



Custom SPB Drives ATV Steering



[CCTY Bearing](#) manufactures high-quality bearings and assemblies, as well as unique solutions for OEM partners.

“In many instances, customers need a different axial clearance than standard. We are able to adjust the interference fit to change the clearance. It’s another example of our commitment to design-focused solutions.”
– Dave Olson, Strategic Sales Manager

Executive Summary

A recreational vehicle OEM requested standard spherical plain bearings (SPBs) for a newly designed steering system. During the testing phase, the SPB showed signs of wear and it was determined that the axial clearance needed to be tighter. The OEM asked CCTY Bearing’s engineers to modify the bearing’s axial clearance.

Since CCTY Bearing has flexible engineering and manufacturing capabilities, a custom part was produced for the OEM within 45 days and is now used in the recreational vehicle’s product line.

The Challenge

The misalignment of moving parts in a pivot joint were causing wear on a dimensional spherical plain bearing during testing.

The recreational vehicle manufacturer needed a SPB with a more robust design to withstand a larger angle clearance.

The Solution

CCTY Bearing's engineers were familiar with this type of solution as many OEMs want to change the angle or increase load capacity to custom specifications.

Through shared prints, CCTY Bearing's engineering team developed a SPB with an extended inner raceway for more support. The interference fit between the housing inner diameter and the bearing (spherical) outer diameter became tighter, changing the axial clearance to the intended angle.

"We help a number of OEM's with alternate SPB solutions. For example, we can either add the seal and send the SPB as a fully assembled unit or send the seal and bearing separately. This way, if a customer has assembly line specs or wants to use the seal at a later date, they have the option to do so."

-Dali Wang, Lead Engineer

The Results

The recreational vehicle manufacturer was able to use the modified part in the new design for a robust steering assembly.

The CCTY Bearing solution proved to be:

- A tighter axial clearance
- Allowable for heavier loads
- An improved suspension and steering solution