

# Instructions for S40 Internal Gear Hubs

## 1. GENERAL INFORMATION

### 1.1 Scope of this leaflet

Congratulations on your purchase of a Sturmey-Archer internal gear hub. For the best performance, please follow instructions in this leaflet. Please contact your local Sturmey-Archer dealer if any problems are experienced with the product.

**Riding the gear hub out of correct adjustment may cause damage to the internal parts and possible malfunction.**

### 1.2 Lubrication

No routine lubrication is required. During a major service, the hub greases should be replenished or replaced especially for transmission parts of the hub. Please contact your Sturmey-Archer dealer who is equipped to carry this out.

**Under no circumstances should any lubricant be applied to the brake drum or drum brake shoes, as this may prevent the brake from functioning.**

### 1.3 Gear changing

Ease pedaling and select the gear required. If the bicycle is stationary simply select the gear required.

### 1.4 Gear ratios

Sturmey-Archer S40 4-speed hub gears have the following ratios:

1 <sup>st</sup> gear	1.0	2 <sup>nd</sup> gear	1.28
3 <sup>rd</sup> gear	1.64	4 <sup>th</sup> gear	2.1

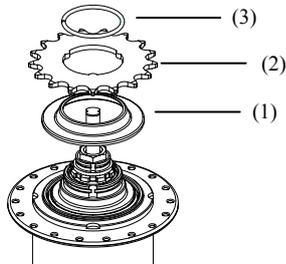
### 1.5 Brake operation

To activate the brake, pull the appropriate brake lever on the handlebar. If the brake is rubbing or cannot be locked by a full application of the lever, then brake cable adjustment is necessary (See section 5).

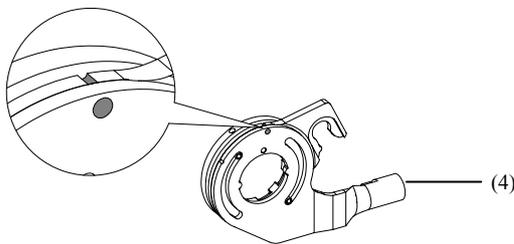
## 2. GEAR HUB INSTALLATION

### 2.1 X-RD4 with drum brake.

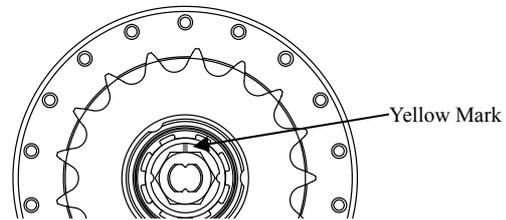
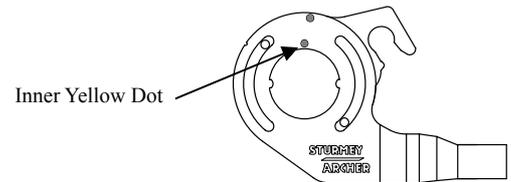
- (1) Fit the dust cap (1), sprocket (2), and circlip (3) onto the driver.



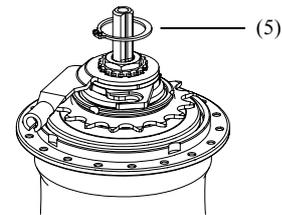
- (2) Rotate the Cable Pulley so that the two yellow marks are aligned.



- (3) Install the Fulcrum Lever/Cable Pulley Set (4) so that the inner yellow dot on the Fulcrum Levers aligns with the yellow mark on the right side of the gear hub.



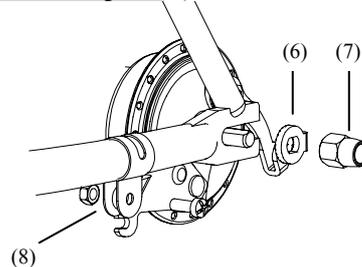
- (4) Fit the C-clip (5)



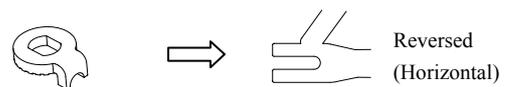
- (5) Place the chain around the sprocket and put the hub axle into the fork ends.

- (6) Fit the lock-washer (6) and dome-nut (7) on the left of the axle. **Screw the nut finger tight.**

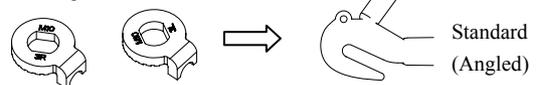
- (7) Fit brake arm into brake clip (8) with nut and bolt. **Do not tighten at this point.** (X-RF4 and X-RK4 skip this step.)



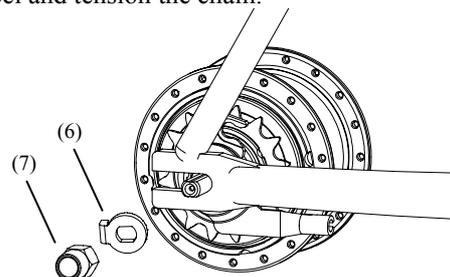
Fit proper lockwashers according to dropout type.



3R: for right 3L: for left



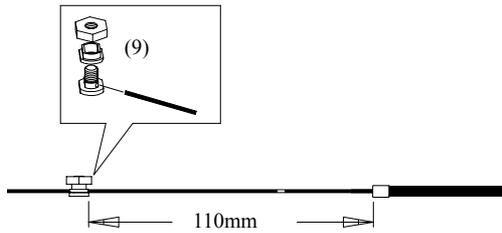
- (8) Locate the lock-washer (6) and dome-nut (7) on the right side. **Do not tighten axle nuts at this point.** Align the wheel and tension the chain.



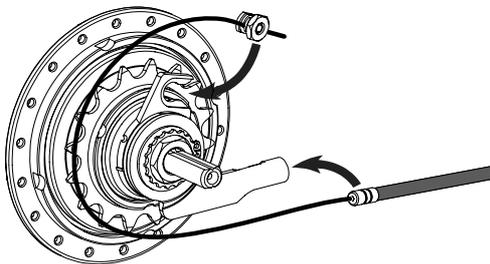
- (9) Tighten the two domed-nuts (7) to **28Nm** and tighten the brake arm clip screw to **7Nm**.

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- (10) Fix the cable with the cable-anchorage unit (9) and tighten it to torque **3-4 Nm**. Fix the correct distance as shown.



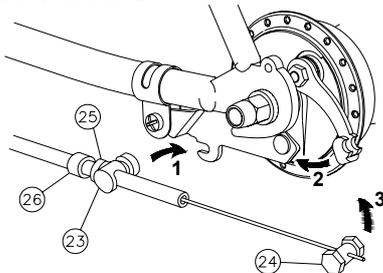
- (11) Bring the cable around the pulley with the nut of the cable-anchorage unit facing to the outside (toward the fork end) and then slide the flat section of the cable-anchorage unit into the slot of the pulley. Insert the cable outer casing into the notch of the fulcrum lever. Check the cable is correctly seated inside the pulley groove.



There is an auxiliary hole by the groove. You can insert a 2mm Allen key or a #14 spoke in the pulley and then turn the pulley clockwise to help fit the cable-anchorage unit.

- (12) Locate the brake-adjusting spigot (23) into brake arm. Depress the hub brake lever and then put the brake cable nipple (24) into the brake lever.

◆ *Note: To maintain good braking efficiency avoid sharp bends and kinks in the brake cable.*



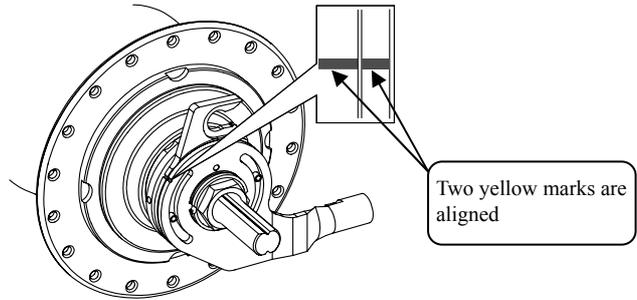
## 2.2 Hub types X-RF4, X-RK4

See section 2.1.

Step 7 and step 12 do not apply.

## 3. GEAR ADJUSTMENT

- (1) Move the shifter from gear number 4 to gear number 2.
- (2) Rotate the shifter cable adjuster, until the two yellow marks at the hub are aligned.
- (3) Select gear 4 and then change back to gear 2. Rotate the pedal cranks a full turn and then check again to ensure that the two indicator marks are still aligned.
- (4) Repeat instructions 1 to 3 if yellow indicators are not aligned.



◆ *Note: If all 4 gears cannot be obtained after following above instructions, contact your Sturmey-Archer dealer for assistance.*

## 4. BRAKE ADJUSTMENT

### 4.1 X-RD4

- (1) Loosen the brake adjuster locknut (25).
- (2) Turn the adjuster (26) until the brake is applied.
- (3) Loosen the adjuster until the wheel just spins freely.
- (4) Tighten the locknut.

**The brake adjustment must be checked before first using the bicycle and after removing or replacing the wheel.**

◆ *Note: After riding the first few miles brake linings “bed-in” and may require re-adjustment. Should braking efficiency become impaired beyond adjustment, brake shoe and linings may need replacement. Contact your Sturmey-Archer dealer who is equipped to replace these*

### 4.2 Hub types X-RF4, X-RK4

Check and adjust brakes according to the original brake manufacturer’s manual.