



TO RE-ASSEMBLE THE AG HUB

Proceed as follows:

1. If the left-hand ball cup has been removed from the hub shell, replace it by screwing anti-clockwise (it has a *left-hand thread*).
2. Prepare the following preliminary sub-assemblies:
 - a. Fit the ball cage into the driver, with the ring of the ball-retainer facing outwards and the recess in the dust cap also facing outwards. If a new ball-retainer is being fitted, the dust cap also should be new. If the sprocket has been removed, see No. 23 below.
 - b. Fit the balls (only 24) and the inner dust cap to the right-hand ball ring, making sure that the balls can revolve freely with the dust cap in place.
 - c. Fit the pawls, pins and springs into the gear ring as described in the general instructions to 'The Re-assembling of Sturmey-

Archer Hubs.' (The planet-cage pawls, pins and springs are not fitted at this stage.)

- d. Smear grease in the channels of the dust cap of the driver and in the recess of the right-hand ball ring. *Do not use grease anywhere else.*
3. Hold the left-hand end of the axle in a vice, so that the slot for the axle key is above the sun pinion, and fit the planet cage.
4. Add the planet pinions and pins. (The small ends of the pins protrude.)
5. Fit the sleeve (flange first), the sliding clutch with the recess over the flange of the sleeve and the axle key (with the flat of the key facing upwards), and screw in the indicator rod to hold them in that position.
6. Fit the thrust ring and washer, making sure that the flatted ends of the key engage properly in the slots of the thrust ring.
7. Fit the previously prepared gear ring sub-assembly.

8. Fit the previously prepared right-hand ball-ring sub-assembly.
9. Fit the previously prepared driver sub-assembly.
10. Drop the clutch spring over the axle.
11. Fit the cap and screw up the right-hand cone *finger-tight*. Then slacken it back half a turn and lock it in that position with the special washer and locknut. On no account must the cone be unscrewed more than half a turn, as that would throw the gear mechanism out of adjustment.
12. Invert the assembly in the vice and pour about two teaspoonfuls of good quality thin oil into the planet cage, then fit the planet cage pawls as described in the general instructions to 'The Re-assembly of Sturmey-Archer Hubs'.
13. Screw up the left-hand cone.
14. If the magnet and armature have been separated, take the magnet and keeper ring in the left hand and, with the right hand, lay the armature alongside it.
15. While holding the magnet with the chamfer facing outwards, push the armature and the keeper through so that the magnet slides from the keeper on to the armature.
16. Fit the card disc (carrying patent numbers) inside the cover plate, with its notches opposite the magnet notches.
17. Fit the cover plate over the magnet, chamfer inwards, making sure that the four holes in the cover plate are in line with the notches in the card and the magnet.
18. Fit the metal spacing ring into the hub shell.
19. Fit the shim washer.
20. Push the complete dynamo unit into the hub shell, making sure that the holes in the cover plate are in line with those in the hub shell.
21. Fit the magnet fixing screws, washers and nuts.
22. Fit the spacing washers, adjusting washers and dynamo cone locknut in arrangement noted when dismantling. Check wheel adjustment.
23. If the sprocket has been removed from the driver, fit the outer dust cap over the driver before replacing the sprocket, and see that the dust cap is properly centred on the flange of the driver. Replace the sprocket and spacing washers in the arrangement noted when dismantling, and add the circlip.
24. Replace the wheel in the cycle frame and adjust the gear as described in 'The Fitting and Adjustment of Sturmey-Archer Hubs'.

