR INDICATOR (chain at entry into hub, & adjustor thread) 3

FOLDING PEDAL Pivot spindle 3

GEARED HUB 5 At major service only: see text.

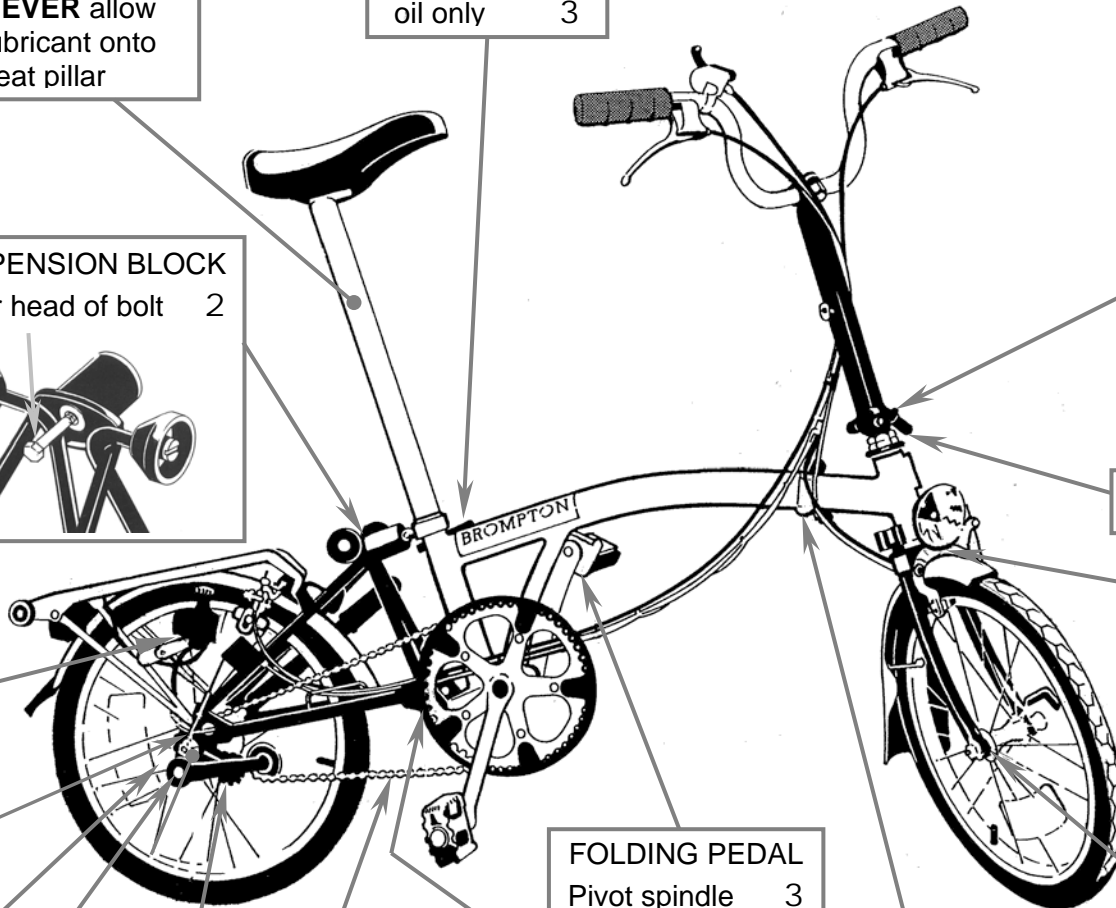
CHAIN. Keep well lubricated 1



WHEEL BEARINGS (not on dyno-hubs) 3

CHAIN TENSIONER Pivot spindle. 4

CHAIN TENSIONER Idler wheels 2



## SECTION K: ROUTINE REPLACEMENTS.

Planned replacement is advised to ensure both safety and good performance. The suggested intervals between replacements are for bicycles subjected to normal use: the most appropriate timing depends on the conditions of use and your riding style.

1. *ALUMINIUM COMPONENTS*: as on other lightweight machines, aluminium alloy is used in the construction of the Brompton, and this material has a finite design life before failure. In normal use, the risk of aluminium fatigue failure is remote, even after many thousands of miles. However, the risk of failure increases with use, especially with hard riding or other severe loading. **As such a failure could cause injury**, the hinge clamp plates, handlebar and chainset should for safety be replaced every 5,000 miles (more frequently on any machine subjected to hard use), and we recommend that these items are anyway checked regularly. For the handlebar on an M-type, an alternative is to fit a cross bar (see Section M).

2. *Transmission*: if the chain is allowed to stretch unduly, through lack of lubrication or wear, power transmission will be inefficient and rough and the sprockets will also wear quickly. A new chain is not expensive: so replace every 2 - 3,000 miles (or sooner if it has lacked lubrication or been used in harsh conditions). If the chain you are replacing has stretched unduly, you will almost certainly have damaged the rear sprocket(s), and possibly the chainwheel too: if these are worn, replace them at the same time.

3. *Brakes*. Cables do not have an indefinite life, and to reduce the risk of failure, replace the cables at intervals of 4,000 miles or less. New outer-cables should be **exactly the same length** as the original, with the correct terminating ferrules - best to use cables supplied by Brompton. Brake-pads should be replaced if the chevrons are less than 2mm deep.

4. *Gear cables*: though less safety critical than brake cables, the gear control cables should be replaced at the same interval as brake cables.

5. *Tyres*: the risk of punctures increases with the mileage covered, as the tyre tends to accumulate small sharp particles in its tread. You should reckon on replacing the rear tyre every 3 - 4,000 miles and the front tyre every 6,000 miles.

6. *Dynamo-lighting*: a) repeated flexing of the wires around the rear hinge when folding eventually causes failure - replace the main wiring loom connecting the dynamo/rear-lamp to the front light at intervals of 7,500 miles: b) front bulb and tyre-dynamo: these can have a very long life between failure, but performance deteriorates - replace after 250 hours.

8. *Suspension bush* (the flanged nylon bearing under the suspension block): 10-15,000 miles.

9. *Wheel rims*: when either groove in the braking surfaces is no longer visible, the rim should be replaced.

## SECTION L: SPECIFICATION OF SPARES.

*Chain:* this **must** have the correct number of links for a given sprocket combination, see table below. Also traditional joining links are usually unsuitable because the pin is too long: so instead the joint should be made by pressing in the rivet pin. We recommend Sram PC1 (1/8") for 3-speeds, and PC10 (3/32") chain for 1-, 2- & 6-speeds:

Chainwheel	ONE rear sprocket		TWO rear sprockets	
54T	12T or 13T	<b>100L</b>	16T/12T or 15T/13T	<b>102L</b>
50T	12T or 13T	<b>98L</b>	16T/12T or 15T/13T	<b>100L</b>
48T	13T	<b>98L</b>		
46T	13T	<b>96L</b>		
44T	12T, 13T, 14T	<b>96L</b>	16T/12T or 15T/13T	<b>98L</b>

*Rear sprockets for geared-hub* (to ISO 10230): non-derailleur, ½" x 13T x 3mm thick (but for lower gearing, use a 14T or 15T sprocket): 6-spd derailleur, special Brompton sprockets, 13T and 15T only.

*Rear sprockets for 1- & 2-speeds:* use special Brompton sprockets, 12T, and for 2-spd, 16T as well.

*Chainset.* Best to use the Stronglight set specified for the Brompton. If you use an alternative, make sure that it suits the BB axle (ISO 6695), that it gives the correct chainline (fig HK4), and that the end of the crank does not clash with any part of the rear frame when the bicycle is parked.

*BB cartridge.* ISO 6695, FAG 119mm.

*Brake pads:* Alhonga HJ 454-11.

*Tyres:* size 16" x 1 3/8", ETRTO 37-349 (or, for narrow profile, 16" x 1 1/8", 28-349). Inner tube with Schrader valve. Best to use one of the four types of high-pressure tyres listed in Section M. But if you cannot obtain these, choose another reputable make.

*Control cables:* The cable routing and terminations are critical. For outer cables, the length and ferrule diameter should be identical to that of the cable originally fitted: for the front brake cable, the outer must be in two parts of the correct length, so that the cable gathering ring occupies the right position in the cable system. You are best advised to use cables supplied by BROMPTON. If you have to use cables from another source, specify low friction cables (PTFE coated inner cable, lined outer cable).

*Dynamo:* AXA HR. Right hand fitting for E- & R-version, Left hand for L-version.

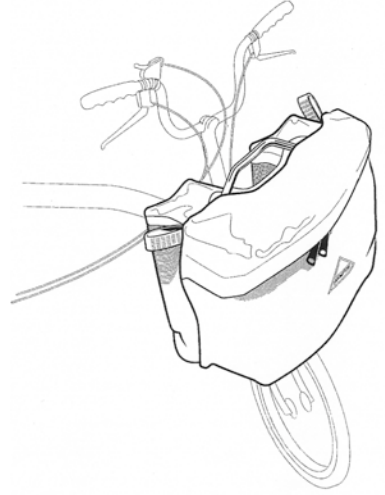
*Front lamp bulb:* 6 volt x 2.4 watt halogen. Do not touch the glass when fitting.

# SECTION M: OPTIONS AND ACCESSORIES.

Here is a brief overview of Brompton accessories. For full details, visit our website, [www.brompton.co.uk](http://www.brompton.co.uk).

## LUGGAGE, the front carrier system.

The Brompton system provides a highly convenient method for taking luggage on the bike as it only takes a moment to attach or release it. The system is a delight to use, especially if you regularly need to take luggage or shopping with you. For M- & P-type bikes, there is a choice of four luggage options:

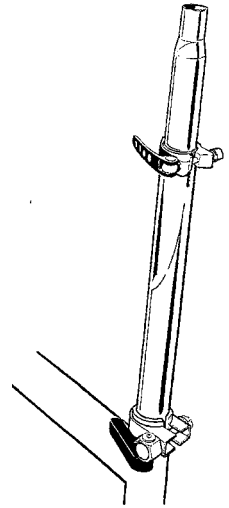
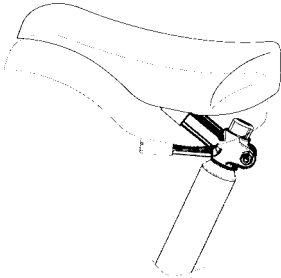


- a folding basket
- a cloth pannier (right)
- a larger “touring pannier”, and
- a smaller pannier, the sophisticated “S-bag” with extra pockets.

For an S-type bike, the first three options are unsuitable, the S-bag being the only option.

**LUGGAGE, holdall for bikes with rear rack.** The Brompton Racksack (not shown) has built-in Velcro straps to secure it to the carrier, and its stiffened sides make it easy to stow your stuff.

**SADDLE POSITION.** With a saddle even slightly too low, riding is unsatisfactory: if this is a problem, fit a telescopic seat pillar (at right), or else a simple extended seat pillar (but with this the saddle projects from the folded package). There is also a saddle adaptor pin (left), which allows other re-positioning of the saddle.



## SADDLES

We offer three saddles specially made for Brompton: a traditional Brooks leather saddle (left), and the more racy, lightweight Vitesse fi'zi:k saddle: all are supplied with the ultra-light Brompton Pentaclip, giving stepless saddle adjustment.

## LIGHTING.

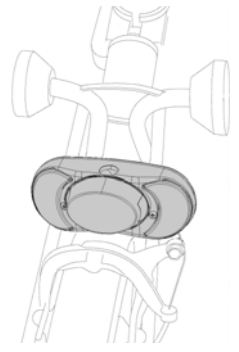
There are three options:

- a battery light set, with LED lamps front and rear
- a modern dynamo set (tyre-driven), with halogen front lamp and rear LED stand-lamp (which stays on for a while after stopping), and
- a beautifully engineered hub-dynamo set.

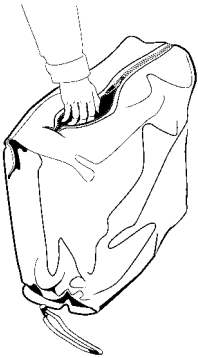


Any of these Brompton lighting sets can be fitted to any bike model (with one exception: the tyre-dynamo set cannot be used with Stelvio tyres).

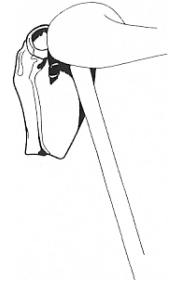
*Special dynamo stay for R-version.* If you wish to use a tyre-dynamo different from the normal Brompton one, it may, with luck, fit directly onto the standard stay. However, if not, we offer (for bikes with rear-rack) a stay where the bracket is SLOTTED, which allows nearly any type of bottle-dynamo to be fitted.



## BIKE COVER, BIKE-BAG.



In many situations, say on trains, or when the bike is dirty, a cover is useful. The Brompton **Cover** is quick to fit or remove, and it can be drawn tight around the base of the bike by using its draw-cord. The saddle bag is a home for the cover when it's not in use.

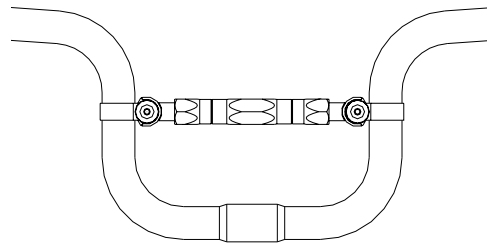


We also offer a reinforced **Bike-Bag**, complete with carry-strap & castors, to pack the bike in for longer journeys.

**EAZY-WHEELS**, for bikes with rear-rack. A set of four rubber-tyred wheels running on precision industrial bearings: these allow you to roll the folded bike easily around, saving the need to carry it.

## HANDLEBAR CROSSBAR (M-type only).

If you ride hard or regularly (and particularly if you jump over kerbs), your handlebar may not last for ever: as failure can cause injury, we recommend that handlebars are replaced at regular intervals. But with an M-type, for greatest safety, you can fit the crossbar.



**GEARING.** Reduced gearing (easier up hills, but with a lower top speed), is available for all models. Higher gearing is also available, but only for 3- & 6-speeds.

**FOLDING LEFT HAND PEDAL:** a standard feature on most Bromptons, this folding pedal has an ingenious design, using a precision industrial bearing. It allows you safely to use both sides of the pedal in the normal way, and yet to fold it at a touch, leaving a projection of only 20mm. A lighter version, with Titanium axle, is also available.

**MUDGUARDS:** Complete set with stainless-steel stays, mud-flaps and fastenings, for retrofitting to Bromptons without mudguards. Also available with Titanium stays.

**PUMP:** high pressure pump with thumb-lock connection, made specially for Brompton by Zefal. Except on superlight bikes with Titanium rear frame, this can, if desired, be kept permanently to hand on the bike.

**REPLACEMENT TYRES.** Our high performance tyres, compared to ordinary road tyres, make a really noticeable difference to the performance of the bike: more expensive, but well worth it. Whatever happens, avoid using any old tyre: on a small-wheeled bike, a good tyre is essential, and certain cheap makes can completely spoil the fun by making pedalling far more effort. The tyres available from Brompton are



- *Brompton HP standard*, “yellow”, a durable, lightweight, and exceptionally free-running, high-pressure tyre.
- *Brompton HP Kevlar*, “green”, as above but with Kevlar strip for improved puncture resistance.
- *Marathon*, not quite as free-running as the Brompton tyres, but with a deeper tread and improved grip.
- *Stelvio*, a fast, extremely light, narrow section tyre.

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