AEROSPACE INFORMATION REPORT

AIR1244™	REV. B
Issued 1973-06 Revised 2022-08 Superseding AIR1244A	

(R) Aerospace, Slipper Seals, Selection for Fluid Power Applications

RATIONALE

This document has been completely revised to reflect the current design practices.

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1. SCOPE

This SAE Aerospace Information Report (AIR) provides basic information on the use of slipper seal sealing devices when used as piston (OD) and rod (ID) seals in aerospace fluid power components such as actuators, valves, and swivel joints, including:

- The definition of a slipper seal and the description of the basic types in use.
- Guidelines for selecting the type of slipper seal for a given design requirement are provided in terms of friction, leakage, service life, installation characteristics, and interchangeability.

2. 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 the other publications shall be the issue in effect on the date of the purchase order. In the event of a 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 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.

AMS3678 Polytetrafluoroethylene (PTFE) Moldings and Extrusions, Unfilled, Pigmented, and Filled Components

AIR1243 Anti-Blow-By Design Practice for Cap Seals

ARP4386 Terminology and Definitions for Aerospace Fluid Power, Actuation and Control Technologies

ARP4727 Gland Design, Computation of Seal Squeeze and Gland Volume

ARP4752 Aerospace - Design and Installation of Commercial Transport Aircraft Hydraulic Systems

ARP4925 Aerospace Design and Installation for Commercial Transport Helicopter Hydraulic Systems

ARP5555 Recommendations for Installation of Seals in Standard Glands

ARP6175 Recommended Practice Regarding Commercial Aircraft Hydraulic System External Leakage

AS568 Aerospace Size Standard for O-Rings

AS4716 Gland Design, O-Ring and Other Seals

AS5440 Hydraulic Systems, Military Aircraft, Design and Installation, Requirements for

AS5781 Retainers (Backup Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Single Turn, Scarf-Cut, for Use in AS4716 Glands

AS5782 Retainers (Backup Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Solid, Un-Cut, for Use in AS4716 Glands

AS7351 Gland Design, O-Ring and Other Elastomeric Seals, Static Applications

2.2 U.S. Government Publications

Copies of these documents are available online at https://quicksearch.dla.mil.

MIL-G-5514 Gland Design; Packings, Hydraulic, General Requirements for (inactive for new design)