


PKB Capabilities



We are your global source for the production and procurement of miniature ball bearings. 

PKB
PACAMOR KUBAR BEARINGS

PKB Capabilities



MANAGEMENT SYSTEM CERTIFICATE

Certificate No:
07019-2004-AQ-HOU-ANAB

Initial certification date:
09 June 2004

Valid:
01 June 2016 - 31 May 2019

This is to certify that the management system of

PACAMOR/KUBAR BEARINGS

145 Jordan Road, Troy, NY 12180 USA

has been found to conform to the Management System standards:

**ISO 9001:2015 and AS9100D (technically equivalent to
EN 9100:2016 and JISQ 9100:2016)**

and has been audited in accordance with the requirements of: **AS9104/1:2012**.
DNV GL Business Assurance USA, Inc. is accredited under the Industry Controlled Other
Party (ICOP) Scheme.

This certificate is valid for the following scope:
The Manufacture of Miniature and Precision Ball Bearings

- ◆ ISO9001:2015
- ◆ AS9100: 2016
- ◆ FAA TSO C-149
Aircraft Bearings
- ◆ DFARS Domestic
Manufacturer
- ◆ DSCR Gold Medal
Supplier Award
- ◆ In-house DMIR



PKB Capabilities



U.S. Department
of Transportation
**Federal Aviation
Administration**

New York Aircraft Certification Office

1600 Stewart Avenue
4th Floor Suite 410
Westbury, NY 11590

ORIGINAL DATED: July 17, 2007
REVISED: JUL 23 2007

Mr. Christopher B. Lake
Quality Manager
Pacamor Kubar Bearings
145 Jordan Road
Troy, NY 12180-8321

Subject: Technical Standard Order (TSO) Authorization

Dear Mr. Lake:

This is in reply to your letter of February 01, 2007 requesting Technical Standard Order (TSO) authorization for your Precision Inch Series Ball Bearings, Miniature Inch Series Ball Bearings, and Metric Miniature Series Ball Bearings. The statement of conformance to TSO-C149 and the submitted data are accepted. Effective this date, you are authorized to identify the following Precision Inch Series Ball Bearings, Miniature Inch Series Ball Bearings, and Metric Miniature Series Ball Bearings with the marking requirements defined in 14 CFR § 21.607(d) and in TSO-C149.

<u>Part Numbers:</u>	<u>Description:</u>
()S()R2()	Precision Inch Series Ball Bearings
()S()R2A()	Precision Inch Series Ball Bearings
()S()R3()	Precision Inch Series Ball Bearings
()S()R4()	Precision Inch Series Ball Bearings
()S()R4A()	Precision Inch Series Ball Bearings
()S()R6()	Precision Inch Series Ball Bearings
()S()R6-5()	Precision Inch Series Ball Bearings
()S()R09()	Miniature Inch Series Ball Bearings
()S()R0()	Miniature Inch Series Ball Bearings
()S()R1()	Miniature Inch Series Ball Bearings
()S()R1-4()	Miniature Inch Series Ball Bearings
()S()R133	Miniature Inch Series Ball Bearings
()S()R1-5()	Miniature Inch Series Ball Bearings
()S()R144()	Miniature Inch Series Ball Bearings
()S()R2-5()	Miniature Inch Series Ball Bearings
()S()R2-6()	Miniature Inch Series Ball Bearings
()S()R155()	Miniature Inch Series Ball Bearings
()S()R156()	Miniature Inch Series Ball Bearings
()S()R166()	Miniature Inch Series Ball Bearings
()S()R168()	Miniature Inch Series Ball Bearings
()S()R188()	Miniature Inch Series Ball Bearings
()S()R1810()	Miniature Inch Series Ball Bearings

<u>Part Numbers:</u>	<u>Description:</u>
()S()683()	Metric Miniature Series Ball Bearings
()S()623()	Metric Miniature Series Ball Bearings
()S()MM74()	Metric Miniature Series Ball Bearings
()S()MM104()	Metric Miniature Series Ball Bearings
()S()634()	Metric Miniature Series Ball Bearings
()S()MM105()	Metric Miniature Series Ball Bearings
()S()685()	Metric Miniature Series Ball Bearings
()S()686()	Metric Miniature Series Ball Bearings
()S()626()	Metric Miniature Series Ball Bearings
()S()608()	Metric Miniature Series Ball Bearings

Your Quality Control System, as defined in your Corporate Quality Policy Manual, Revision -, dated June 05, 2007 is considered satisfactory for production of this article at your 145 Jordan Road, Troy, NY 12181-8321 facility.

As required by the TSO, the following statement must be furnished with each manufactured unit:

"The conditions and tests required for TSO approval of this article are minimum performance standards. It is the responsibility of those installing this article either on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within TSO standards. TSO articles must have separate approval for installation in an aircraft. The article may be installed only if performed under 14 CFR Part 43 or the applicable airworthiness requirements."

Any design change to this TSO article must be forwarded to this office as outlined in 14 CFR § 21.611 with minor change submittal intervals not to exceed six months. Also, as recipient of this authorization, you are required to report any failure, malfunction, or defect relating to this authorization in accordance with the provisions of 14 CFR § 21.3.

This authorization is not transferable to another person and is effective until surrendered, withdrawn, or otherwise terminated by the Administrator.

Please note that technical data retained by the FAA may be subject to Freedom of Information Act (FOIA) requests. As such, this office will notify you of all such requests pertaining to your data and afford you the opportunity to defend the release of the data.

If you have any questions regarding this authorization, contact Mr. Ezra Sasson at 516-228-7320.

Sincerely,

Anthony Socias
Manager, New York Aircraft Certification Office

cc: AIR-140: MIDO-42

CERTIFIED
FAA TSO c149 Aircraft Bearings

PKB Capabilities

Factory Overview – Capacity

- ◆ 13,250 Square Feet
- ◆ 1,200 Sq Ft Cleanroom
- ◆ ISO 9001:2008 & AS9100:2009
- ◆ 3 Shift Capability



PKB Capabilities

Factory Overview – Engineering

- ◆ Applications
- ◆ Quality
- ◆ Methods
- ◆ Bearing Analysis
- ◆ Tool Room
- ◆ Prototype Shop



PKB Capabilities

Factory Overview – Products

◆ Product Description

- Stainless Steel Miniature & Instrument Ball Bearings
- High Speed Specialty Bearings
- Inch & Metric Sizes

◆ Applications

- Aerospace
- Dental / Medical
- Flow Meters
- Instruments



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Factory Overview – Materials

◆ Rings

- Through-Hardened 440C Bearing Steel

◆ Retainers

- Crown 410SS
- Ribbon 305SS (2 piece)
- Machined
 - ◆ Phenolic
 - ◆ Torlon (Polyamide-imide)
 - ◆ PGM (Polytetrafluoroethylene)
 - ◆ Vacuum Impregnated Phenolic
 - ◆ Other materials available upon request



sales@pacamor.com

PKB Capabilities

Factory Overview – Size Range

- ◆ Minimum ID (Bore) 0.0400"
- ◆ Maximum OD 1.125" (28.57mm)
- ◆ Tolerances ABEC 3 to ABEC 9
- ◆ Special Features
 - Preloaded Pairs
 - ◆ Duplex
 - OD Features
 - Coatings



sales@pacamor.com

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Factory Capabilities - Manufacturing

◆ Turning

- Automatic Multi-spindle
- 1 1" machine
- 4 7/16" machines
- 1 5/8" machine

◆ CNC Lathe – Cincom A32

- Complex designs
- Fast - 45m/min
- Ultra tight tolerances

◆ Heat Treat

- Subcontracted to Nadcap approved vendor

◆ Passivation

- Subcontracted to Nadcap approved vendor



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Factory Capabilities - Manufacturing

Citizen L12

CNC Automatic Lathe

-Complex designs

-35m/min



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Factory Capabilities – Manufacturing

- ◆ Face Grind
- ◆ One Double Disk Grinder
- ◆ Plating & Coatings
 - Subcontracted
- ◆ Outer Diameter Grind
 - Centerless Through Feed
- ◆ Bore (ID) Grind
 - 6 Internal Grinders
 - Straight Dressers



PKB Capabilities

Factory Capabilities - Manufacturing

- ◆ Outer Race Grind
 - 6 Internal Grinders
 - Radius Dressers
- ◆ Flange and External OD Features
 - 2 Flange Grinders
- ◆ Inner Race Grind
 - 3 Inner Race Grinders
- ◆ Hone
 - 6 Internal Hones
 - 6 External Hones
- ◆ Deburring
- ◆ Rotary Tumbler
- ◆ Vibratory Bowl



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Factory Capabilities - Metrology

- ◆ Air Gauging
- ◆ Roundness Analyzer
- ◆ Surface Finish & Contour Machine
- ◆ Optical Comparator
- ◆ Noise Tester
- ◆ Assortment of Hand Gauges



Contact us to set up a
factory tour. (518)283-8002
- sales@pacamor.com

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Factory Capabilities - Assembly

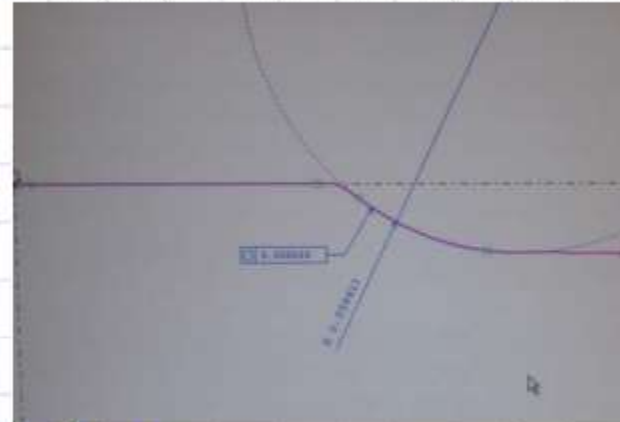
- ◆ Class 10,000 Soft-wall Cleanroom
- ◆ Class 100 Clean Benches
- ◆ 1200 Sq Ft Controlled Environment



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Factory Capabilities - Cleanroom

- ◆ Vibrac Torque Tester
- ◆ High Speed Centrifuge
- ◆ Heated Vacuum Chamber
- ◆ Nitrogen Gas Backfill Packaging
- ◆ Closed Loop Cleanroom Wash System
- ◆ Pneumatically Controlled Anti-Vibration Tables



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Factory Capabilities - Packaging

- ◆ Vial
- ◆ Pill Pack
- ◆ Individual Box
- ◆ Individual Pack per MIL-P-197
- ◆ Individual Kraft Bag per MIL-B-117
- ◆ Nitrogen Gas Backfill Packaging



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