

Advanced Satellite Solutions

Unique Design Solutions to Complex Problems



***The Global Leader in
Satellite Motion Solutions***

Custom Ball and Roller Bearings, Precision Gearing, Spherical Plain Bearings,
Maintenance-Free Bushings, Precision Pins & Shafts, Higher Level Assemblies

Innovation. Commitment. Quality. _____

Engineered Solutions for Satellite Applications

- ✓ Pointing Assemblies
- ✓ Solar Array Deployment
- ✓ Reaction Wheel Assemblies
- ✓ Optical Inter Satellite Link
- ✓ Satellite Propulsion
- ✓ Gimbal Assemblies
- ✓ Antennas
- ✓ Solar Array Pivots
- ✓ Panel Hinges

RBC Bearings® has a long history of supporting our Space and Defense customers with unique, complex solutions. RBC® has a broad offering of solutions to help increase capabilities, improve product performance, and provide reliability in the environments that satellites face.

RBC Bearings® has one of the broadest offerings of bearing products in the Aerospace industry which is backed up by extensive in-house special processing capabilities such as HVOF (High Velocity Oxygen Fuel), Dry Film Lubrication, Passivation, and proprietary self-lubricating PTFE liners. Lightweight material options include: titanium, stainless steel, aluminum, and elastomerics complemented by a full range of other aerospace grade materials.

Performance Advantages:

- ✓ Extended Operational Life
- ✓ Reduced Torque
- ✓ Extreme Temperature Operation
- ✓ Positional Accuracy Stiffness
- ✓ Static Capacity to Withstand Launch Loads
- ✓ Space Grade Lubrication, For Use in Vacuum Environment
- ✓ Clean Room Assembled

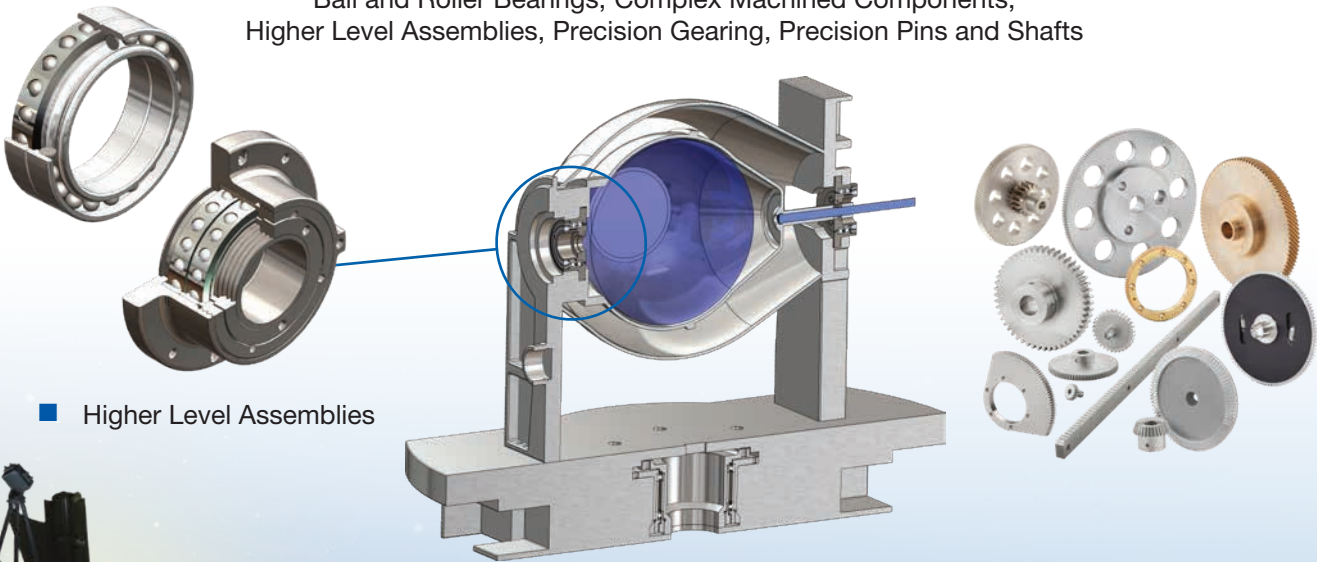
Antennas & Gimbals:

Ball and Roller Bearings, Precision Gearing, Machined Components, Higher Level Assemblies



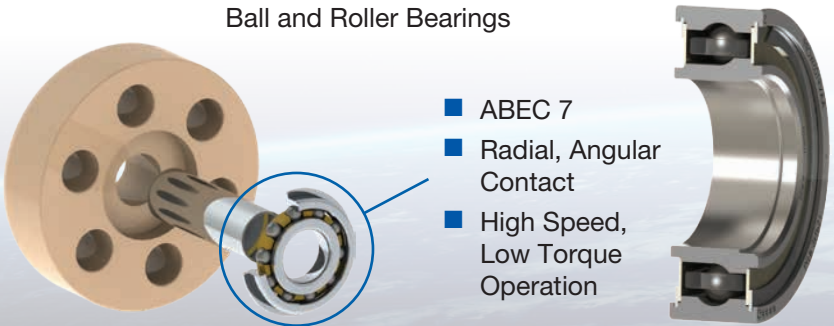
Pointing Assemblies:

Ball and Roller Bearings, Complex Machined Components, Higher Level Assemblies, Precision Gearing, Precision Pins and Shafts



Reaction Wheels/Propulsion:

Ball and Roller Bearings



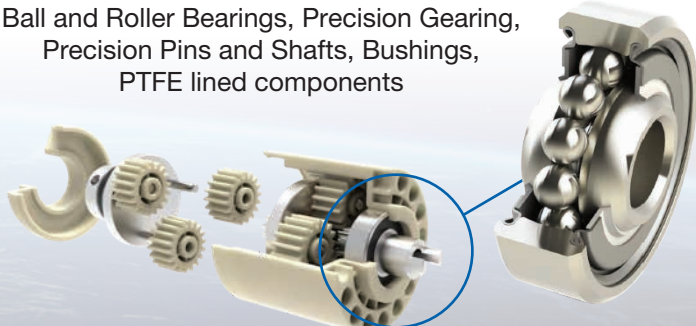
- ABEC 7
- Radial, Angular Contact
- High Speed, Low Torque Operation



- Panels, Pivots and Hinges
- PTFE Lined Bushings and Bearings
- Spherical Plain Bearings

Solar Array Deployment:

Ball and Roller Bearings, Precision Gearing, Precision Pins and Shafts, Bushings, PTFE lined components



We have a design solution for your application, please give us the opportunity to put our technical and manufacturing resources to work for you.

RBC Bearings® has been producing bearings in the USA since 1919. In addition to unique custom bearings, RBC Bearings® offers a full line of standard industrial and aerospace bearings, including:



Spherical Bearings

- MS approved to AS81820 (formerly MIL-B-81820)
- Self-lubricating • Metal-to-Metal
- Loader slots • High temperature
- Low coefficient of friction
- Special configurations and materials



Rod End Bearings

- MS approved to AS81935 (formerly MIL-B-81935)
- Self-lubricating • Metal-to-Metal
- Loader slots • High temperature
- Low coefficient of friction
- Special configurations and materials



Thin Section Ball Bearings

- Standard cross sections to one inch
- Stainless steel and other materials are available
- Sizes to 40"
- Seals available on all sizes and standard cross sections
- Super duplex configurations



Track Rollers

- MS approved to AS39901 (formerly MIL-B-3990)
- ATF single row and ATL double row
- Sealed with lube holes and grooves
- Heavy duty cross sections
- Advanced AeroCres® materials available



Journal Bearings

- MS approved to AS81934 (formerly MIL-B-81934)
- Plain and flanged • Self-lubricating
- High temperature • High loads
- Available in inch and metric sizes



Cam Followers

- MS approved to AS39901 (formerly MIL-B-3990)
- Advanced AeroCres® materials available
- Maximum corrosion resistance
- Superior lubricants & seals to reduce maintenance



Airframe Control Ball Bearings

- MS approved to AS7949 (formerly MIL-B-7949)
- Single and double row
- Radial, self-aligning, and pulley series
- 52100 Cad plated and 440C stainless
- Zinc Nickel plated



Load Slot Bearings

- Spherical and rod end designs
- Superior ball-to-race conformity
- Reduced maintenance cost
- Variety of race materials available



Ball Bearing Rod Ends

- MS approved to AS6039 (formerly MIL-B-6039)
- Various shank configurations
- Low coefficient of friction
- Advanced AeroCres® materials available



Specials

- Many specialty bearings, custom-designed and configured for diverse aerospace applications
- Capability for advanced aerospace specialty corrosion resistant and high temperature materials



Rings and Seals

- Solutions for any pneumatic and hydraulic applications
- Seals from .5" to 55" diameter
- Cast Iron to Rene 41
- Precision machined & wire rings to tight tolerances



Control Rods

- Swaging up to 14' length and 4" diameter
- Nadcap and customer special process approvals including NDT
- Surface treatments, CNC Machining, Flash Welding, Aluminum Heat Treat
- Design and build to print



Specialty Fasteners

- Hollow Bolts, Fuse Pins, Solid Bolts (Standards), Custom Machined Parts & Nuts
- Hot Headed, Thread Rolled, HVOF Coated
- Large Diameter over 3/4"



Ducting Solutions

- Solutions for pneumatic ducting
- Patented couplings
- Temperatures 450° to 1,500°F
- Engines, Aircraft, APUs



Hydraulic Actuators

- 2-Position Fluid Hydraulic
- Auto or Manual Mechanical Locking
- Lock Sensing/Position Sensing
- Flow/Directional Control Valves; Solenoid/Manual



Machined Components

- Exotic materials • 3, 3.5, 4 and 5 Axis
- Horizontal and Vertical Milling
- Lathes, Hot Head, Gearing, Heat Treat, Special Processes

