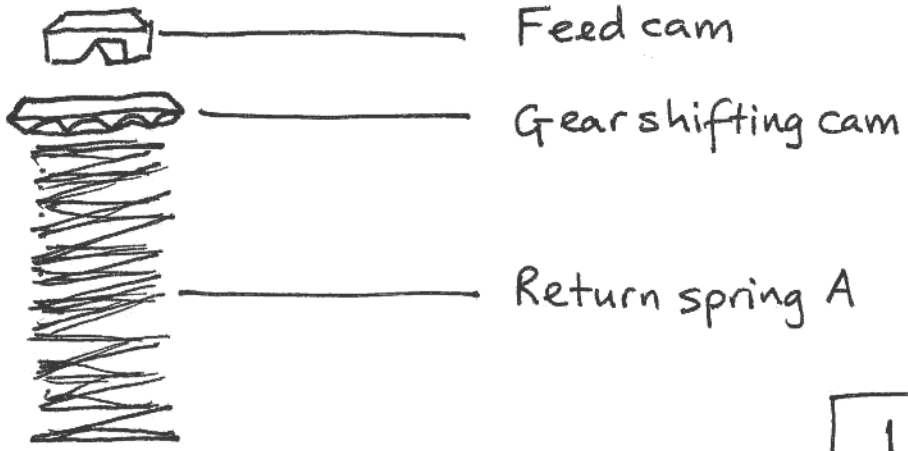
Axle Unit Assembly

FOR

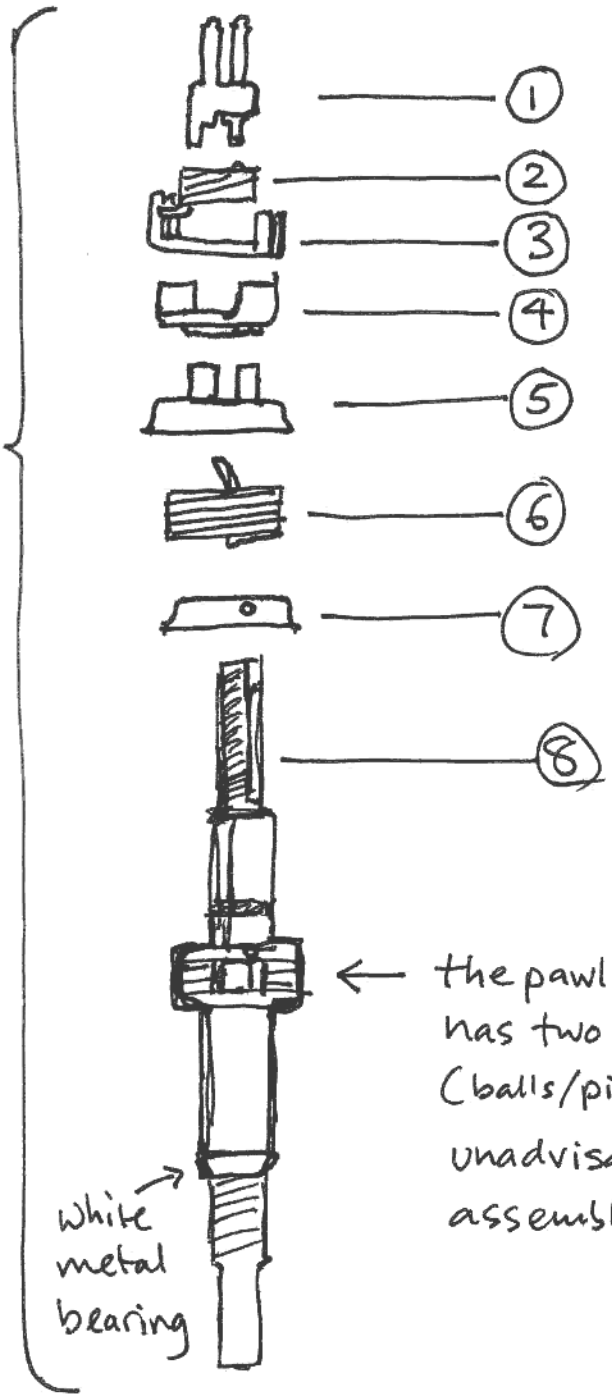
Shimano Nexus 7

SG-7R46

vol.1



I have no idea as to the correct term for each of the Axle Unit components so they have been numbered instead.



Assembly (re-assembly) instructions are on another sheet, but note that these sub-assemblies are formed:

(A) (1), (2) + (3)

(4) + (5) (B)

(C) (B), (6), (7) + (8)

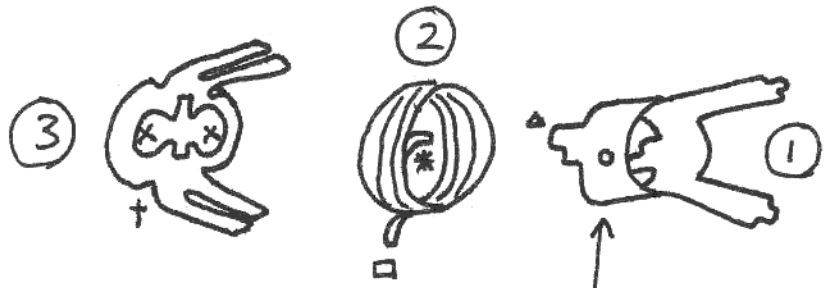
(A) + (C) = Axle Unit

(drawn freehand)

Sheet I

Sheet II

Sub-assembly (A)



† location cavity for end of spring □ on (2)

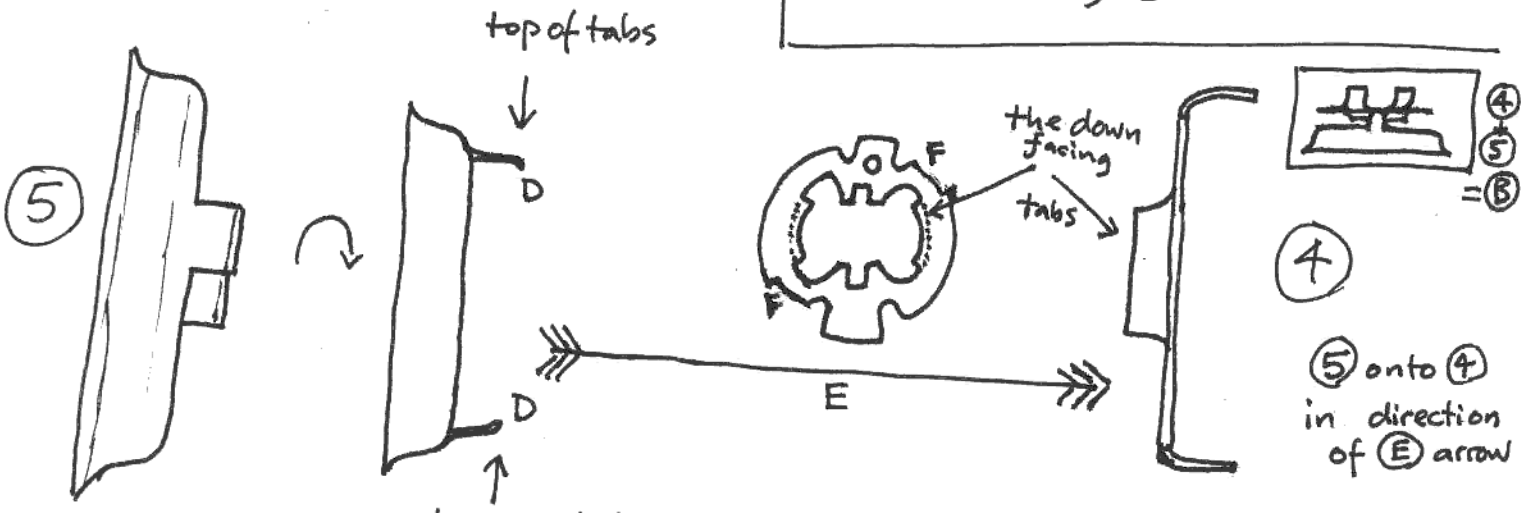
* end of spring pointing in

hole for end of spring * on (2)

Put (1) inside (2) with * in to hole in (1).

Put assembly of (1)+(2) inside (3) locating □ on (2) against cavity (either side) † on (3) then turn (1)+(2) anticlockwise tensioning spring (2) against (3) pushing two protrusions marked Δ on (1) into spaces marked X on (3) and push (3) toward (1) so the three hold together on their own forming sub-assembly (A)

Before assembling sub-assembly (C) you need to put together (4)+(5) to form (B)

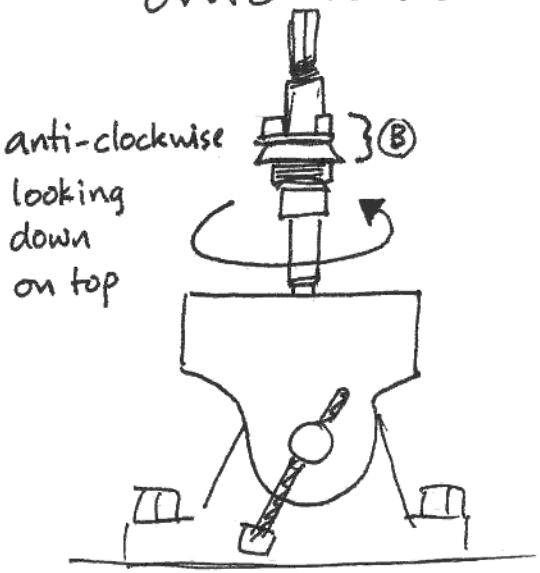


Tips of tabs D pushed onto (4) at points F on (4) (slight gaps)

Sub-Assembly ©

Place ⑦ onto ⑧ lining up the two holes.
Put ⑥ over ⑦+⑧ pushing the inward pointing part of the spring into the two holes.
Place sub-assembly Ⓑ onto ⑧ around which ⑦ and ⑥ are already placed.
In component ④ is a hole. → 
Place this hole onto the other protruding end of spring ⑥, it will sit funny (over to one side and off centre) but we are not finished with it yet.

Grip component ⑧ in a vice, so that the jaws of the vice are on the flats and not on the threads – grip the opposite end to the one onto which you are placing these components.

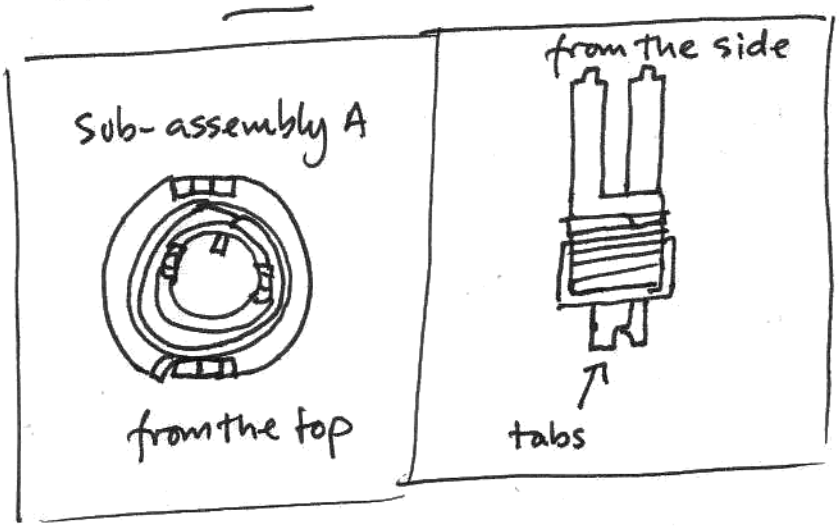


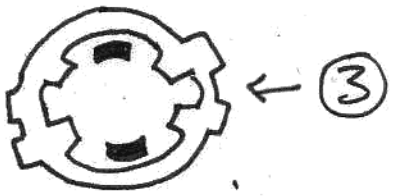
You will find that if you try to turn sub-assembly Ⓑ anti-clockwise the spring will resist and you will have to lift the assembly up a bit to turn at all. The gaps on ④ will slot onto the splines on the axle.

→ Sheet IV

Turn assembly (B) 3 and a bit half-turns with your hand in a thick glove (or it will hurt!) and force it onto the splines so it will not slip back. Then you will find the spring (6) will reduce in diameter until it allows assembly (B) to slip down over it and the spring will now not interfere with the pawls any more.

Now shimmy sub-assembly (A) down onto the axle BUT make sure that the downward tabs are pushed into the big spaces in (3) not the small spaces

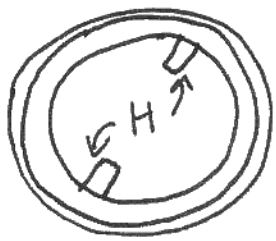




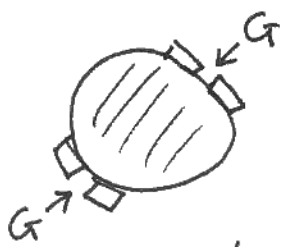
then push them into the smaller gaps in component (4) (you may have to push against the spring tension again) to make it fit. Some jiggling may be necessary — until the base of (3) is flat against the top of (4).

Next place 'Return spring A' resting on (5) with 'Gear shifting cam' on the top so that...

→ Sheet V



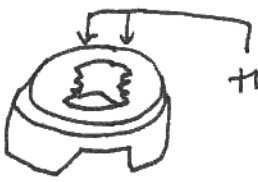
Gear Shifting Cam



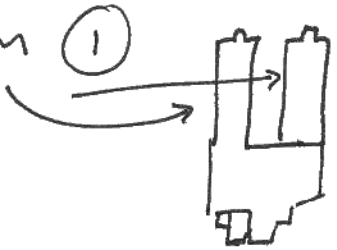
component (3)

... you push spigots 'H' on 'Gear Shifting Cam' slot into gaps G on component (3).

You will have to hold all this down for a bit or it will 'sproing' apart. What holds it all togethr is compnent 'Feed Cam'. Push it down onto the axle



these two tabs will slot into the channels on the shaft and pressing the protrusions on (1)



to one side (because they are held over the channels by the tension in spring (2)) it can be pressed down and holds the whole lot togethr, without your intervention.

Now go to the othr document... it is full of pictures of all these componants and sub assemblies to help it all make more sense. Now see the SG-7R46 manual for the rest.