



5 Ways a Custom Bearing Gives You More Freedom for Design Innovation.



This custom bearing, developed at National Bearings, allowed a chuck manufacturer to reduce the number of components, add a desirable aesthetic feature (clicking sound) and meet the life expectancy and performance requirements of the chuck — all while ensuring low cost manufacturability at high volume.

Want product designs that are smaller, more compact, feature-rich, and more visually appealing?

The answer might be a custom bearing.

Selecting a standard bearing is simple: Pick it out of a catalog and spec a number in your design. Done and done.

Technically, that's right. But in the long run, if you're looking for better flexibility for your designs and a more competitive product — one that is more desirable to the end user — you could be selling yourself short.

Choosing a custom bearing over a standard bearing affords you more freedom for design innovation and will probably save you money in the process. When it comes to incorporating aesthetic features, standard bearings limit product design and can overcomplicate the production process.

When you consider custom bearings during the design stage, you can impact your design flexibility in a number of ways.

1 Make it Smaller

A standard bearing may contain components that are not necessary for the function of your product. Specifying a custom bearing — one designed specifically to meet the functionality of your product — gives you the ability to eliminate superfluous components, and design a more compact product.

2 Improve Aesthetics

Want to give your product something more to offer for the end user? Why not add an indicating feature associated with a product function? Maybe a “clicking” sound to let the user know your product is working the way it should or an indicating tab to demonstrate that that full position has been achieved. A standard bearing will not provide an aesthetic feature — such as sound — but a custom bearing can. The figure to the left details how a custom bearing made all the difference in a drill chuck design.

3 Enhance Product Quality

Going custom with the bearings in your product design can allow you to achieve adjustability and make all the components work better together. For example, we could help you design a radial bearing with a threaded stud that could adjust the screw

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depth before it's locked into place, eliminating misalignment due to variation of the mating components.

4 Make it Look Good

A more compact design is often a space-saving design that is more visually appealing. Custom bearings can allow you to scale back the size of components or eliminate components altogether, often giving your product a more streamlined look, which almost always makes a better impression on the end user.

5 Simplify Assembly

Custom bearings can usually make the design and assembly process much easier. Custom bearings can integrate other components of an assembly to simplify the overall design.

This eliminates unnecessary components, reducing steps in the assembly process and dramatically shortening assembly time. The end result is usually a considerable cost-savings on production.

If your goal is to design a user-friendly product for a competitive market, you owe it to yourself to explore the design freedom a custom bearing offers. If aesthetics such as sound or movement and reducing assembly time and costs are important considerations in your design, custom bearings just might be what your product needs.

Let us help you design a smaller, more compact, feature-rich, and more visually appealing product. Contact us today to see how a custom bearing solution can save you time and money, and give you the design flexibility you need.



Call a **Sales Engineer** at **717.850.3270** to start the design analysis process or visit **www.nationalbearings.com/RFQ** to submit your design for a **FREE** review.

