

Unitized Thrust Bearing

STEERING COLUMN TILT LOCK

PROBLEM

A leading manufacturer of automotive steering columns needed an economical custom bearing solution for use on their line of tilt-adjustable steering columns. The columns feature a lever that unlocks and locks the tilt mechanism so that the driver can adjust and lock the column and steering wheel in the desired position.

The OEM was using a competitor bearing that was expensive and easily fell apart during shipping and installation, causing production delays and associated costs.

SOLUTION

Based on previous successful collaborations, the manufacturer asked Kilian to develop a more cost-effective, reliable solution.

In response, the Kilian engineering team modified the part design to develop a unitized precision bearing assembly that fit within the tight space envelope. The Kilian bearing solution incorporated through-hardened, high carbon steel rollers positioned within a custom polymer retainer cage. Two heat-treated carbon steel thrust washers snap into the retainer to securely hold the assembly together during shipping and installation.

Streamlined manufacturing processes allowed Kilian to meet the challenging precision assembly requirements of these unique bearings.



HIGHLIGHTS

- Custom thrust bearing solution
- Design incorporates a polymer cage and carbon steel rollers
- Steel thrust washers snap into the retainer for secure holding
- Cost-effective design

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