

Dummy Axle Explainer

Alex Meade Bikeworks dummy axles are made from $\frac{3}{4}$ " precision ground stainless steel bar stock. The diameter is 0.7490"-0.7495"

Keyed or Round Ends?

The "ends" are the protruding shoulders fitting into the dropout. Through axle dropouts require round ends, while Q/R dropouts can use either keyed or round ends, depending on your needs (see the FAQ's on the next page). The typical modern options are:

Keyed

- 9mm keyed ends for front Q/R or bolt-on
- 10mm keyed ends for rear Q/R or bolt-on
- 3/8" or 14mm keyed ends for some BMX (typically bolt-on)

Round

- 9mm diameter round for front Q/R or bolt-on
- 10mm round for rear Q/R or bolt-on
- 12mm or 15mm round ends for through axle. The diameter choice must match your dropouts.
- 3/8" or 14mm for some BMX, usually bolt-on.

Note that 3/8" and 10mm are close in size. Unless it's a BMX bike, it's 10mm. If in doubt, measure the dropout slot or the hub axle with a machinist's caliper. The dummy axle end diameter should match the hub axle diameter.

Dual-Diameter Round

Some through axle front dropouts have the drive side dropout threaded all the way through the dropout. Other front through axle dropouts are threaded part way through, with the inside 3-4mm left unthreaded as a precision locating surface for the through axle. If you're not sure which you have, look at the dropouts. If the drive side dropout is threaded all the way through, then you'll need a dual-diameter dummy axle, either 12/10.5mm or 15/13.5mm, depending on your dropouts. At the time of this writing, only front through axle dropouts are affected by this option. Dual-diameter and single diameter dummy axles are not interchangeable; the dummy axle needs to match your specific dropouts.

Length

Once you've determined the end type, select the length. You're specifying the distance from the dropout face to the dropout face, aka the OLN length. The length does not include the length of the protruding keyed or round ends. The length will be determined by the hubs you're using. There are many standard lengths depending on the type of bike. Some builders ask for 2 or 3mm extra length to allow for pull-in during building. Any length can be specified.

Locating Features

There are many methods by which fork and frame fixtures locate dummy axles. If you don't see what you need, ask me. I can equip dummy axles with any locating features you might need.

The most common are:

No features. Just a $\frac{3}{4}$ " diameter dummy axle. Used in the Alex Meade Bikeworks Flat Plate Fixture, and many others.

Single clip ring. Used on Alex Meade Bikeworks Precision Freestanding Frame Fixture, Fork Fixture, and Chainstay/Seatstay Mitering fixture, as well as other manufacturers' fixtures. If it's not for an Alex Meade Bikeworks fixture, I'll need to know the location of the clip ring relative to the center of the dummy axle.

Double clip ring. Used on Henry James frame fixtures and others. Please tell me the distance between the clip rings. Some Henry James are 1.4" between rings, but I don't know if this is universal.

Reduced center. Used by Anvil and others. Please tell me the length and diameter of the reduced section. Common dimensions are 2.5" long x 0.5" diameter, and 1.375" long x 0.5" diameter, but don't assume it's one of these.

Finally, builders modify fixtures a lot. Don't assume just because it's supposed to be a particular dimension, that it actually is. Measure twice, buy dummy axles once!

FAQ's:

Q) Keyed or round end dummy axles for Q/R bikes?

A) Back in the day when forward facing slotted dropouts were the norm, it was important to keep the slots aligned, since the wheel could be located anywhere along the slot. With vertical slotted Q/R dropouts, the wheel only locates in one place – all the way in – so slot alignment isn't a functional requirement. Think through your build process; if you attach dropouts one at a time to stays and blades, using a keyed dummy axle to build the final fork or frame can actually fight against alignment if your slots didn't happen to come out perfectly parallel. For this reason, I usually recommend round ends unless your process involves attaching both dropouts at the same time in a fixture. Of course, if you're building fixed or track frames or any other frames with rear-facing slotted dropouts (BMX, for example), you'll prefer keyed ends on your rear dummy axles.

Q) Why do Alex Meade Bikeworks fixtures use the single clip ring locating method?

A) In a word, accuracy. Specifically, the accuracy of the complete fixture used with the dummy axle. By utilizing the precision-ground OD of the dummy axle and a single axle-axis reference as locating features, the number of tolerances is minimized, creating the most accurate datum structure and hence the most accurate fixture alignment possible.

Q) Can I purchase a keyed dummy axle for through axles, like Paragon used to make?

A) Yes, but you'll need to provide me with some information and measurements from your specific dropouts. Also keep in mind, unlike traditional forward and rear-facing slotted dropouts, there's no functional reason through-axle dropout slots need to be perfectly aligned. The slots in a through-axle dropout are only there to ease wheel installation; they don't position the wheel. If you require this type of dummy axle, contact me before ordering so we can work out all the details and be sure you get what you require.