



**RETRO-FITTING L-TYPE MUDGUARDS:**

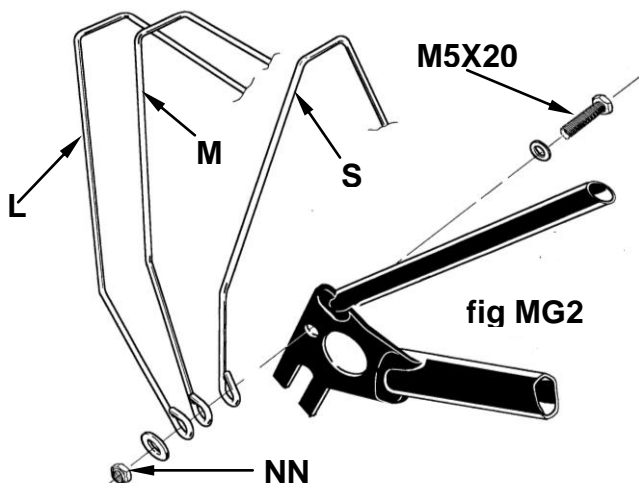
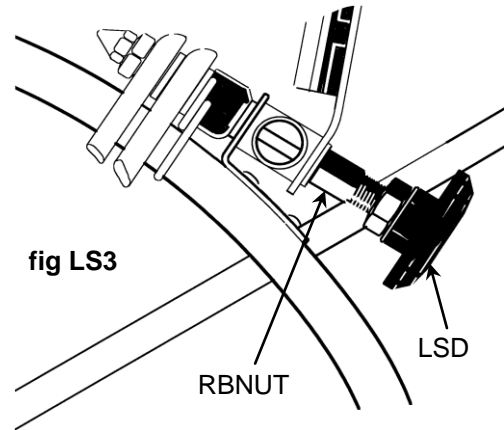
These instructions cover the following circumstances:

- upgrading a C-type or E-version without mudguards
- fitting replacements on an L-version
- tyre-dynamo and non-tyre-dynamo kits

Components req'd: mudguard blades and flaps: stays and 3 screws/W/N: roller assy and 2 screws/W/N, 2 sets of stay anchor plates and 4 screws, tab washer for front axle. The dynamo kit has a different forward stay F (fig MG10) and fixing screws on the rear mudguard.

**Rear mudguard.**

1. Remove the rear wheel (see below).
2. Unscrew the rear brake nut RBNUT (fig LS3) and remove it with the lower stop disc LSD still attached. Retain the washers and reflector (on Mk 2 bikes, shipped before March 2000, the LSD is different from that shown).
3. Withdraw the brake caliper: there is no need to disconnect the cable.



4. Non-dynamo kit: fit the mudguard stays to the rear axle plates. These must be assembled as shown, fig MG2, the M5x20 screw passing through the following items in order: a) M5 washer, b) the axle plate c) the front stay S (the shortest of the three stays), d) the middle stay M, e) the rear stay L (the longest stay), f) M5 washer, and g) into the nyloc nut NN. Do up the nut, but not tight at this stage, and leave the stays lying out of the way pointing rearwards.

Dynamo kit: stay F (fig MG10) replaces stay S (fig MG2). The assembly of the stays is as before with the following difference: the order of assembly at the rear axle plate is as shown in fig MG10 with the bracket G on the RH side.

5. Fit the brake and mudguard blade (figs LS3 & MG4). During this operation, make sure that the forward end of the mudguard blade lies above and slightly forward of the cross tube CHSX. It should not be tucked aft of the CHSX.

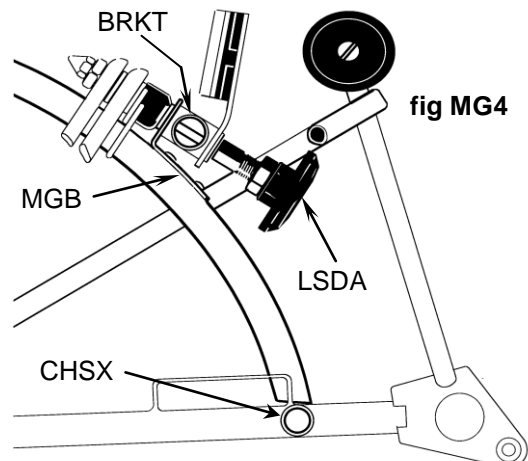
Pass the brake bolt through a) a washer b) the mudguard bracket, c) a concave washer, d) the bridge tube, BRKT, e) a concave washer, f) the reflector bracket (or lamp bracket, if rear light is fitted), g) a spring washer, h) a washer, and i) into the RBNUT.

The RBNUT should at this stage be done up firmly but not very tight: final tightening should wait until after the wheel is fitted, when the caliper is being centred on the rim.

6. Connect the mudguard stays to the blade.

Non-dynamo kit: move the forward stay S up under the mudguard blade until it lies between the two holes H1. Secure using the two M4x8 screws and the stay anchor plates STAP. Do up these screws firmly, but not so tight as to strip the threads in the inner plate.

Dynamo kit: move the forward stay F so that the hole in it is aligned with the forward hole H in the mudguard (fig EL121) and fit the M4 x 10 (the longer M4 screw) through the plate S, the mudguard, the stay, the small M4 washer, and into the nut. Fit the M4 x 8 screw through the plate S, the rear hole in the mudguard, the large M4 washer, and into the nut. Align the plate S, and secure these screws firmly.



Move the centre stay M and rear stay L into position, respectively just fore and aft of the holes H2. Fit each of the M4x10 screws through a washer, the MGRA, the mudguard, the inner plate MRCPL, and into a nut: the MRCPL should trap a stay at each end. This operation is a touch awkward: you will find that it helps if, before fitting the second screw, you leave the nut on the first screw loose. Finally do up both nuts tight.

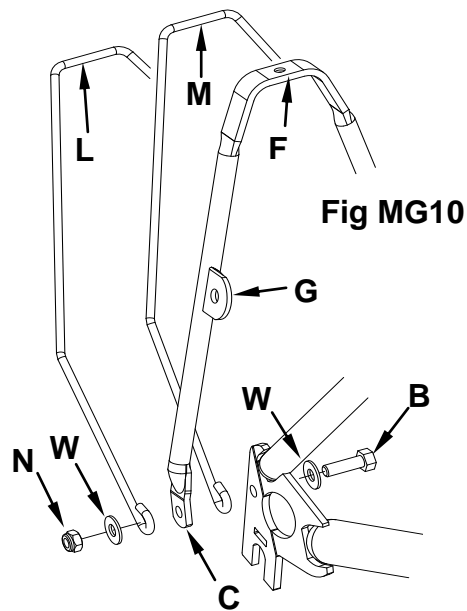


Fig MG10

7. Tighten securely the M5 Nyloc nuts, NN, at the rear axle plates.

8. Fit the rear wheel and chain tensioner (see below).

9. Centre the brake on the rim. To do this, the RBNUT must be done up firmly, approx. 1 INM (if it isn't tight, it may move when you are setting the LSD at a later stage): while tightening the RBNUT, set the reflector/lamp square, keep the forward end of the mudguard blade central to the tyre, and also anti-rotate the brake caliper against the tightening action (eg by having the brake "applied"). When the RBNUT is tight, you can centre the brake pads with the caliper-set-screw (or, for side-pull, using **two** spanners, one on the RBNUT and one on one of the lock-nuts on the caliper).

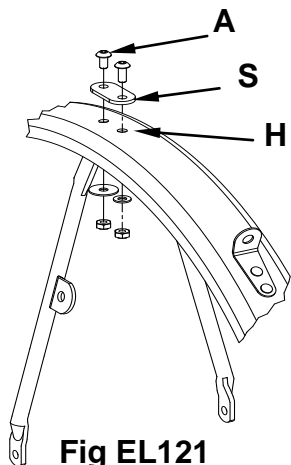


Fig EL121

10. Set the lower stop disc LSD (see below).

11. Check that the mudguard lies central to the tyre: if necessary tweak the stays by bending slightly in or out. Check also that the forward end of the mudguard is not sticking out from the CHSX: if it is, then bend down the mudguard bracket MGB slightly (levering against the bridge tube with say a screw driver passing under the LSDA).

### Front mudguard.

1. Remove the front wheel (see Owner Manual). The wire-form hook (where fitted on C-types or E-version at the LH end of the front axle) is no longer required.

2. Attach the mudguard at the brake bolt. If you are retro-fitting mudguards to a C-type bike, remove the front brake and discard the M6 washers (normally two, in front and behind the fork crown).

On reassembly with a mudguard in place, the caliper should pass through: the reflector bracket, a concave washer, the fork crown, a new **second** concave washer, the mudguard bracket, a **new** thin M6 washer and into the nylok nut.

Centre the reflector and mudguard blade, and do up the bolt firmly, but not tight yet.

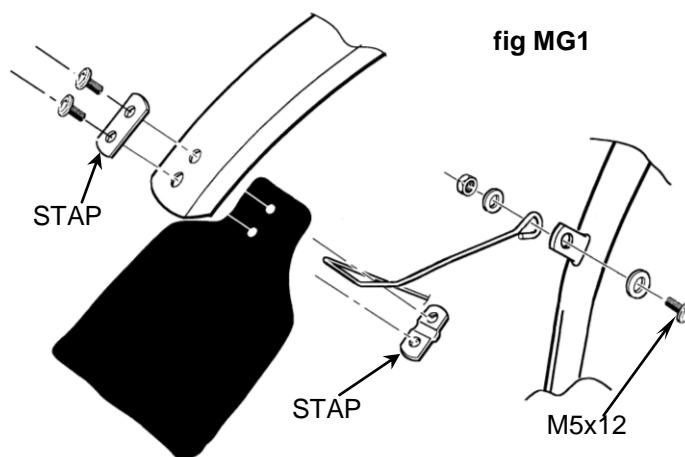


fig MG1

3. Fit the mudguard stay to the bracket on the RH fork, the M5x12 screw passing through: a washer, the brazed-on bracket, the stay, a washer, and into the nut, fig MG1. Do not secure firmly yet.

4. Lay the mudflap in position on the inside of blade, and secure it and the blade to the stay using the M4x8 screws and the stay anchor plates STAP. Before tightening the screws, set the mudflap in line with the blade, and centre the mudguard on the stay (i.e. STAP central between bends).

5. Fit the front wheel. On reassembly, the build at the LH end is as follows (fig AF1): working outwards from the fork blade, the components are a) special tab washer TW (engaging the hole in the fork blade), b) mudguard

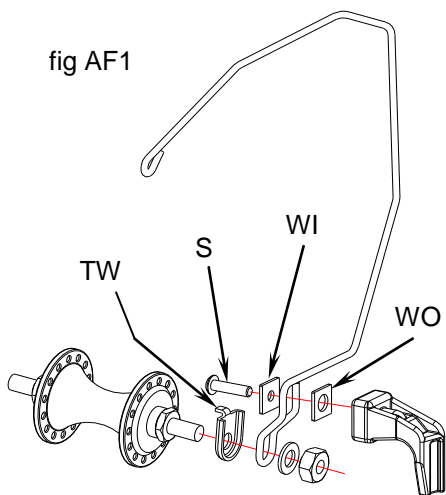


fig AF1

stay loop, c) M8 washer and d) axle nut. You may find that the special Brompton washer TW was not previously fitted on the bike, and in this case, use the new washer provided with this kit.

6. Tighten the M5x12 screw at the end of the mudguard stay on the RH side.
7. Centre the brake pads on the rim, turning the caliper using the same technique as for the rear (i.e. use two spanners). Before tightening the bolt (prior to centering), make sure that the concave washers are correctly seated against the curve of the fork crown.
8. If necessary, tweak the mudguard stays so that the rear end of the mudguard lies central to the tyre.
9. If necessary, adjust the hook on the LH side of the stay so that it functions correctly during folding (Owner Manual Section H).
10. If you are fitting the mudguard to a bike without mudguards and with an aluminium fender disc on the LH fork blade, then this fender disc is no longer needed and can be removed.

## **REAR WHEEL – SUMMARY OF PROCEDURE FOR REMOVAL AND REFITTING.**

Removal:

1. Move gear-trigger(s) up to high, and pedal forward & back to engage the high gear(s).
2. If the bike has a hub-gear, disconnect the gear-indicator-chain from the cable-anchorage, unscrew the gear-indicator-rod and withdraw the rod from inside the axle.
3. Remove the chain-tensioner as follows: unhook drive-chain from swinging arm, undo chain-tensioner nut, and withdraw the chain tensioner.
4. Slacken off the main axle-nuts and remove wheel (if tab-washers are stuck, they will normally come loose if you tap the wheel gently from side to side). To get the tyre past the brake blocks, either deflate the tyre or remove the LH brake block.

Re-fitting (with hub-gears, make sure that the tab-washers engage correctly in axle-plate):

1. With the drive-chain in place over the (outer) sprocket, drop the axle into the axle-plates (the correct way round if it has “handed” tab-washers).
2. Make sure the drive-chain isn’t trapped, and secure the wheel nuts over the washers.
3. Fit the chain-tensioner (with a derailleur, the fixed-idler-wheel must lie between the two plates of the actuator). Secure using the chain-tensioner-nut and washer, but don’t overtighten this nut.
4. Feed the chain over the idler-wheels on the chain-tensioner, and check chain flow.
5. For hub-gears, if present:
  - a. screw the gear-indicator-rod right into the axle, backing off not more than half a turn to align it, and connect gear-indicator-chain to the cable-anchorage.
  - b. Adjust the gears and make sure that all 3 gears are engaging OK.
6. For derailleur gears, if present, check function and adjust with M4 grub-screws in actuator if necessary.
7. If you removed a brake-pad, re-fit it.

Full details for wheel removal and re-fitting are in the Owner’s Manual (or Dealer Manual).

subtext lsdadj

**The Lower Stop Disc, its role in the folding process:** 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.

**On bikes shipped from our factory before March 2000 (Mk 2 bikes), the lower stop disc is an eccentric, and calls for a different approach from those fitted on later Mk3 bikes.**

### **Setting the Mk3 Lower Stop (fig LS1)**

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. Finally, using 2 spanners, 19 AF and 15 AF, tighten the lock-nut: do not overtighten, correct torque 8NM.

### **Setting the Mk2 Lower Stop (figs LS11 & LS13)**

The rear brake nut, RBNUT, must be well tightened, torque 14NM: if it is not secure, the brake caliper may move off centre when fitting the lower stop disc, LSD, to it, and the RBNUT (together with the LSD) may come loose in use.

To set the lower stop correctly, partially slacken off the retaining screw so that the LSD is not loose, but can be moved by hand: fold the bike completely, and move the LSD to give the correct gap of 2-3mm. The LSD should be disposed to lie towards the LH side of the bike (fig LS13), not towards the right. Finally, re-tighten the retaining screw firmly.

