Alchemy Orc rear hub

.

Compatibility

- Shimano 8/9/10sp, Road or V-Mtb
- Sram 8/9/10sp, Road or V-Mtb
- Campagnolo 9/10/11sp

Design features

- The Orc was designed by a wheel-builder for wheel-builders. Simply put, it has the best overall wheel-building dimensions of any hub available. The center to right flange dimension is better than any other hub. This allows the flanges to be widely spaced, which creates excellent lateral stiffness and improves overall wheel strength, while maintaining good non-drive side spoke tension. The large diameter drive side flange transfers torque exceptionally well, and the large diameter center barrel creates a very stiff shell and provides excellent support for the flanges.

- The Orc has a 17mm axle that is reinforced with a tapered 20mm diameter shim that strengthens the area between the hub shell and the cassette body.

- The Orc is supported by five bearings. There are two bearings in the hub shell, two bearings in the cassette body and one oversized bearing that connects the cassette body directly to the hub shell. The unique axle and bearing system creates a stiff hub with excellent support at the critical area between the hub shell and the cassette body.

- The driver mechanism in the Orc consists of 3 simultaneously engaging pawls that ratchet inside a 36 point oversized steel driver gear. The pawl and pocket are oversized to better handle high torque loads. The driver mechanism is supported directly at the hub shell with an oversized bearing. This maintains concentricity between the pawls and driver gear, which eliminates the asymmetric loads that occur with a conventional "floating" cassette body design.

- At 220 grams, the Orc is amazingly light considering the overall strength and stiffness of the hub.

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Wheel-building dimensions - center to center, (center to outside)
Shimano/Sram - Road
RF = 58mm
LF = 42mm
CR = 19.6mm, (21.3mm)
CL = 37.0mm, (38.7mm)

Shimano/Sram - V-Mtb
RF = 58mm
LF = 42mm
CR = 22.1mm, (23.8mm)
CL = 34.5mm, (36.2mm)

Campagnolo - Road
RF = 58mm
LF = 42mm
CR = 18.0mm, (19.7mm)
CL = 38.6mm, (40.3mm)

Important wheel-building notes
1) Drive flange must be laced as follows:
20 hole = 2X
24 hole = 2X
28 hole = 3X
32 hole = 3X

2) Non-drive flange may be laced in a radial or a cross pattern.

3) When stress relieving the wheel, **do not** side load the axle ends.

Adjusting the bearing preload.
Note: Never tighten the end-cap unless a cassette stack is installed and properly tightened.
Each Orc hub is properly adjusted and tested before shipping. There should be a small amount of bearing play in the hub until it is clamped in the frame. The hub is properly adjusted when the clamping force of the quick release mechanism eliminates the bearing play, but does not cause any binding or excessive bearing drag. If the hub needs to be adjusted, use the following procedure:

1) **Make sure that the cassette stack is installed and that the lockring is tightened to the cassette manufacturer's recommended torque (usually 40Nm) - Important!**
2) Use two 5mm hex wrenches and tighten or loosen the left endcap until proper adjustment, as described above, is achieved.