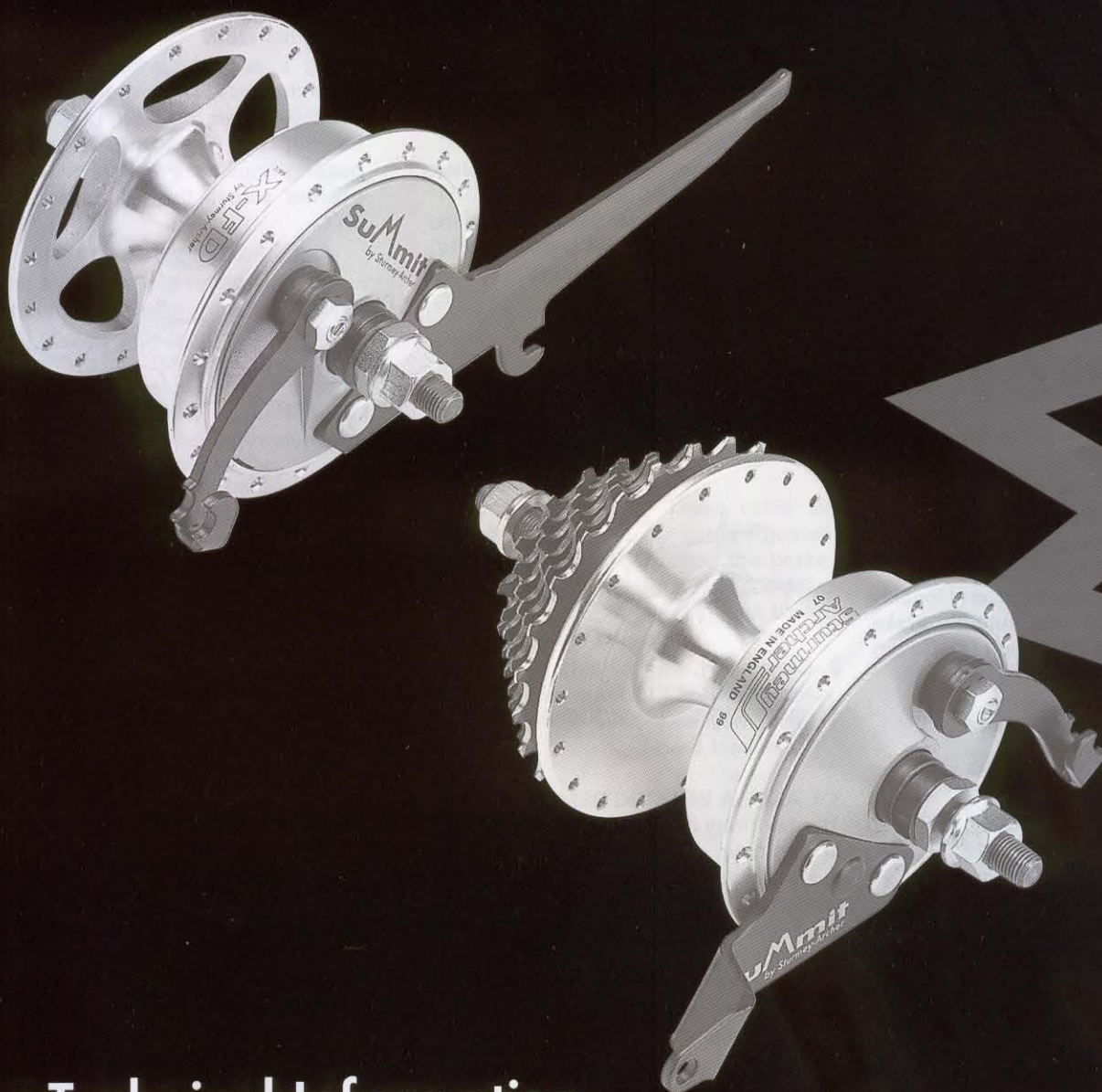


SuMmit X-FD/X-RD Brake Hubs



Technical Information
and Parts List

**Sturmeys
Archer**

Technical Information - Summit X-FD and X-RD Brake Hubs

Part 1 GENERAL INFORMATION

1.1 SCOPE OF THIS LEAFLET

Congratulations upon your purchase of a Sturmey-Archer SUMMIT X-FD and/or X-RD Brake Hub(s). To enjoy these hubs at their best please follow these few simple instructions. Remember, during the first few miles the brake cable system will 'bed-in', which may necessitate adjustment to ensure the hub is working to its maximum potential and to prevent possible hub damage (See Part 3.8).

This leaflet refers only to the X-FD and X-RD Brake Hubs which are fitted with a 70mm DRUM BRAKE for safe, progressive braking.

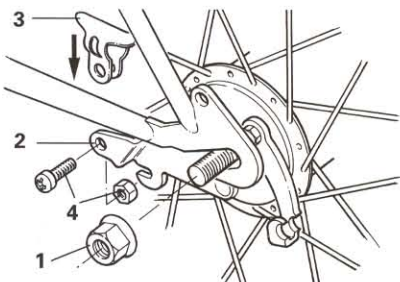
1.2 LUBRICATION

No routine lubrication is required. Major servicing and brake replacement should be carried out at your local approved dealer.

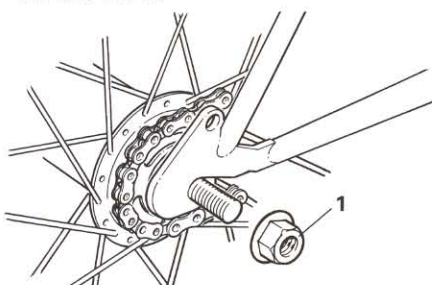
WARNING:- UNDER NO CIRCUMSTANCES SHOULD ANY LUBRICANT BE APPLIED TO THE BRAKE DRUM OR BRAKE SHOE, AS THIS MAY PREVENT THE BRAKE FROM FUNCTIONING.

Part 2 WHEEL FITMENT

1. Fit the X-FD hub into the front or the X-RD into the rear fork ends and position the wheel centrally in the frame - with chain tensioners, if fitted, and with the brake on the left hand (non chain) side of the bicycle.
2. Fit axle nut (1) finger tight, and loosely fit brake arm (2) into suitable brake arm clip (3) with nut & bolt (4). Do not tighten at this point.



3. Align the wheel, tension chain and tighten the axle nuts (1) to 22.5Nm. Tighten the nut securing the brake arm clip to 7Nm for the X-RD or 2Nm for the X-FD.



Part 3 SERVICE - DEALER INSTRUCTIONS - ASSEMBLY/DISASSEMBLY

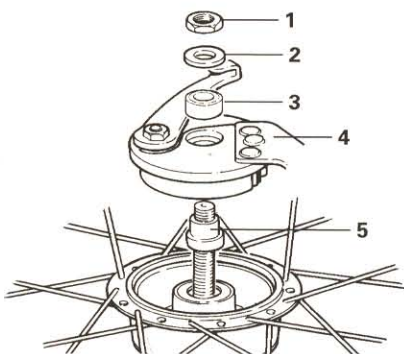
- 3.1 If service problems arise, they usually occur outside the hub. Check brake adjustment and fitment are correct before removing the wheel from the bicycle.

- 3.2 When service problems occur which cannot be corrected by attention to external maintenance, a close inspection of the working parts inside the hub will be necessary. This should be carried out by a trained bicycle mechanic.

NB: The right hand end of the axle is the non brake end. The axle should be clamped taking care not to damage the threads.

3.3 DISASSEMBLY

1. Remove the axle nuts, and washers from both ends of the axle.
2. Clamp R.H. end of axle in vice. Remove L.H. locknut (1), washer (2), spacer (3), brake plate (4) and bush (5).



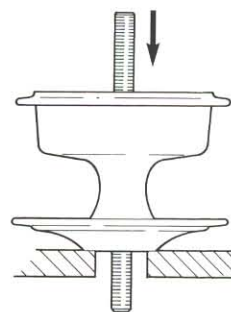
3. Clamp L.H. end of axle in vice and remove R.H. locknut and spacers (you may also have to remove the freewheel block).

3.4 AXLE & BEARING REMOVAL

The bearings in the X-FD and X-RD hub brakes have precision deep groove ball races which are permanently sealed and lubricated. Under normal operating conditions they should last for the life of the hub. If the axle or bearings require replacement for any reason an axle replacement unit is available. Ideally a bench press should be used for this operation.

1. Using a suitable drift, drive the axle and R.H. bearing out of the hub shell. When applying pressure to the L.H. axle end ensure that the hub shell is supported by the R.H. bearing housing and not by the flange.

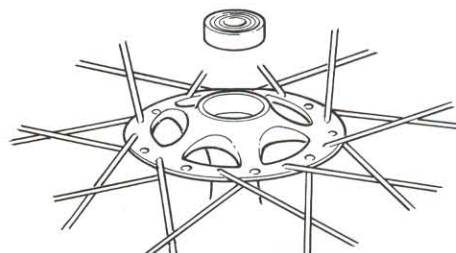
NB. Take careful note of the 'left-right' orientation of the axle since the replacement axle must be fitted in the hub the same way around.



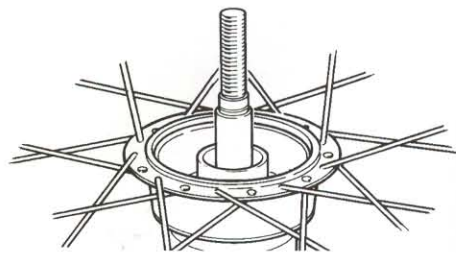
2. With the axle removed, invert the hub shell and drive out the L.H. bearing using an 11-12mm drift (or old axle).

3.5 BEARING & AXLE REPLACEMENT

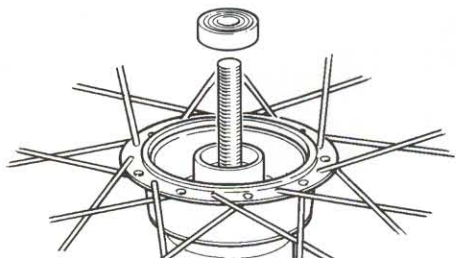
1. Thoroughly clean the bearing unit housings and brake drum with a clean, dry cloth.
2. Using a suitable cylindrical punch, (or in the absence of a suitable punch use the old bearing unit) press a new bearing unit into the right hand bearing housing. Pressure should be exerted across the full face of the unit.



3. Having noted the correct orientation of the axle, insert it in place from the left hand side of the hub until the axle's 'shoulder' butts up against the bearing unit.



4. Slide the left hand bearing unit into place and press home using a suitable punch exerting pressure across the full face of the bearing unit whilst supporting the right hand bearing across the full face.



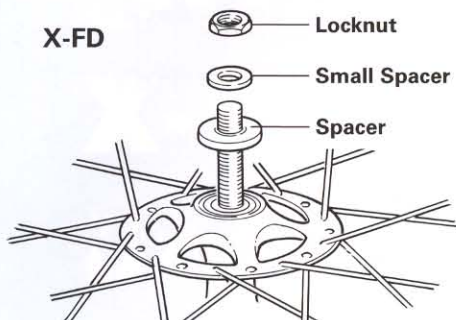
NB Do not attempt to refit used bearings once that have been removed from the hub.



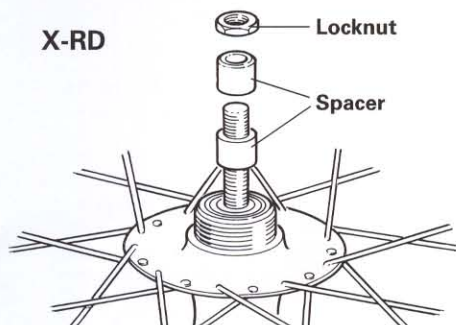
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5. Refit L.H. spacers and locknuts to X-FD and X-RD hubs.

X-FD



X-RD



3.6 BRAKE UNIT REPLACEMENT

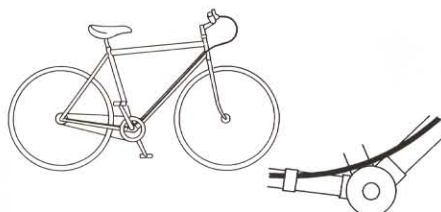
The asbestos free linings in Sturmey Archer hub brakes are long lasting and should only need replacement at major service intervals. A complete brake replacement unit is available for this purpose. Before replacing this unit, check for mal-adjustment and excessive cable stretch.

1. Wipe the inside of the brake drum surface to remove grease and dirt.
2. Fit the replacement unit (1) into the hub over the left hand bush (2) and re-assemble the brakeplate spacer (3), washer (4) and locknut (5).

3. Apply the brake lever to centralise the shoes and tighten the locknut to 7Nm max. Assemble the wheel in the bicycle following the instructions given in Part 2.

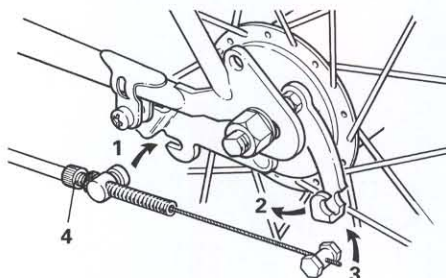
3.7 BRAKE CABLE FITMENT

1. Run cable, as diagram, along frame and secure with clips/ties. Do not fasten too tight - outer cable should be retained but not clamped. Smallest possible cable bend should be 100mm radius.
NB. To maintain maximum braking efficiency avoid sharp bends and kinks in the cable.



2. After fitment of the brake cable to frame, locate the brake cable adjuster into brake arm (1). Rotate the brake lever (2). Locate brake cable nipple (3) into the brake lever. Adjust brake by rotating the adjuster (4).

3. Replace chainguard/gear case (if fitted) in accordance with cycle manufacturers instructions.

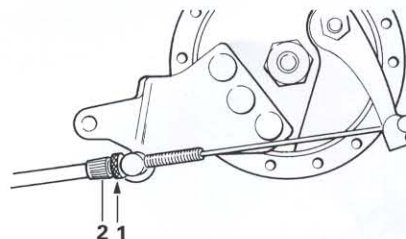


3.8 BRAKE ADJUSTMENT

If the wheel will not rotate freely or cannot be locked by a full application of the lever then adjustment is necessary.

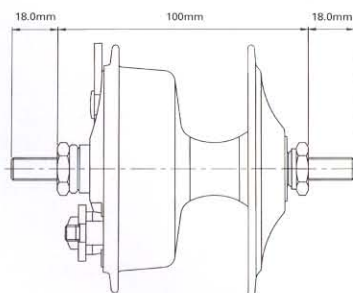
1. Slacken the brake adjuster locknut (1). Turn the adjuster (2) until the brake is applied. Rotate the adjuster until the wheel just spins freely. Tighten the locknut.

NB: During the first few miles brake linings "bed-in" and may require adjustment. Should braking efficiency become impaired beyond adjustment, contact your local approved dealer who is equipped to replace the brake plate and shoe assembly.

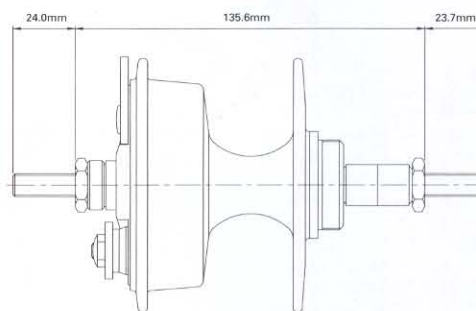


Part 4 - TECHNICAL SPECIFICATION

X-FD

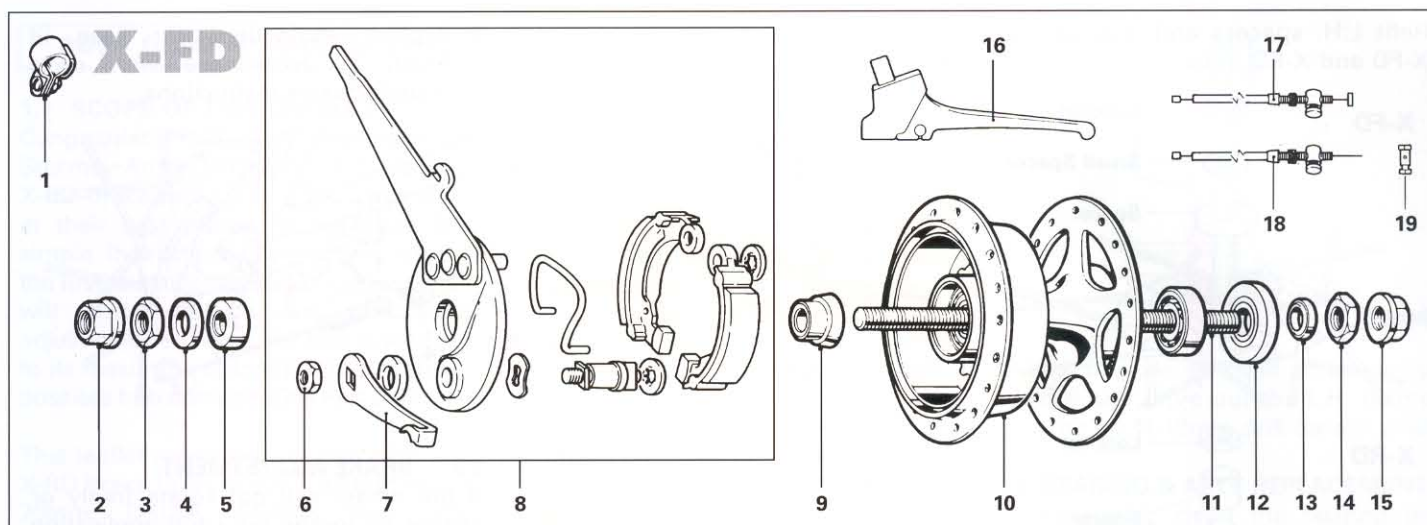


X-RD



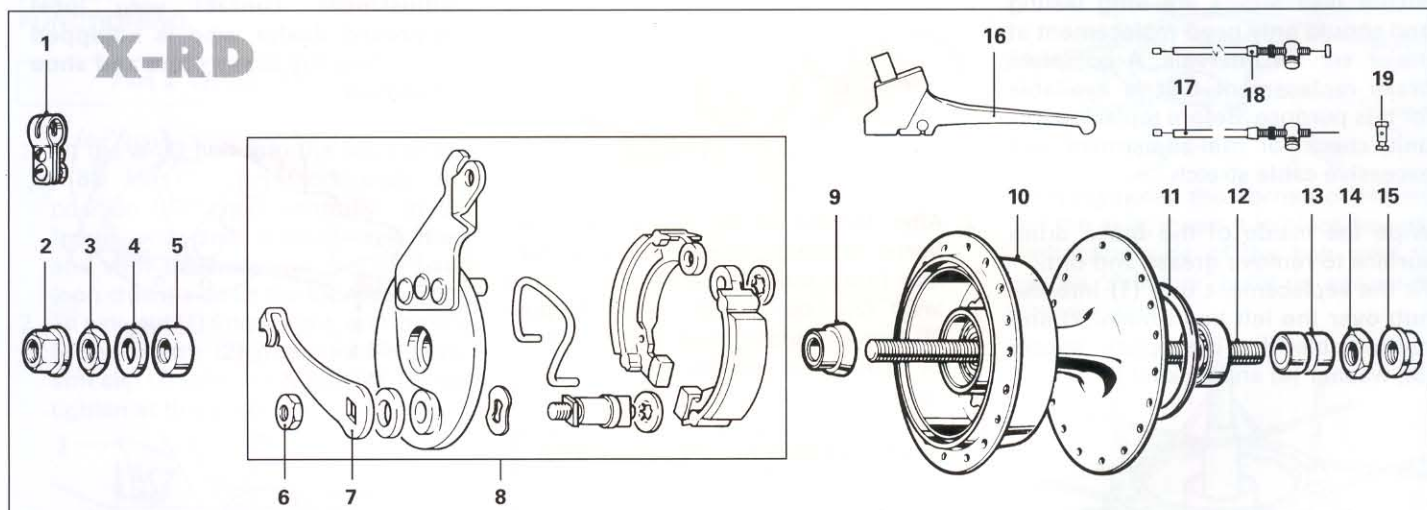
	Front Brake Hub (X-FD)	Rear Brake Hub (X-RD)
Weight	0.76 kg	0.82 kg
Standard overlocknut dimension	100mm	135.6mm
Total axle length	136mm	183.3mm
Axle protrusion length	R: 18mm, L: 18mm	R: 23.7mm, L: 24.0mm
Spoke hole diameter	Suitable for 14g, 13g spokes	Suitable for 14g, 13g spokes
Pitch circle diameter	Ø 89.8mm	Ø 89.8mm

Parts List - Summit X-FD and X-RD Brake Hubs



Item No.	Sales No.	Description	Item No.	Sales No.	Description	Item No.	Sales No.	Description
1	*HSL 702	Brake Arm Clip 17.4mm	9	HSA 373	Brake Plate Bush	16	PKL 205	DELTRIN Brake Lever RH/LH 22.2mm Clip
	*HSL 703	Brake Arm Clip 18.3mm	10	HSB 301	Hub Shell 36H	17	*HSK 711	Cable Complete Black - c/end
2	HMN 376	Axle Nut	11	HSB 396	Replacement Axle Unit 136mm N.B.: This assembly includes hub bearings and 1 off items 2, 3, 4, 5, 9, 12, 13, 14, 15.	18	*HSK 712	Cable Complete Black - o/end
3	HMN 377	Locknut				19	*HSK 715	Pinch Bolt
4	HMW 129	Washer 1.6mm						
5	HSA 372	Brake Plate Spacer						
6	HMN 139	Brake Lever Nut	12	HSA 398	Spacer			
7	*HSB 408	Brake Lever	13	HSA 376	Spacer			
8	HSB 430	Brake Replacement Unit NB: Brake Replacement Unit includes 1 off items 6 and 7	14	HMN 377	Locknut			
			15	HMN 376	Axle Nut			

* Optional Fitment



Item No.	Sales No.	Description	Item No.	Sales No.	Description	Item No.	Sales No.	Description
1	*HCB 101	Brake Arm Clip Assembly 15.9mm	9	HSA 373	Brake Plate Bush	16	PKL 205	DELTRIN Brake Lever RH/LH 22.2mm Clip
	*HCB 103	Brake Arm Clip Assembly 18.3mm	10	HSB 299	Hub Shell 36H	17	*HSK 713	Cable Complete Black - o/end
2	HMN 376	Axle Nut	11	HMW 127	Sprocket Spacing Washer	18	*HSK 714	Cable Complete Black - c/end
3	HMN 377	Locknut	12	HSB 433	Replacement Axle Unit N.B.: This assembly includes hub bearings and 1 off items 2, 3, 4, 5, 9, 13, 14, 15.	19	HSK 715	Pinch Bolt
4	HMW 146	Washer 1.6mm						
5	HSA 372	Brake Plate Spacer						
6	HMN 139	Brake Lever Nut	13	*HSB 428	Axle Spacer - 2 off			
7	HSB 406	Brake Lever	14	HMN 377	Locknut			
8	HSB 429	Brake Replacement Unit NB: Brake Replacement Unit includes 1 off items 6 and 7	15	HMN 376	Axle Nut			

* Optional Fitment

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