



## Alchemy Elf front hub

### Dimensions and specs:

- Flange diameter = 32mm
- Center to center of flange = 39.3mm
- Spoke hole diameter = 2.4mm
- Axle diameter = 10mm
- Bearing size = 6900 (10x22x6)
- Bearing quality = ABEC 5 (static capacity = 303)
- Weight = 65g

### Wheel building notes:

- Radial and 1X patterns are OK for 16 through 28 hole hubs
- If using a radial or 1X pattern, always build heads out (elbows in)

### Adjusting the bearing preload (important!):

After building the wheel, check the bearing adjustment. 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: Use two 5mm hex wrenches and tighten or loosen the adjustable endcap until proper adjustment, as described above, is achieved.

### Design features:

- The Elf was designed by a wheel-builder for wheel-builders. Like the Orc, it has the best overall wheel-building dimensions of any hub available. The flanges are very widely spaced and they are angled at six degrees. The wide flange spacing produces a stronger and stiffer wheel at a given spoke count than other hubs. Alternatively, the wide flange spacing allows the builder to use fewer spokes (less weight and lower aerodynamic drag) and maintain strength and stiffness compared to other conventional hubs.
- The Elf uses a 6900 series bearing. These bearings have a relatively thick cross section, larger ball bearings and are more durable than the ultra-thin 6800 series bearings used to lower weight on most other light front hubs.
- The bearings on the Elf are only three millimeters from the dropout (94mm apart). The axle span between the bearing and the dropout functions as a lever arm, keeping this distance as short as possible dramatically improves the effective stiffness of the axle, hub and wheel.
- Bearing preload is adjustable using two 5mm hex wrenches.