



Aerospace Products

for Fixed Wing Aircraft, Rotorcraft and Spacecraft



Innovation. Commitment. Quality. _____

RBC Aerospace has the world's broadest Bearing product offering in the Aerospace Industry. This comprehensive offering is complemented by a full line of structural and control rods and links, hydraulic actuators and valves, rings, seals, alignment joints and ducting, specialty high-strength bolts and the capability of supplying custom machined parts and assemblies.

Commercial & Military Aircraft Applications:

Horizontal & Vertical Stabilizers

- Hinge/Pivots
- Trim Tabs
- Dampers
- Links

Flight Control / Propulsion

- Actuators
- Control Rods
- Engine Systems
- Landing Gear Systems

Landing Gear

- Shock Struts
- Retract Actuator
- Steering Collars

Doors

- Actuators
- Links
- Hinges
- Turnbuckles

APU System

- Controls
- Levers/Links
- Mounts

Specialty Solutions:

- ✓ AeroCres® Leading & Trailing Edge Track Rollers
- ✓ Elastomerics
- ✓ ArmorGuard™ Stress Corrosion & Fretting Protection
- ✓ X-Guard™ Wear Strips
- ✓ Full Aluminum Flight Control Spherical Bearings
- ✓ Fuse Pins
- ✓ Geared Sphericals
- ✓ Hydraulic Actuators & Valves
- ✓ Split Ball Sphericals & Rod Ends
- ✓ Flight Control Actuators
- ✓ FAA Approved Repair Station - PTFE Re-lining



Wing-to-Gear Beam Spherical

Track Rollers

RBC makes the complete 737 Rudder Pedal assembly.



ENGINE APPLICATIONS:

- Engine Mounts
- Pylon Attachments
- VBV Support
- Actuation
- Bell Crank
- Crankshaft Support
- Stator Vane Bushings
- Accessory Gearbox Mount
- Synch Ring Lever Arm
- Pylon Attachments
- Thrust Reverser & Cowling Actuators & Valves
- Afterburner Nozzle Actuation
- Thrust Reverser Bypass Door
- Oil Cooler Mount
- Oil Cooler Link
- Thrust Link Pin
- Ducting
- Seals

Specialty Solutions:

- ✓ Fabroid® X High Temp Liner
- ✓ Solid Links
- ✓ Fuse Pins
- ✓ Engine Mount Bolt
- ✓ Fan Shaft Support
- ✓ Actuator Mounts
- ✓ Lined Rub/Wear Pads
- ✓ Sealing Rings
- ✓ Duct Seal
- ✓ Butterfly Valve Seal
- ✓ Blade Root Liner



Solid Links

Duct Seals



HELICOPTER APPLICATIONS:

- Tail Rotor System
- Main Rotor System
- Actuators
- Engine Systems
- Gear Boxes
- Landing Gear Systems

Specialty Solutions:

- ✓ Swashplate Uniballs
- ✓ Tail Rotor Links
- ✓ Damper Bearings
- ✓ Pitch Link Bearings
- ✓ Lead-Lag Bushings
- ✓ Scissor Bearings
- ✓ Control Rods
- ✓ AS81819 QPL Approved
- ✓ Electro-Optical Targeting System (EOTS)
- ✓ Prop Rotor Hub Bolt
- ✓ Swashplate Hex Bolt
- ✓ Pawl Pitch Control Rod Bolt



Scissor Bearings



Swash Plate



Ask about our eVTOL Engineered Product Solutions

SPACE APPLICATIONS:

- Fins & Fin Actuation
- Propellant Tank Supports
- Control Valves & Valve Actuators
- Flight Control Actuators
- Struts & Fairings
- Rotary Gear Box
- Docking Hatch
- Landing Gear
- Launch Support Structures
- Rocket Engines
 - Turbo Pump Fuel Bearings
 - Gimbal Thrust Bearings
 - Manifolds
 - Engine Mounts / Hangers
- Payload Adapters
- Pressure Vessel

Satellite Applications:

- Structures
- Antennas
- Solar Arrays
- Coarse Positioning Assembly
- Reaction Wheels



Carriage Assembly

Specialty Solutions:

- ✓ FibriloidCR™ Plain Bearings (Cryogenic Rated)
- ✓ High Friction Damping Liners
- ✓ Rocket Gimbal Assemblies
- ✓ Manifolds
- ✓ Door Actuators
- ✓ Control Valves
- ✓ Deploy/Retract Actuators



Rocket Gimbal Assemblies



Deploy/Retract Actuators

RBC has the design solutions for your application. Please give us the opportunity to put our extensive technical and manufacturing resources to work for you.



Plain Bearings



Rolling Element Bearings

Control and Structural Rods



Machined Components



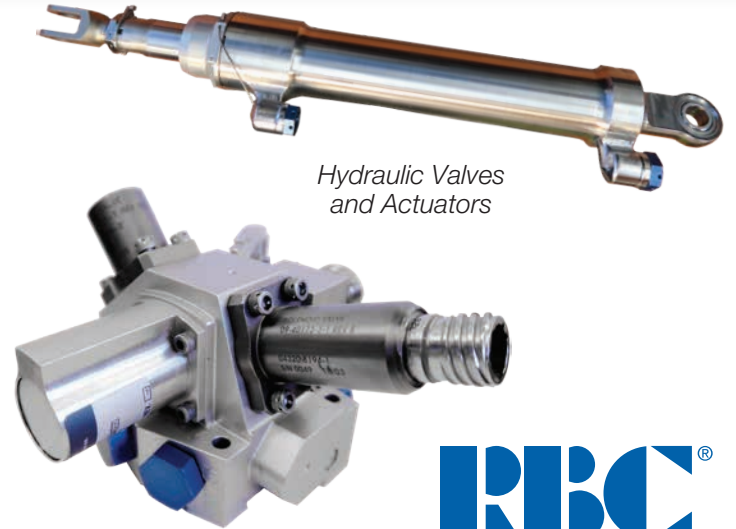
High-Strength Bolts and Fuse Pins



Rings, Seals, and Alignment Joints



Hydraulic Valves and Actuators



Engineered Solutions Provider

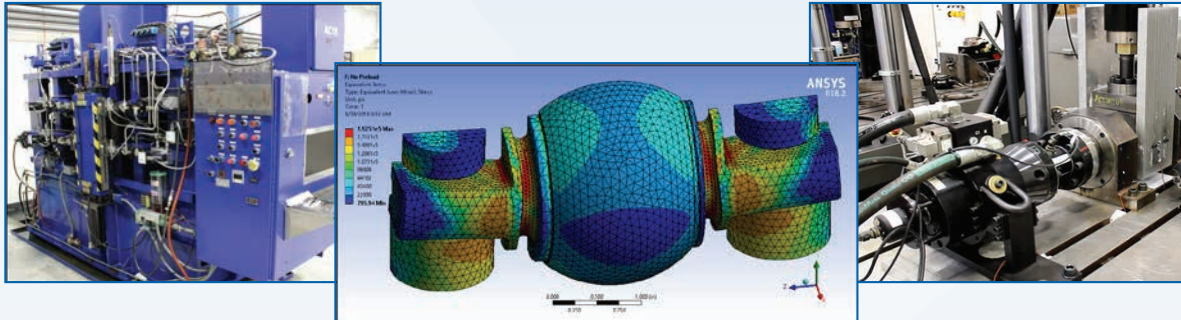
Offering a full range of bearings, rods, hydraulics, gears, specialty fasteners & precision machined components with a Corporate Commitment to vertical integration.

We welcome your application challenge.

**Extreme Loads | Light-weight | Low Noise | Extensive Material Options | Custom Designed
Physical Space Limitations | Optimized Operational Life | Critical Flight Safety | Reliability**

Technology developed, evaluated, and qualified in-house using innovative software and comprehensive testing capabilities.

- Metrology (NDT, ultrasonic, mag particle, dye penetrant) along with ANSYS FEA
- Bearing specific analysis software (COBRA AHS, GENROL, RESA)
- Endurance, environmental, extreme load, noise, and static/dynamic testing



Optimized operational life & corrosion resistance focus; offering in-house special processes, proprietary materials, and RBC developed liner technologies

Self-Lubricating/Anti-Fretting Liners including:

Fibriloid[®], KAHR-LON[®], Kentlon[®], Uniflon[®] E, Fiberglide[®], Fabroid[®], FibriloidCR[™] (Cryogenic Rated), M889[™], Dyflon[®] and Speclon

Manufacturing Competencies:

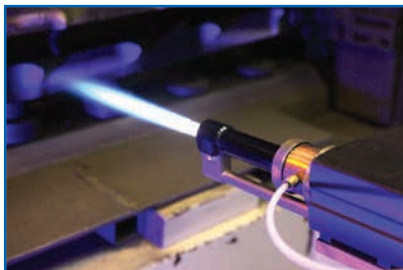
Elastomeric Injection, Swaging, Roll and Anvil Staking, Laser Welding, Water Jet, Nital Etch

Custom Plating and Coatings:

HVOF tungsten carbide coating and super finishing, **ArmorGuard[™]** and **X-Guard[™]** for wear protection, Chrome/TDC/Cad/Copper/ZnNi Plating, Dry Film, Hard Anodize, Aluminum Pigment, Molycoat, Passivation, and Chem Film (rods).

Patented Corrosion Resistant Materials:

AeroCres[®] (T8) CREN



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

