



## Maintenance, Service and Repair of WTB Serra Hubs

### 1. Before you start

#### **WARNING**

All WTB products should be installed and serviced by a qualified bicycle mechanic using appropriate professional tools. *WTB assumes no liability for products which are improperly installed, removed, assembled, disassembled or configured. Improper installation, adjustment or service may result in damage to the component or component failure.*

Use only genuine WTB replacement parts.

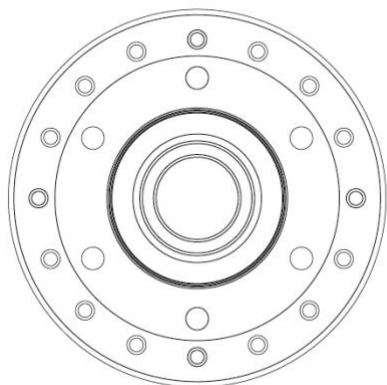
#### **DANGER**

After any installation, adjustment or repair, test your work by taking a test ride in a controlled environment, away from cars, fellow cyclists, obstacles or other hazards.

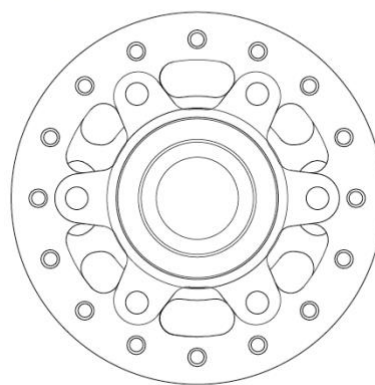
Failure to follow these instructions can result in component failure. Component failure can cause the rider to lose control of the bicycle and fall, leading to serious injury or death.

(a) Identify your hub. The best way to determine if your hub is a WTB Serra hub is by the circular 6-bolt disc mount area. Serra hubs are not machined out in between the threaded holes like they are on other WTB hubs. Looking at the hub from the non-drive side, the disc mount area of a Serra hub is round, without any machining done to remove material. *If your hubs do not have a circular disc mount area, find the correct service manual for your WTB hub model on the following webpage, [www.wtb.com/pages/resources](http://www.wtb.com/pages/resources).*

Serra



Speedterra/Proterra



(b) Make sure you have read the WTB hub instructions which are available in this document as well as the WTB website at [www.wtb.com/pages/resources](http://www.wtb.com/pages/resources).

(c) Follow each step of these service instructions.

### 2. Tools and Equipment

To disassemble and reassemble your hubs, you will need the following tools:

- Two 17mm cone/hub wrenches
- 14mm hex key
- 2mm hex key (not required in all instances)

3. **Serviceable Parts:** High resolution schematics available at [www.wtb.com/pages/resources](http://www.wtb.com/pages/resources)

*WTB Serra*

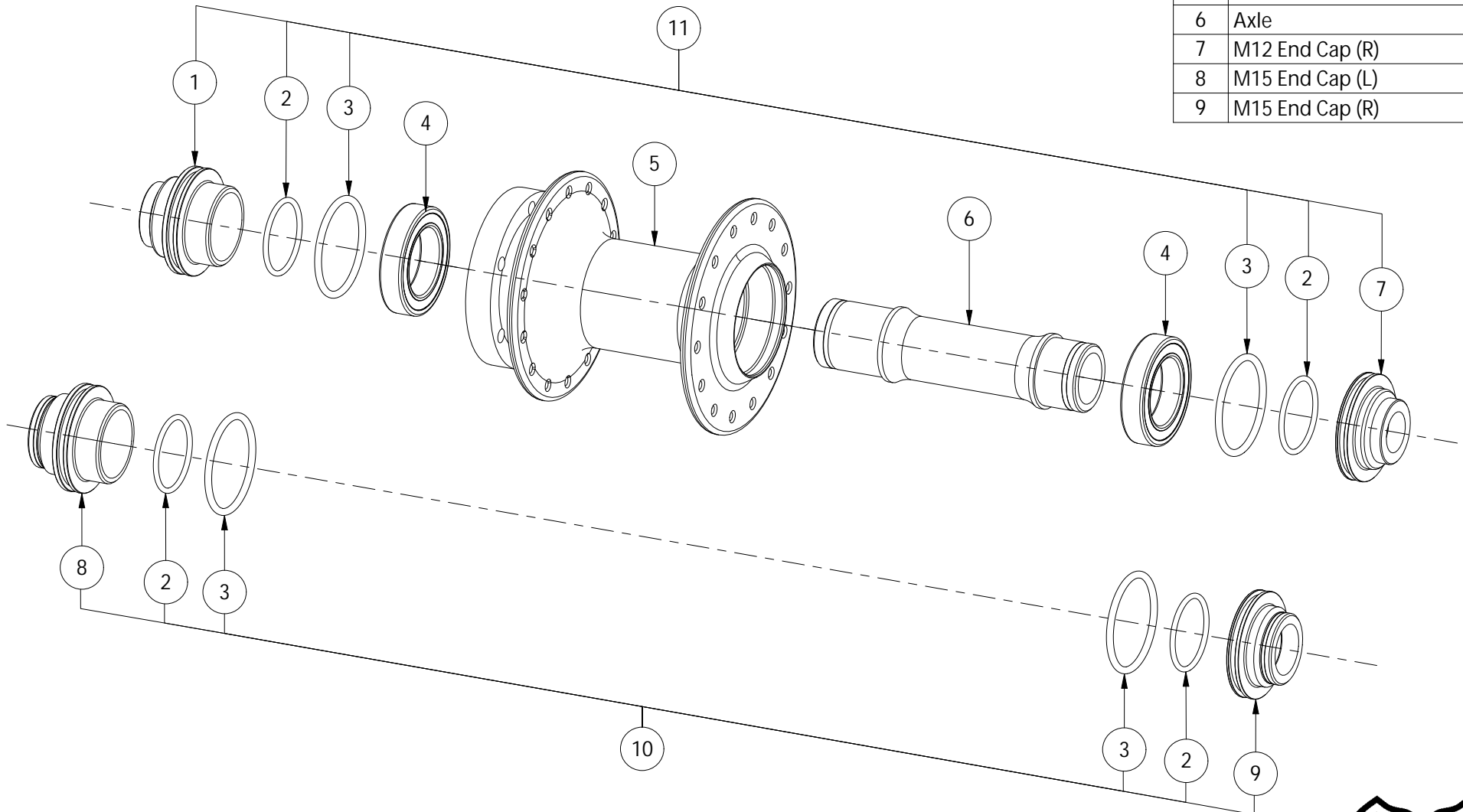
*12 x 100 Front Hub*

W135-0633 Serra 12x100 (28 hole)

W135-0642 Serra 15x100 (28 hole)

W135-0710 Serra 12x100 (32 hole)

No.	Description	Qty
1	M12 End Cap (L)	1
2	23x1.5 o-ring	4
3	30x2.0 o-ring	4
4	20x32x7 Bearing, 1 pcs	2
5	Hub Shell	1
6	Axle	1
7	M12 End Cap (R)	1
8	M15 End Cap (L)	1
9	M15 End Cap (R)	1

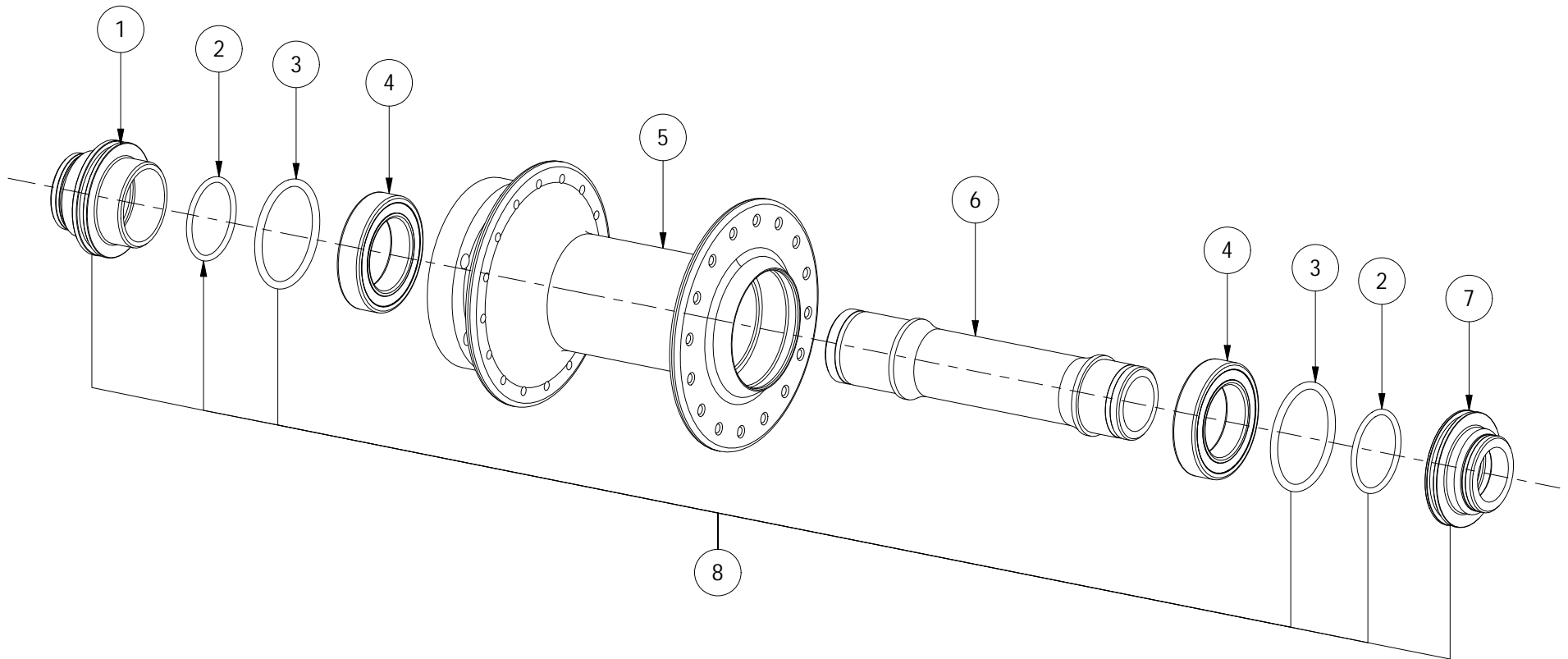


<i>WTB Parts/Service Kits</i>		
Part Number	Description	No.
W035-0130	20x32x7 Bearing, 1 pcs	4
W035-0143	Serra Axle for 100mm hub	6
W035-0135	Serra End Cap Kit for 15x100/110 hub	10
W035-0142	Serra End Cap Kit for 12x100 hub	11



**WTB Serra**  
**15 x 110 Front Hub**  
**W135-0631 Serra 15x110 (32 hole)**

No.	Description	Qty
1	M15 End Cap (L)	1
2	23x1.5 o-ring	2
3	30x2.0 o-ring	2
4	20x32x7 Bearing, 1 pcs	2
5	Hub Shell	1
6	Axle	1
7	M15 End Cap (R)	1



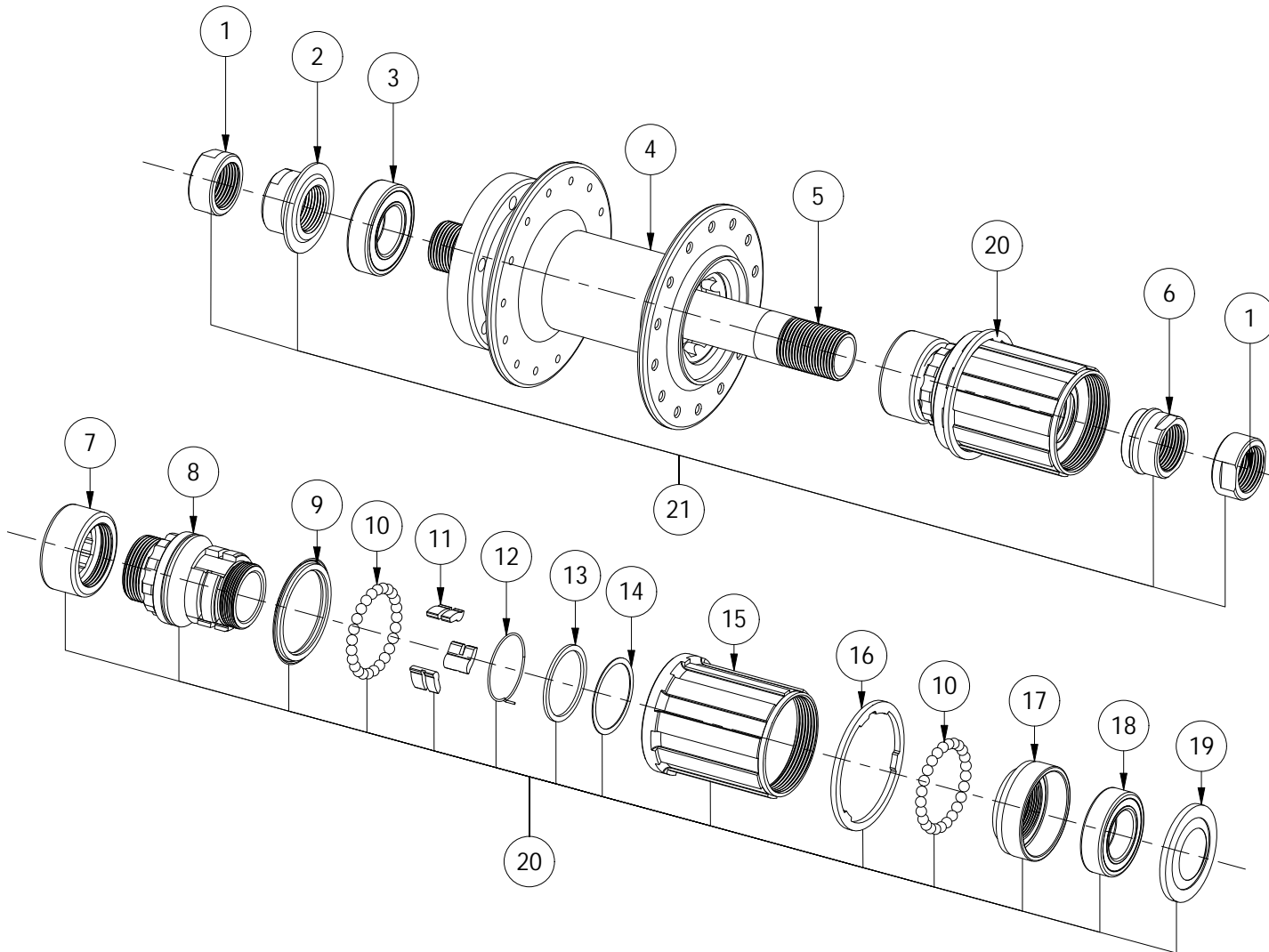
<i>WTB Parts/Service Kits</i>		
Part Number	Description	No.
W035-0130	20x32x7 Bearing, 1 pcs	4
W035-0136	Serra Axle for 110mm hub	6
W035-0135	Serra End Cap Kit for 15x100/110 hub	8



# WTB Serra

## 12 x 142 Rear Hub

W135-0711 Serra 12x142 (28 hole) Shimano HGR mtn/road



No	Description	Qty
1	M12 End Cap	2
2	Left Bearing Nut	1
3	15x28x7 Bearing, 1 Pcs	1
4	Hub Shell	1
5	Axle	1
6	Right Bearing Nut	1
7	Freehub Nut	1
8	Freehub Carrier	1
9	Freehub Seal	1
10	1/8" x 25pcs loose ball bearing	2
11	Pawl	3
12	Spring	1
13	Large Spacer	1
14	Small Spacer	1
15	11spd Freehub Body	1
16	Cassette Spacer	1
17	Bearing Race	1
18	15x26x7 Bearing	1
19	Freehub Dust Seal	1

WTB Parts/Service Kits		
Part Number	Description	No.
W035-0133	15x28x7 Bearing, 1 Pcs	3
W035-0145	Serra Shimano HGR mtn/road Axle for 12x142 hub	5
W035-0148	Serra Shimano HGR mtn/road Freehub Kit for 12x142/148 hub	20
W035-0156	Serra Shimano Freehub Nut	7
W035-0147	Serra Shimano HGR mtn/road End Cap Kit for 12x142/148 hub	21

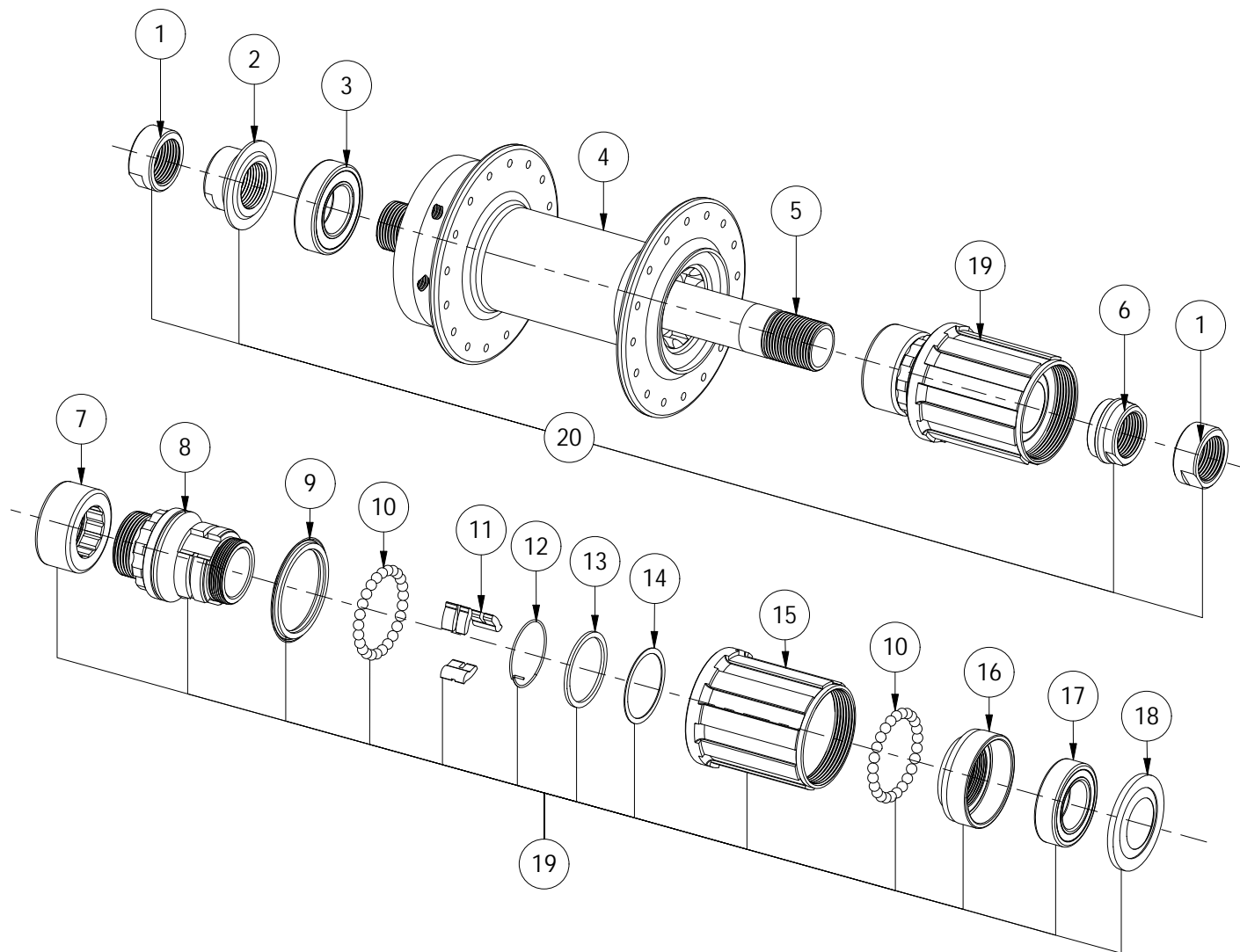




# WTB Serra

## 12 x 157 Rear Hub

W135-0635 Serra 12x157 (32 hole) Shimano HG mtn



No	Description	Qty
1	M12 End Cap	2
2	Left Bearing Nut	1
3	15x28x7 Bearing, 1 Pcs	1
4	Hub shell	1
5	Axle	1
6	Right Bearing Nut	1
7	Freehub Nut	1
8	Freehub Carrier	1
9	Freehub Seal	1
10	1/8" x 25pcs loose ball bearing	2
11	Pawl	3
12	Spring	1
13	Large Spacer	1
14	Small Spacer	1
15	Shimano Freehub	1
16	Bearing Race	1
17	15x26x7 Bearing	1
18	Freehub Dust Seal	1

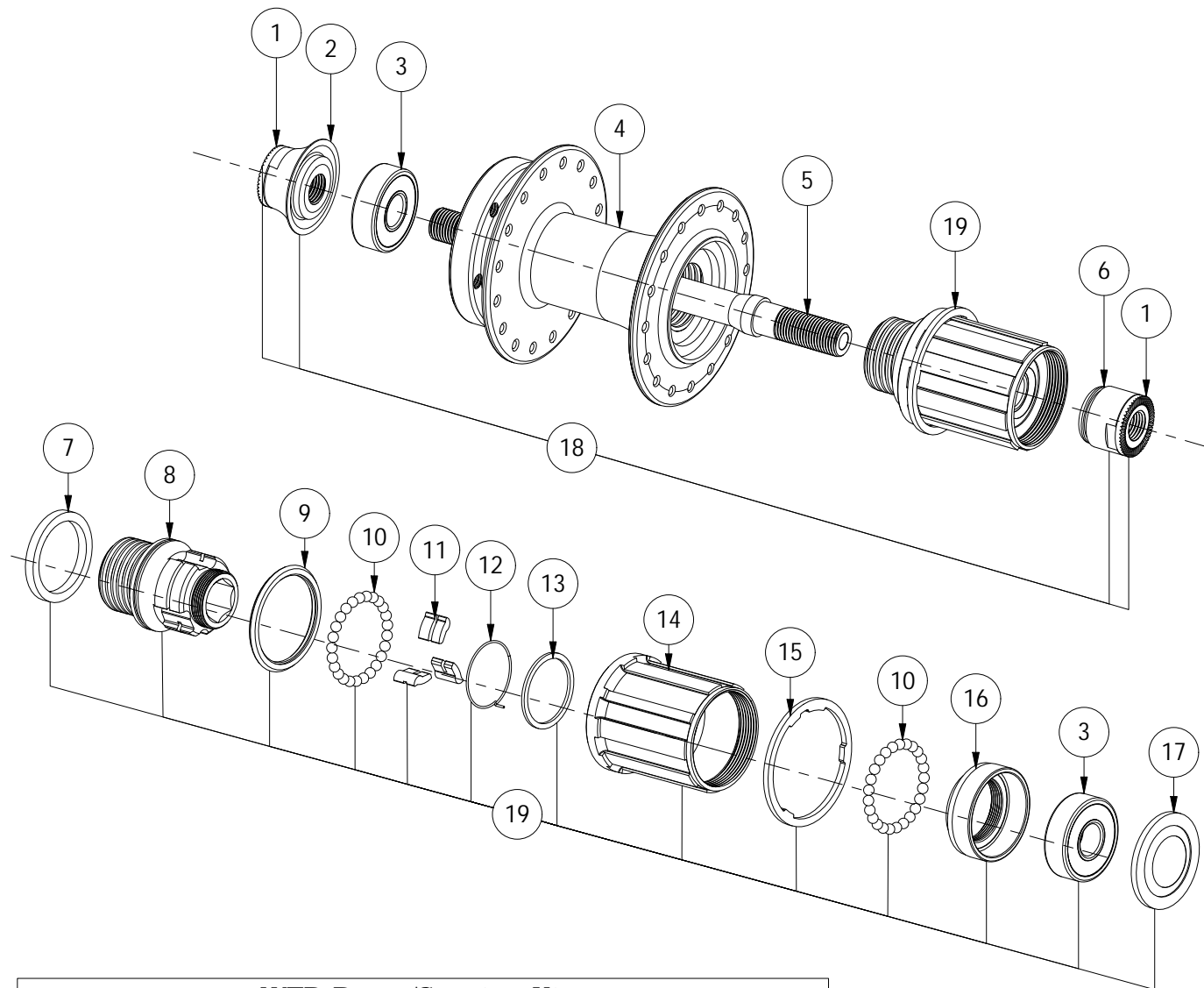
<i>WTB Parts/Service Kits</i>		
Part Number	Description	No
W035-0133	15x28x7 Bearing, 1 Pcs	3
W035-0150	Serra Shimano HG mtn Axle for 12x157 hub	5
W035-0134	Serra Shimano HG mtn Freehub Kit for 12x157 hub	19
W035-0156	Serra Shimano Freehub Nut	7
W035-0131	Serra Shimano HG mtn 12x142/148/157 End Cap Kit	20



# WTB Serra

## QR x 135 Rear Hub

W135-0709 Serra QR x 135 (32 hole) Shimano HGR mtn/road



No	Description	Qty
1	Grip Ring	2
2	Left End Cap	1
3	10x26x8 Bearing	2
4	Hub Shell	1
5	Axle	1
6	Drive Side End Cap	1
7	Freehub Spacer	1
8	Freehub Carrier	1
9	Freehub Seal	1
10	1/8" x 25pcs loose ball bearing	2
11	Pawl	3
12	Spring	1
13	Large Spacer	1
14	Shimano Freehub	1
15	Cassette Spacer	1
16	Bearing Race	1
17	Freehub Dust Seal	1

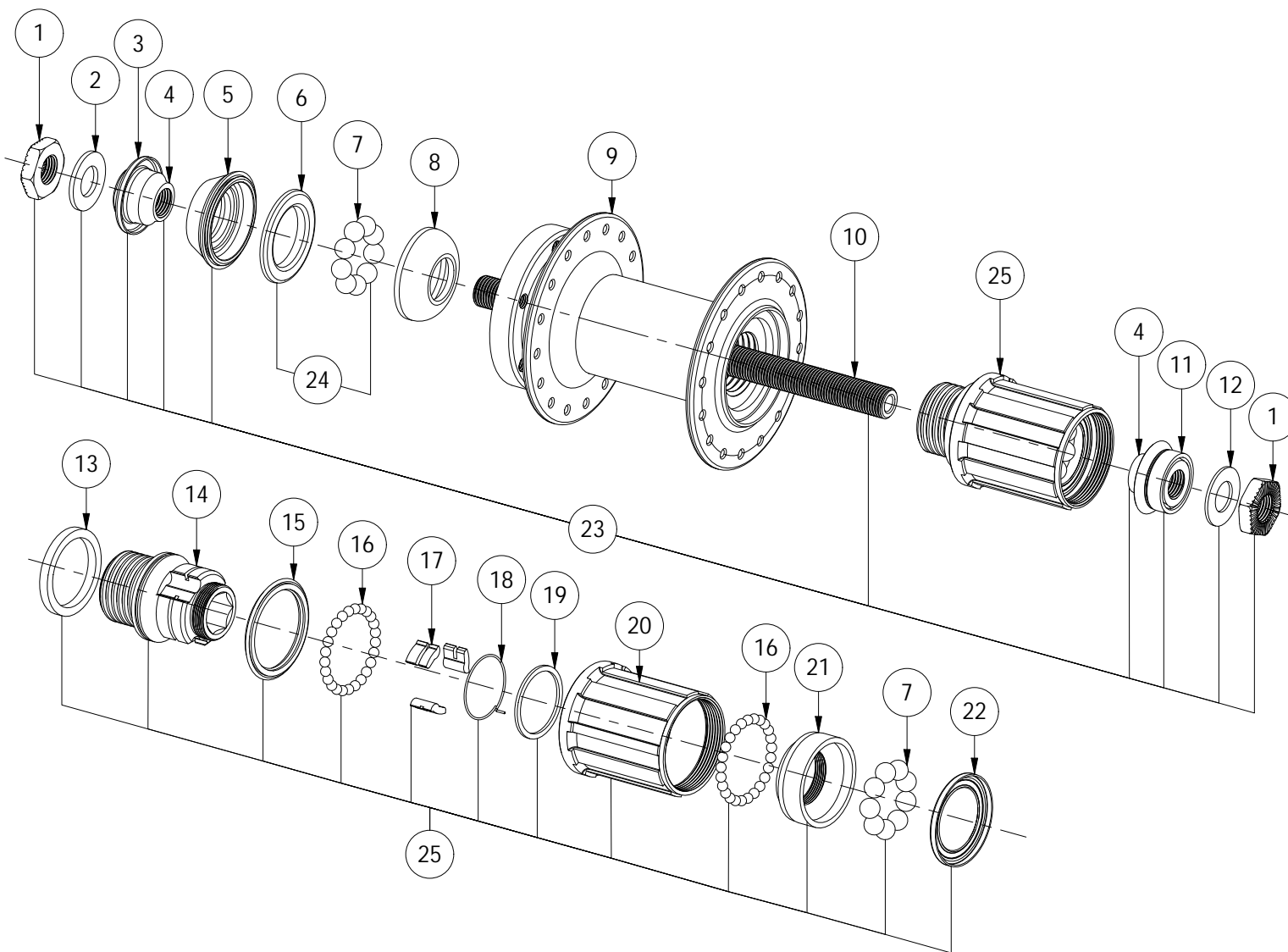
WTB Parts/Service Kits		
Part Number	Description	No
W035-0161	10x26x8 Bearing, 1 pcs	3
W035-0160	Serra Shimano HGR mtn/road Axle for QRx135 hub	5
W035-0159	Serra End Cap Kit for QRx135 hub	18
W035-0158	Serra Shimano HGR mtn/road Freehub Kit for QRx135 hub	19



# WTB Serra

## QR x 141 Rear Hub

W135-0638 Serra QR x 141 (32 hole) Shimano HG mtn



No	Description	Qty
1	Locknut	2
2	1.5mm x 19mm Spacer	1
3	Steel Dust Guard	1
4	Bearing Nut	2
5	Rubber Dust Seal	1
6	Bearing retaining ring	1
7	1/4" x 9pcs loose ball bearing	2
8	Bearing Race	1
9	Hub Shell	1
10	Axle	1
11	Freehub Bearing Seal	1
12	1.0mm x 19mm Spacer	1
13	Freehub Spacer	1
14	Freehub Carrier	1
15	Freehub Seal	1
16	1/8" x 25pcs loose ball bearing	2
17	Pawl	3
18	Spring	1
19	Large Spacer	1
20	Shimano Freehub	1
21	Bearing Race	1
22	Freehub bearing retaining ring	1

WTB Parts/Service Kits		
Part Number	Description	No.
W035-0138	Serra Axle and Small Parts Kit for QRx141 hub	23
W035-0139	Serra Axle for QRx141 hub	10
W035-0153	Serra Hub Bearing and Retaining Ring Kit for QRx141 hub	24
W035-0141	Serra Shimano HG mtn Freehub Kit for QRx141 hub	25





#### **4. Adjusting the bearings**

Serra front hubs do not require bearing adjustment. There will be a small amount of play in each hub when it is not tightened down in a frame or fork, which is normal. When an axle tightens down on the hub, the components will compress slightly and eliminate any play.

Serra rear hubs utilize bearing nuts and end caps on each of the axle in order to achieve proper adjustment. The inner bearing nuts should be tightened down using 17mm cone wrenches until they barely touch the bearing. There is no need to tighten past this point. Poor performance and increased wear will result if the adjustment is too tight (or too loose). The end cap is then tightened against the bearing nut with a 17mm cone wrench until it is snug against the bearing nut. It is important to hold the bearing nut in place while tightening down the end cap in order to prevent the bearing nut from spinning and putting too much pressure on the bearings. Serra freehubs come pre-adjusted; do not attempt to adjust the bearing load within the freehub body.

#### **5. Disassembling the hubs**

##### **Front hub:**

To simplify their removal and installation, end caps (1,7,8,9) are held on the hub shell (5) using a slip fit and O-rings (2,3). To remove the end caps, securely hold the hub shell with one hand (do not clamp in a vise) and pull them from the hub using your other hand. An alternating side-to-side motion often aids in end cap removal. Once the end caps have been removed, the O-rings can also be removed and cleaned. The bearings (4) in the hub shell should now be exposed, allowing you to thoroughly clean the area. The bearings are not serviceable and therefore must be replaced if they exhibit signs of wear. Removal and installation of the bearings requires specific/expensive tools in order to prevent damage to the hub shell or bearings. WTB strongly suggests taking your hub(s) to a local bike shop to have the bearings replaced if they are worn or creaking. To reinstall the end caps, reinstall the O-rings on the end caps and slide the end caps onto the hub's axle (6) until they bottom out.

##### **Rear hub:**

The axle (5) is retained within the hub shell using bearing nuts and end caps (1,2,6) which accept 17mm cone wrenches. The end caps (1) are the outermost components/nuts on axle of the hub. To remove them, it is important to always hold the bearing nut (2,6) in place with one cone wrench and loosen the end cap from the bearing nut with another cone wrench. The first step is removing the drive side end cap. Access to the bearing nut (6) is protected by the freehub body (15) on the drive side and therefore you must hold the bearing nut (2) on the non-drive side using a 17mm cone wrench while loosening the end cap on the drive side with another 17mm cone wrench. Remove the drive side end cap and remove the bearing nut on the same side. Once the bearing nuts have been removed, the dust seal (18) can also be removed, thereby exposing the bearings (3,17) in the hub shell (4) and freehub (19). The freehub is removed from the hub using a 14mm hex key once both the bearing nut and end cap are removed from the drive side. Insert the 14mm hex key into the non-drive side of the hub and slide it through until it engages with the freehub body carrier (8) on the drive side. Looking at the non-drive side of the shell, rotate the 14mm hex key clockwise to remove it from the hub shell. Removal and installation of the bearings requires specific/expensive tools in order to prevent damage to the hub shell or bearings themselves. WTB strongly suggests taking your hub(s) to a local bike shop to have the bearings replaced if they are worn or creaking. To reinstall the freehub, bearing nuts, and end caps, follow the above steps, but in reverse order. When installing a freehub, the pawls (11) may interfere with inserting the freehub into the hub shell. To aid in reinstallation of the freehub, spin it around the axle while using a small hex key (~2mm) to push the pawls in as the freehub is rotated and pressed onto the hub shell.

#### **6. Contact Information**

If you have any questions or problems with any WTB product, please contact WTB through [wtb.com](http://wtb.com) or [info@wtb.com](mailto:info@wtb.com).

#### **7. Disclaimer**

The original English language version/meaning of these instructions supersedes all translations. WTB is not responsible for any errors in translation of these or any other product instructions.