



AEROSPACE RECOMMENDED PRACTICE

ARP5448™/9**REV. B**

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Revised 2019-05

Superseding ARP5448/9A

(R) Plain Bearing Lined Inside Diameter Plug Gaging

RATIONALE

ARP5448/9 has been revised for Five-Year Review to include the change to allow the use of independent and separate go and no-go gages as well as single progressive configuration gage.

1. SCOPE

This test method establishes a standard procedure for using plug gages to evaluate dimensional conformance of lined inside diameters of bearings. Bearings covered by this test method include sleeve bearings and lined bore spherical bearings. Note that this method gives no indication of true cylindricity.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AS81934 Bearings, Sleeve, Plain and Flanged, Self-Lubricating

2.1.2 ANSI Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ANSI/ASME B1.2 Gages and Gaging for Unified Inch Screw Threads

ANSI/ASME B47.1 Gage Blanks

ANSI/NCSL Z540-1 Calibration Laboratories and Measuring and Test Equipment - General Requirements

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Documents

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2.2 Definitions

GAGING FORCE: A specified maximum force applied to a plug gage for evaluation of a particular bearing bore diameter.

GO GAGE: Cylindrical gaging element which is used to evaluate the low limit diameter of the bore. The diameter of the "GO" gaging element is defined to be 0.00010 inch less than the low limit diameter of the lined bore diameter being evaluated.

HIGH LIMIT DIAMETER: The largest bore diameter specified for the bearing under evaluation.

LOW LIMIT DIAMETER: The smallest bore diameter specified for the bearing under evaluation.

NO-GO GAGE: Cylindrical gaging element which is used to evaluate the high limit diameter of the bore. The diameter of the "NO-GO" gaging element is defined to be 0.00010 inch greater than the high limit diameter of the lined bore diameter being evaluated.

PLUG GAGE: Either a progressive configuration gage consisting of two concurrent and concentric cylindrical gaging elements or two separate gages, named "GO" and "NO-GO" and equipped with a suitable gage handle to permit easy usage thereof.

3. GENERAL REQUIREMENTS

3.1 Plug Gage

Figure 1 defines gages for use with standard (i.e., AS81934) sleeve inside diameters. Progressive configuration plug gages, Type A or Type B, are recommended to properly align the NO-GO gage and reduce the risk of damaging the liner. Use of independent and separate GO and NO-GO gages, Type C, is also allowed. For nonstandard sleeve inside diameters the referencing document must specify gage dimensions in accordance with the definitions of 2.2.

3.2 Handle

The plug gage shall be equipped with a handle fabricated to the user's option.

3.3 Calibration

The gaging elements shall meet the calibration requirements set forth in ANSI/NCSL Z540-1.

3.4 Temperature

Temperature of the test area shall be $70^{\circ}\text{F} \pm 5^{\circ}\text{F}$.

3.5 Relative Humidity

Relative humidity of the test area shall not exceed 70%.

4. DETAILED REQUIREMENTS

4.1 Procedure

The plug gages and the bearings to be evaluated shall be stabilized at the temperature and relative humidity of the inspection area.