Part 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 the 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 transmitted parts of internal hub. Please contact your Sturmey Archer dealer who is equipped to carry this out.

△ Incorrect usage of grease may cause out of work of gear changing. Under no circumstances should any lubricant be applied to the brake drum and brake shoes, as this may prevent the brake from functioning.

1.3 Gear Changing
Continue pedaling, but ease pressure on the pedals and select the gear required. If the bicycle is stationary simply select gear required.

Only TSS80 gear selector can fit to the internal gear hub X-RD8. Incorrect usage of selector may cause the gear hub malfunction and damage the products.

1.4 Gear Ratio
Sturmey Archer 8-speed hub gears have the following ratios:
- 1st gear: 1.45
- 2nd gear: 1.28
- 3rd gear: 1.14
- 4th gear: 1.04
- 5th gear: 1.00
- 6th gear: 0.90
- 7th gear: 0.86
- 8th gear: 0.83

1.5 Brake Operation
To activate the brake, pull the appropriate brake lever on the handlebar. If the wheel does not run freely, or cannot be locked by a full application of the brake, then adjustment is necessary. (See section 5).

Part 2 Installation of TSS80 Gear Selector

1. Select 8th gear and insert it into the right side of the lever as shown in diagram 1(a). Ensure enough space to fit the end grip and plastic spacers.
2. Diagram 1(b) shows that the gear selector on top of the brake lever. Ensure that no interaction between them.
3. To fit the gear selector by the hex socket screw to a torque during 1.5-2.5 Nm as shown in diagram 2(a). Diagram 2(b) shows that the set of end grip which keeps 0.3-0.5 mm gap from plastic spacer providing freely rotating. There is no chemicals can be applied and air tool can be used to help when end grip is setting. Clion when twisting and the cable adjuster must run freely.

4. Pass through the inner cable into outer casing and connect to the gear hub. (See the section 3 of this leaflet)

Notice: Avoid sharp bends and kinks in the inner cable.

Part 3 Installation of Internal Gear Hub X-RD8

1. Install the gear selector (See information of TSS80 gear selector on section 2).
2. Ensure the components (sprocket, circlip, fulcrum lever, washer, G-clips) are fixed in sequence on the right side of the hub. Place the hub axle in fork ends to locate the inner hub. Fit lockwasher and axle nut and ensure that the serrations on the lockwasher face into the frame with the lugs located in the axle slots, as shown in diagram 1. Tightening torque is 30-45 Nm.
3. Insert the adjusting screw and nut into sprocket and pass inner cable through the assembly. Attach the inner cable fixing bolt unit to the inner cable end and pull the inner cable while the length is 145mm from inner cable adjusting sprocket unit to the fixing bolt unit, tighten both adjusting nut and fixing nut of inner cable by tightening torque 4-6Nm.

Notice: This instruction can be neglected if product bought from original supplier.

4. See diagram 3. Bring the cable around to the cassette joint pulley. Insert a 2mm Allen key or a #14 spoke in the cassette joint pulley, and then turn the pulley counterclockwise, hold so that the inner cable fixing nut is facing to the outside (toward the fork end), and then slide the flats part of the cable fixing bolt into the gap in the pulley.

5. Let the inner cable adjusting sprocket unit fit into the gap of the fulcrum lever.
6. Insert torque arm loosely into clip and pass through a clip screw. With the wheel centralized and chain tensioned correctly, insert locating washer and tighten the axle nut to a torque of 35Nm on the left axle end. Finally tighten the brake arm with nut firmly to 7Nm max as shown in diagram 5.

7. Brake cable fitting, see diagram 7.
- Pinch Bolt Specification
  - Locate the adjusting nut and sprocket into the adjusting screw and then insert brake cable into the adjusting screw unit.
  - Insert the cable end into pinch bolt and locate the screw.
- Closed End Cables Specification
  - The product bought from original supplier is not needed to set.

8. Brake cable fitting, see diagram 5. Locate the brake - adjusting sprocket the slot on the torque arm. Counterclockwise pull the brake lever and set the pinch bolt unit into the slot of brake lever. Adjust brake by rotating the brake cable adjuster.

Notice: To maintain maximum braking efficiency avoids sharp bends and kinks in the cable.

9. Secure the cable to the frame with the outer casing band.

Diagram 1 Installation of gear hub with other components

Diagram 2 Cable adjusting sprocket and pinch bolt unit

Diagram 3 Pulley guide with cable fixing bolt

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Diagram 4: Fulcrum lever and cable adjusting spigot unit

Diagram 5: Installation of the hub on left side

Diagram 6: Drum brake cable fitting

Diagram 7: Brake cable end types. (a) pinch bolt, (b) close end cable specification

Part 5: Brake Adjustment

See diagram 6 and 7:
1. Slacken the brake adjuster locknut.
2. Turn the adjuster until the brake is applied.
3. Slacken the adjuster until the wheel just spins freely.
4. Tighten the locknut.

⚠️ The brake adjustment must be checked or replaced if necessary before first using the bicycle, and after removing or replacing the wheel.

Notice: Riding the first few miles brake linings "bed-in" and may require re-adjustment. Should braking efficiency become impaired beyond adjustment, brake shoes or linings may need replacement. Contact your Sturmey-Archer dealer who is equipped to replace these.