National Aeronautics and Space Administration www.nasa.gov

Gear Bearings

Case Number: GSC- 14207-1 Patent Number: 6,626,792 Patent Exp. Date: 3/3/2021

DESCRIPTION

Gear bearing system for planetary gear systems has surfaces on one gear that are non parallel, one surface acting as bearing and second surface acting as gear drive. Each gear operates on two non-parallel surfaces of the opposing gear teeth to perform both gear and bearing functions simultaneously. The gears are moving at the same speed at their contact points. The gears may be roller gear bearings or phase-shifted gear bearings, and may be arranged in a planet/sun system or used as a transmission.

FEATURES AND BENEFITS

- These gear bearings have high mechanical advantage, improved efficiency, strength and structural rigidity.
- o The bearings have simpler construction, is easy to assemble, locate, and stabilize.

APPLICATIONS

- Transportation
- o Power Tools
- o Medical Equipment
- o Farm Equipment
- o Industrial Machinery

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-14207-1, please contact:

Darryl Mitchell
Technology Manager
NASA Goddard Space Flight Center
Innovative Partnerships Program Office
darryl.r.mitchell@nasa.gov
301-286-5169