



## 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 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 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](http://www.sae.org).

AS568 Aerospace Size Standard for O-Rings

AS4716 Gland Design, O-Ring and Other Seals

### 2.2 U.S. Government Publications

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

MIL-G-5514F Gland Design; Packings, Hydraulic, General Requirements for (Inactive for new designs)

MS28776 Scraper, Piston Rod (Inactive for new designs)

MS33675 Scraper, Installation, Packing Gland Ring (Inactive for new designs)

## 3. TECHNICAL REQUIREMENTS

### 3.1 General

Historically, the most common scraper gland has been an MS33675, which accepted either a MS28776 bronze scraper or a comparable TFE scraper. It has been noted that this arrangement is deficient in two aspects: the metal scraper ring is split, allowing contaminants to pass through and around it; and, being installed in a very abbreviated gland, the scraper frequently dislodges under conditions of shock strut deflection. An improved metal, plastic, or elastomeric endless scraper ring would require additional gland volume with greater retaining surfaces than specified by MS33675 and as detailed in this specification.

The gland length shown in Tables 1A, 1B, 2A, and 2B are AS4716 one backup O-ring groove lengths. This groove provides the desired roll stability with improved scraper assembly designs of plastic and elastomeric materials. A shorter gland (AS4716, zero backup length) was deleted from this document because of stability and increased ingression problems.

Gland surface finishes should be 63 µin (1.6 µm) Ra or better, and be free of nicks, scratches, or burrs which could damage the scraper on installation. The rod surface finish should be per the applicable AS4716 recommendation based on the rod material or coating, and respective inboard seal material in contact with the rod.

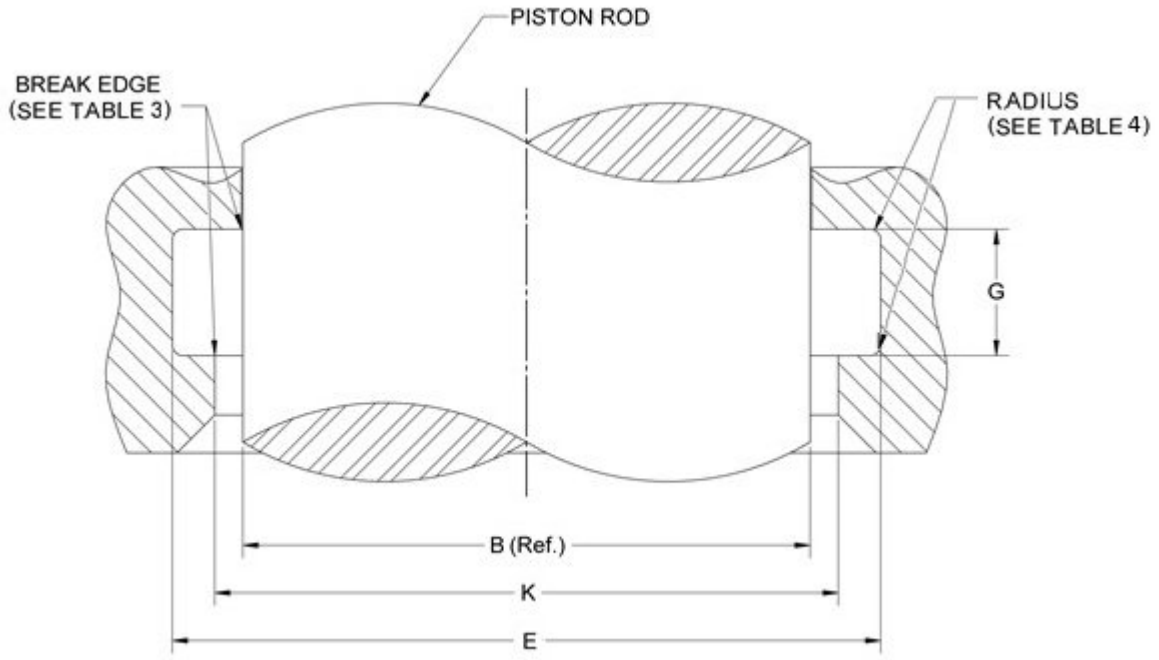
This AS is a design standard and not to be used as a part number.

Glands meeting the requirements of this document have been classified under FSC-1650.

### 3.2 Gland and Groove Details

#### 3.2.1 Gland Major Dimensions

The gland major dimensions are separated into Type 1 and Type 2 glands and are shown in Figures 1, and 2, and Tables 1A, 1B, 2A, and 2B.



**Figure 1 - To accompany Type 1 in Tables 1A and 1B**