



# AEROSPACE STANDARD

**AS5860™****REV. C**Issued 2006-04  
Revised 2020-11

Superseding AS5860B

(R) Retainers (Backup Rings), Hydraulic and Pneumatic,  
Polytetrafluoroethylene Resin, Single Turn, Scarf-Cut, For Use in AS5857 Static Glands

## RATIONALE

This document has been revised to:

- Add the requirement that no resizing of parts during the manufacturing process is permitted
- Clarify the use in AS5857 glands
- Add the stabilized temperature at which measurements shall be taken
- Delete the dimensional stability test requirement of parts (since this test is performed on each lot of molded material as required by AMS3678)
- Add the dimensional stability requirement of material tubes to 4.1
- Include some editorial corrections and improvements
- Update references

### 1. SCOPE

This SAE Aerospace Standard (AS) specifies scarf-cut polytetrafluoroethylene (PTFE) retainers (backup rings) for use in static glands in accordance with AS5857. They are usually for use in hydraulic and pneumatic systems as anti-extrusion devices in conjunction with O-rings and other seals.

**NOTE:** This specification includes material tests but does not include hydraulic or pneumatic performance tests.

#### 1.1 Field of Application

Backup rings to the dimensions in AS5860 are for use in glands to AS5857 only. They shall not be used in glands to MIL-G-5514 or AS4716, please refer to the Note below.

**NOTE:** Parts standard AS8791 (scarf-cut backup rings) for use in glands to MIL-G-5514 and parts standard AS5781 (scarf-cut backup rings) for use in AS4716 glands have been published.

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## 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. Telephone: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), <http://www.sae.org>.

|            |                                                                                                                                    |
|------------|------------------------------------------------------------------------------------------------------------------------------------|
| AMS3678    | Polytetrafluoroethylene (PTFE) Moldings and Extrusions Unfilled, Pigmented, and Filled Components                                  |
| AMS3678/9  | Type 9, Virgin Polytetrafluoroethylene (PTFE) Moldings with Pigment for AS4716 and AS5857 Backup Rings                             |
| AMS3678/10 | Type 10, Virgin Polytetrafluoroethylene (PTFE) Moldings or Extrusions with 15% Carbon Fiber                                        |
| AS4716     | Gland Design, O-ring and Other Seals                                                                                               |
| AS5781     | Retainers (Backup Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Single Turn, Scarf-Cut, For Use in AS4716 Glands |
| AS5857     | Gland Design, O-Ring and Other Elastomeric Seals, Static Applications                                                              |
| AS5861     | Retainers, (Backup Rings), Hydraulic and Pneumatic, Polytetrafluoroethylene Resin, Solid, Static Gland                             |
| AS8791     | Hydraulic and Pneumatic Retainers (Back-Up Rings), Polytetrafluoroethylene (PTFE) Resin                                            |

#### 2.1.2 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 973-882-1170 (outside North America), [www.asme.org](http://www.asme.org).

ASME Y14.5-2009 Dimensioning and Tolerancing

#### 2.1.3 U.S. Government Publications

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

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

MIL-STD-2073-1 Standard Practice for Military Packaging

## 3. TECHNICAL REQUIREMENTS

### 3.1 Design

Backup rings specified herein have been designed for a temperature range of -65 to 275 °F (-54 to 135 °C) and a nominal operating pressure of 3000 psi (20680 kPa) for code 09 material and 5000 psi (34370 kPa) for code 10 material. Material codes are based on AMS3678 material types.

Because of the construction of groove dimensions, backup rings specific to piston applications are designated "P" - Piston (Male) and backup rings specific to rod applications are designated "R" - Rod (Female).

### 3.2 Cylinder Breathing, Material Expansion and Contraction

Consideration has been made to accommodate cylinder breathing on piston applications, calculated at 0.002 in/in diameter/1000 psi (0.05 mm/mm diameter/6895 kPa) along with PTFE contraction to ensure a minimum 50% lap at the scarf-cut at -65 °F (-54 °C). This has required an increase in the diameter on certain larger sizes and a slight overlap of the scarf-cut at ambient temperature will, therefore, be apparent. These parts have been designed such that the overlap at 275 °F (135 °C) will not result in axial compression of the O-rings local to the scarf-cut, even in the worst tolerance stack-up situation.

When thermal cycling is experienced under even moderate pressures, some circumferential shrinking may occur leading to the scarf-cut gap increasing which could result in O-ring failure. Performance testing under these conditions is recommended.

### 3.3 Materials and Application

#### 3.3.1 Code 09, Virgin PTFE with Pigment

For operating pressures up to 3000 psi (20690 kPa) backup rings shall be made from material code 9 of this standard and shall conform to AMS3678/9 requirements.

- Parts made from material code 09 of this standard for “R” (Rod) applications shall be green per AMS3678/9.
- Parts made from material code 09 of this standard for “P” (piston) applications shall be brown per AMS3678/9.

#### 3.3.2 Code 10, PTFE with 15% Carbon Fiber

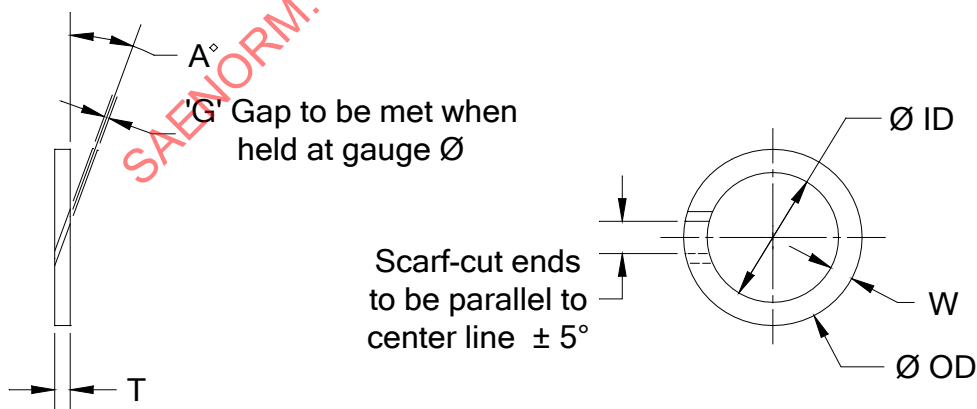
For operating pressures up to 5000 psi (34500 kPa) backup rings shall be made to material code 10 of this standard and shall conform to AMS3678/10 requirements. Color shall be dark gray to black.

### 3.4 Dimensional Requirements

See Figure 1.

See Tables 1A, 1B, 2A, and 2B for dimensions.

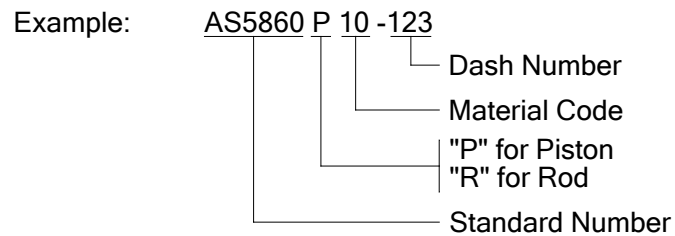
Dimensions and Tolerancing per ASME Y-14.5-2009.



**Figure 1 - Backup ring controlled features**

### 3.5 Part Number

The part number consists of the standard number, the piston (P) or rod (R) code, the material code, followed by the appropriate three-digit dash number taken from Tables 1A, 1B, 2A, and 2B and as shown in Figure 2 below.



**Figure 2 - Example part number**

#### NOTES:

1. In the above example Part Number, "P" for Piston, Code 10 material, and dash 123 size are all used for example purposes only.
2. Spaces between characters in the above example Part Number are for illustration clarity only and are not used in the Part Number.

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See Figures 1 and 2.

NOTE: The diameters, ID, or OD in Tables 1A and 1B refer to the ID or OD of the backup rings. The diameters listed are the gauge diameters by which backup rings are measured

**Table 1A - Male (piston) applications - backup ring dimensions in inches and degrees**

| Part<br>No.     | Gauge<br>ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.0025 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|--------------|--------------|
| AS5860P(XX)-004 | 0.079                 | 0.054       | 0.052       | 0.0025       | 35-39        |
| AS5860P(XX)-005 | 0.111                 | 0.054       | 0.052       | 0.0025       | 32-36        |
| AS5860P(XX)-006 | 0.124                 | 0.054       | 0.052       | 0.0025       | 29-33        |
| AS5860P(XX)-007 | 0.155                 | 0.054       | 0.052       | 0.0025       | 24-27        |
| AS5860P(XX)-008 | 0.187                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-009 | 0.220                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-010 | 0.251                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-011 | 0.314                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-012 | 0.379                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-013 | 0.444                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-014 | 0.507                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-015 | 0.569                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-016 | 0.632                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-017 | 0.694                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-018 | 0.757                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-019 | 0.819                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-020 | 0.885                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-021 | 0.947                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-022 | 1.010                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-023 | 1.072                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-024 | 1.135                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-025 | 1.198                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-026 | 1.262                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-027 | 1.325                 | 0.054       | 0.052       | 0.0025       | 19-22        |
| AS5860P(XX)-028 | 1.388                 | 0.054       | 0.052       | 0.0025       | 19-22        |

**Table 1A - Male (piston) applications - backup ring dimensions in inches and degrees (continued)**

| Part<br>No.     | Gauge<br>ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.003 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|-------------|--------------|
| AS5860P(XX)-104 | 0.122                 | 0.058       | 0.081       | 0.003       | 31-35        |
| AS5860P(XX)-105 | 0.153                 | 0.058       | 0.081       | 0.003       | 26-29        |
| AS5860P(XX)-106 | 0.185                 | 0.058       | 0.081       | 0.003       | 23-26        |
| AS5860P(XX)-107 | 0.218                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-108 | 0.250                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-109 | 0.313                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-110 | 0.378                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-111 | 0.441                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-112 | 0.505                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-113 | 0.571                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-114 | 0.637                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-115 | 0.700                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-116 | 0.762                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-117 | 0.828                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-118 | 0.890                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-119 | 0.953                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-120 | 1.015                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-121 | 1.078                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-122 | 1.140                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-123 | 1.203                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-124 | 1.265                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-125 | 1.329                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-126 | 1.392                 | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860P(XX)-127 | 1.455                 | 0.058       | 0.081       | 0.003       | 19-22        |
|                 | Gauge<br>OD<br>±0.001 |             |             |             |              |
| AS5860P(XX)-128 | 1.678                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-129 | 1.741                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-130 | 1.805                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-131 | 1.867                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-132 | 1.930                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-133 | 1.992                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-134 | 2.055                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-135 | 2.118                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-136 | 2.180                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-137 | 2.243                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-138 | 2.305                 | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860P(XX)-139 | 2.368                 | 0.058       | 0.081       | 0.003       | 12-15        |

**Table 1A - Male (piston) applications - backup ring dimensions in inches and degrees (continued)**

| Part No.        | Gauge ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.003 | A<br>Degrees |
|-----------------|--------------------|-------------|-------------|-------------|--------------|
| AS5860P(XX)-210 | 0.768              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-211 | 0.830              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-212 | 0.893              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-213 | 0.955              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-214 | 1.018              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-215 | 1.080              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-216 | 1.143              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-217 | 1.205              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-218 | 1.268              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-219 | 1.331              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-220 | 1.395              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-221 | 1.457              | 0.062       | 0.111       | 0.003       | 19-22        |
|                 | Gauge OD<br>±0.001 |             |             |             |              |
| AS5860P(XX)-222 | 1.741              | 0.062       | 0.111       | 0.003       | 19-22        |
| AS5860P(XX)-223 | 1.867              | 0.062       | 0.111       | 0.003       | 12-15        |
| AS5860P(XX)-224 | 1.992              | 0.062       | 0.111       | 0.003       | 12-15        |
| AS5860P(XX)-225 | 2.118              | 0.062       | 0.111       | 0.003       | 12-15        |
| AS5860P(XX)-226 | 2.243              | 0.062       | 0.111       | 0.003       | 12-15        |
| AS5860P(XX)-227 | 2.368              | 0.062       | 0.111       | 0.003       | 12-15        |
| AS5860P(XX)-228 | 2.493              | 0.062       | 0.111       | 0.003       | 12-15        |
| AS5860P(XX)-229 | 2.618              | 0.062       | 0.111       | 0.003       | 12-15        |
| AS5860P(XX)-230 | 2.743              | 0.062       | 0.111       | 0.003       | 12-15        |

**Table 1A - Male (piston) applications - backup ring dimensions in inches and degrees (continued)**

| Part<br>No.     | Gauge<br>OD<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.0035 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|--------------|--------------|
| AS5860P(XX)-325 | 1.867                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-326 | 1.992                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-327 | 2.118                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-328 | 2.243                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-329 | 2.368                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-330 | 2.494                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-331 | 2.620                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-332 | 2.747                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-333 | 2.873                 | 0.088       | 0.171       | 0.0035       | 19-22        |
| AS5860P(XX)-334 | 2.993                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-335 | 3.118                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-336 | 3.243                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-337 | 3.368                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-338 | 3.493                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-339 | 3.618                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-340 | 3.743                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-341 | 3.868                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-342 | 3.994                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-343 | 4.120                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-344 | 4.247                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-345 | 4.373                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-346 | 4.500                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-347 | 4.626                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-348 | 4.753                 | 0.088       | 0.171       | 0.0035       | 12-15        |
| AS5860P(XX)-349 | 4.879                 | 0.088       | 0.171       | 0.0035       | 12-15        |



**Table 1A - Male (piston) applications - backup ring dimensions in inches and degrees (continued)**

| Part<br>No.     | Gauge<br>OD<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.004 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|-------------|--------------|
| AS5860P(XX)-425 | 4.974                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-426 | 5.099                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-427 | 5.224                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-428 | 5.349                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-429 | 5.474                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-430 | 5.599                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-431 | 5.724                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-432 | 5.849                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-433 | 5.975                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-434 | 6.102                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-435 | 6.228                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-436 | 6.355                 | 0.128       | 0.226       | 0.004       | 12-15        |
| AS5860P(XX)-437 | 6.481                 | 0.128       | 0.226       | 0.004       | 12-15        |

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**Table 1B - Female (rod) applications - backup ring dimensions in inches and degrees**

| Part No.        | Gauge ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.0025 | A<br>Degrees |
|-----------------|--------------------|-------------|-------------|--------------|--------------|
| AS5860R(XX)-004 | 0.076              | 0.054       | 0.053       | 0.0025       | 35-39        |
| AS5860R(XX)-005 | 0.108              | 0.054       | 0.053       | 0.0025       | 32-36        |
| AS5860R(XX)-006 | 0.123              | 0.054       | 0.053       | 0.0025       | 29-33        |
| AS5860R(XX)-007 | 0.154              | 0.054       | 0.053       | 0.0025       | 24-27        |
| AS5860R(XX)-008 | 0.185              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-009 | 0.217              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-010 | 0.248              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-011 | 0.310              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-012 | 0.373              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-013 | 0.435              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-014 | 0.498              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-015 | 0.560              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-016 | 0.623              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-017 | 0.685              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-018 | 0.748              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-019 | 0.810              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-020 | 0.873              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-021 | 0.935              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-022 | 0.998              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-023 | 1.060              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-024 | 1.123              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-025 | 1.185              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-026 | 1.248              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-027 | 1.311              | 0.054       | 0.053       | 0.0025       | 19-22        |
| AS5860R(XX)-028 | 1.374              | 0.054       | 0.053       | 0.0025       | 19-22        |

**Table 1B - Female (rod) applications - backup ring dimensions in inches and degrees (continued)**

| Part No.        | Gauge ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.003 | A<br>Degrees |
|-----------------|--------------------|-------------|-------------|-------------|--------------|
| AS5860R(XX)-104 | 0.123              | 0.058       | 0.081       | 0.003       | 31-35        |
| AS5860R(XX)-105 | 0.154              | 0.058       | 0.081       | 0.003       | 26-29        |
| AS5860R(XX)-106 | 0.185              | 0.058       | 0.081       | 0.003       | 23-26        |
| AS5860R(XX)-107 | 0.217              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-108 | 0.248              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-109 | 0.310              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-110 | 0.373              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-111 | 0.435              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-112 | 0.498              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-113 | 0.560              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-114 | 0.623              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-115 | 0.685              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-116 | 0.748              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-117 | 0.810              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-118 | 0.873              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-119 | 0.935              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-120 | 0.998              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-121 | 1.060              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-122 | 1.123              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-123 | 1.185              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-124 | 1.248              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-125 | 1.311              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-126 | 1.374              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-127 | 1.437              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-128 | 1.501              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-129 | 1.563              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-130 | 1.627              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-131 | 1.689              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-132 | 1.753              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-133 | 1.816              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-134 | 1.879              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-135 | 1.943              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-136 | 2.005              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-137 | 2.069              | 0.058       | 0.081       | 0.003       | 19-22        |
| AS5860R(XX)-138 | 2.123              | 0.058       | 0.081       | 0.003       | 12-15        |
| AS5860R(XX)-139 | 2.186              | 0.058       | 0.081       | 0.003       | 12-15        |

**Table 1B - Female (rod) applications - backup ring dimensions in inches and degrees (continued)**

| Part<br>No.     | Gauge<br>ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.003 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|-------------|--------------|
| AS5860R(XX)-210 | 0.748                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-211 | 0.810                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-212 | 0.873                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-213 | 0.935                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-214 | 0.998                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-215 | 1.060                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-216 | 1.123                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-217 | 1.185                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-218 | 1.248                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-219 | 1.310                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-220 | 1.373                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-221 | 1.435                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-222 | 1.499                 | 0.062       | 0.112       | 0.003       | 19-22        |
| AS5860R(XX)-223 | 1.623                 | 0.062       | 0.112       | 0.003       | 12-15        |
| AS5860R(XX)-224 | 1.748                 | 0.062       | 0.112       | 0.003       | 12-15        |
| AS5860R(XX)-225 | 1.873                 | 0.062       | 0.112       | 0.003       | 12-15        |
| AS5860R(XX)-226 | 1.998                 | 0.062       | 0.112       | 0.003       | 12-15        |
| AS5860R(XX)-227 | 2.123                 | 0.062       | 0.112       | 0.003       | 12-15        |
| AS5860R(XX)-228 | 2.248                 | 0.062       | 0.112       | 0.003       | 12-15        |
| AS5860R(XX)-229 | 2.373                 | 0.062       | 0.112       | 0.003       | 12-15        |
| AS5860R(XX)-230 | 2.498                 | 0.062       | 0.112       | 0.003       | 12-15        |

**Table 1B - Female (rod) applications - backup ring dimensions in inches and degrees (continued)**

| Part<br>No.     | Gauge<br>ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.0035 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|--------------|--------------|
| AS5860R(XX)-325 | 1.498                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-326 | 1.623                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-327 | 1.748                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-328 | 1.873                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-329 | 1.998                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-330 | 2.123                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-331 | 2.248                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-332 | 2.373                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-333 | 2.498                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-334 | 2.623                 | 0.088       | 0.173       | 0.0035       | 19-22        |
| AS5860R(XX)-335 | 2.748                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-336 | 2.873                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-337 | 2.997                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-338 | 3.122                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-339 | 3.247                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-340 | 3.372                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-341 | 3.497                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-342 | 3.622                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-343 | 3.747                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-344 | 3.872                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-345 | 3.997                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-346 | 4.122                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-347 | 4.247                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-348 | 4.372                 | 0.088       | 0.173       | 0.0035       | 12-15        |
| AS5860R(XX)-349 | 4.497                 | 0.088       | 0.173       | 0.0035       | 12-15        |

**Table 1B - Female (rod) applications - backup ring dimensions in inches and degrees (continued)**

| Part<br>No.     | Gauge<br>ID<br>±0.001 | T<br>±0.002 | W<br>±0.001 | G<br>±0.004 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|-------------|--------------|
| AS5860R(XX)-425 | 4.497                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-426 | 4.622                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-427 | 4.747                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-428 | 4.872                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-429 | 4.997                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-430 | 5.122                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-431 | 5.247                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-432 | 5.372                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-433 | 5.497                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-434 | 5.622                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-435 | 5.747                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-436 | 5.872                 | 0.128       | 0.228       | 0.004       | 12-15        |
| AS5860R(XX)-437 | 5.997                 | 0.128       | 0.228       | 0.004       | 12-15        |

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See Figures 1 and 2.

NOTE: The diameters, ID, or OD in Tables 2A and 2B refer to the ID or OD of the backup rings. The diameters listed are the gauge diameters by which backup rings are measured.

**Table 2A - Male (piston) applications - backup ring dimensions in millimeters and degrees**

| Part<br>No.     | Gauge<br>ID<br>±0.03 | T<br>±0.05 | W<br>±0.03 | G<br>±0.06 | A<br>Degrees |
|-----------------|----------------------|------------|------------|------------|--------------|
| AS5860P(XX)-004 | 2.01                 | 1.37       | 1.32       | 0.06       | 35-39        |
| AS5860P(XX)-005 | 2.82                 | 1.37       | 1.32       | 0.06       | 32-36        |
| AS5860P(XX)-006 | 3.15                 | 1.37       | 1.32       | 0.06       | 29-33        |
| AS5860P(XX)-007 | 3.94                 | 1.37       | 1.32       | 0.06       | 24-27        |
| AS5860P(XX)-008 | 4.75                 | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-009 | 5.59                 | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-010 | 6.38                 | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-011 | 7.98                 | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-012 | 9.63                 | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-013 | 11.28                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-014 | 12.88                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-015 | 14.45                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-016 | 16.05                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-017 | 17.63                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-018 | 19.23                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-019 | 20.80                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-020 | 22.48                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-021 | 24.05                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-022 | 25.65                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-023 | 27.23                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-024 | 28.83                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-025 | 30.43                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-026 | 32.06                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-027 | 33.66                | 1.37       | 1.32       | 0.06       | 19-22        |
| AS5860P(XX)-028 | 35.26                | 1.37       | 1.32       | 0.06       | 19-22        |

**Table 2A - Male (piston) applications - backup ring dimensions in millimeters and degrees (continued)**

| Part No.        | Gauge ID<br>±0.03 | T<br>±0.05 | W<br>±0.03 | G<br>±0.08 | A<br>Degrees |
|-----------------|-------------------|------------|------------|------------|--------------|
| AS5860P(XX)-104 | 3.10              | 1.47       | 2.06       | 0.08       | 31-35        |
| AS5860P(XX)-105 | 3.89              | 1.47       | 2.06       | 0.08       | 26-29        |
| AS5860P(XX)-106 | 4.70              | 1.47       | 2.06       | 0.08       | 23-26        |
| AS5860P(XX)-107 | 5.54              | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-108 | 6.35              | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-109 | 7.95              | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-110 | 9.60              | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-111 | 11.20             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-112 | 12.83             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-113 | 14.50             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-114 | 16.18             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-115 | 17.78             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-116 | 19.36             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-117 | 21.03             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-118 | 22.61             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-119 | 24.21             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-120 | 25.78             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-121 | 27.38             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-122 | 28.96             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-123 | 30.56             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-124 | 32.13             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-125 | 33.76             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-126 | 35.36             | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860P(XX)-127 | 36.96             | 1.47       | 2.06       | 0.08       | 19-22        |
|                 | Gauge OD<br>±0.03 |            |            |            |              |
| AS5860P(XX)-128 | 42.62             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-129 | 44.22             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-130 | 45.85             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-131 | 47.42             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-132 | 49.02             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-133 | 50.60             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-134 | 52.20             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-135 | 53.80             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-136 | 55.37             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-137 | 56.97             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-138 | 58.55             | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860P(XX)-139 | 60.15             | 1.47       | 2.06       | 0.08       | 12-15        |



**Table 2A - Male (piston) applications - backup ring dimensions in millimeters and degrees (continued)**

| Part<br>No.     | Gauge<br>ID<br>±0.03 | T<br>±0.05 | W<br>±0.03 | G<br>±0.08 | A<br>Degrees |
|-----------------|----------------------|------------|------------|------------|--------------|
| AS5860P(XX)-210 | 19.51                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-211 | 21.08                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-212 | 22.68                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-213 | 24.26                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-214 | 25.86                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-215 | 27.43                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-216 | 29.03                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-217 | 30.61                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-218 | 32.21                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-219 | 33.81                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-220 | 35.43                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-221 | 37.01                | 1.58       | 2.82       | 0.08       | 19-22        |
|                 | Gauge<br>OD<br>±0.03 |            |            |            |              |
| AS5860P(XX)-222 | 44.22                | 1.58       | 2.82       | 0.08       | 19-22        |
| AS5860P(XX)-223 | 47.42                | 1.58       | 2.82       | 0.08       | 12-15        |
| AS5860P(XX)-224 | 50.60                | 1.58       | 2.82       | 0.08       | 12-15        |
| AS5860P(XX)-225 | 53.80                | 1.58       | 2.82       | 0.08       | 12-15        |
| AS5860P(XX)-226 | 56.97                | 1.58       | 2.82       | 0.08       | 12-15        |
| AS5860P(XX)-227 | 60.15                | 1.58       | 2.82       | 0.08       | 12-15        |
| AS5860P(XX)-228 | 63.32                | 1.58       | 2.82       | 0.08       | 12-15        |
| AS5860P(XX)-229 | 66.50                | 1.58       | 2.82       | 0.08       | 12-15        |
| AS5860P(XX)-230 | 69.67                | 1.58       | 2.82       | 0.08       | 12-15        |

**Table 2A - Male (piston) applications - backup ring dimensions in millimeters and degrees (continued)**

| Part<br>No.     | Gauge<br>OD<br>±0.03 | T<br>±0.05 | W<br>±0.03 | G<br>±0.09 | A<br>Degrees |
|-----------------|----------------------|------------|------------|------------|--------------|
| AS5860P(XX)-325 | 47.42                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-326 | 50.60                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-327 | 53.80                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-328 | 56.97                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-329 | 60.15                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-330 | 63.35                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-331 | 66.55                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-332 | 69.77                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-333 | 72.97                | 2.24       | 4.34       | 0.09       | 19-22        |
| AS5860P(XX)-334 | 76.02                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-335 | 79.20                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-336 | 82.37                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-337 | 85.55                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-338 | 88.72                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-339 | 91.90                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-340 | 95.07                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-341 | 98.25                | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-342 | 101.45               | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-343 | 104.65               | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-344 | 107.87               | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-345 | 111.07               | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-346 | 114.30               | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-347 | 117.50               | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-348 | 120.73               | 2.24       | 4.34       | 0.09       | 12-15        |
| AS5860P(XX)-349 | 123.93               | 2.24       | 4.34       | 0.09       | 12-15        |

**Table 2A - Male (piston) applications - backup ring dimensions in millimeters and degrees (continued)**

| Part<br>No.     | Gauge<br>OD<br>±0.03 | T<br>±0.05 | W<br>±0.03 | G<br>±0.10 | A<br>Degrees |
|-----------------|----------------------|------------|------------|------------|--------------|
| AS5860P(XX)-425 | 126.34               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-426 | 129.52               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-427 | 132.69               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-428 | 135.87               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-429 | 139.04               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-430 | 142.22               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-431 | 145.39               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-432 | 148.57               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-433 | 151.77               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-434 | 155.00               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-435 | 158.19               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-436 | 161.42               | 3.25       | 5.74       | 0.10       | 12-15        |
| AS5860P(XX)-437 | 164.62               | 3.25       | 5.74       | 0.10       | 12-15        |

**Table 2B - Female (rod) applications - backup ring dimensions in millimeters and degrees**

| Part<br>No.     | Gauge<br>ID<br>±0.03 | T<br>±0.05 | W<br>±0.03 | G<br>±0.06 | A<br>Degrees |
|-----------------|----------------------|------------|------------|------------|--------------|
| AS5860R(XX)-004 | 1.93                 | 1.37       | 1.35       | 0.06       | 35-39        |
| AS5860R(XX)-005 | 2.74                 | 1.37       | 1.35       | 0.06       | 32-36        |
| AS5860R(XX)-006 | 3.12                 | 1.37       | 1.35       | 0.06       | 29-33        |
| AS5860R(XX)-007 | 3.91                 | 1.37       | 1.35       | 0.06       | 24-27        |
| AS5860R(XX)-008 | 4.70                 | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-009 | 5.51                 | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-010 | 6.30                 | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-011 | 7.87                 | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-012 | 9.47                 | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-013 | 11.05                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-014 | 12.65                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-015 | 14.22                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-016 | 15.82                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-017 | 17.40                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-018 | 19.00                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-019 | 20.57                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-020 | 22.17                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-021 | 23.75                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-022 | 25.35                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-023 | 26.92                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-024 | 28.52                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-025 | 30.10                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-026 | 31.70                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-027 | 33.30                | 1.37       | 1.35       | 0.06       | 19-22        |
| AS5860R(XX)-028 | 34.90                | 1.37       | 1.35       | 0.06       | 19-22        |

**Table 2B - Female (rod) applications - backup ring dimensions in millimeters and degrees (continued)**

| Part<br>No.     | Gauge<br>ID<br>±0.03 | T<br>±0.05 | W<br>±0.03 | G<br>±0.08 | A<br>Degrees |
|-----------------|----------------------|------------|------------|------------|--------------|
| AS5860R(XX)-104 | 3.12                 | 1.47       | 2.06       | 0.08       | 31-35        |
| AS5860R(XX)-105 | 3.91                 | 1.47       | 2.06       | 0.08       | 26-29        |
| AS5860R(XX)-106 | 4.70                 | 1.47       | 2.06       | 0.08       | 23-26        |
| AS5860R(XX)-107 | 5.51                 | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-108 | 6.30                 | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-109 | 7.87                 | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-110 | 9.47                 | 1.47       |            | 0.08       | 19-22        |
| AS5860R(XX)-111 | 11.05                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-112 | 12.65                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-113 | 14.22                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-114 | 15.82                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-115 | 17.40                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-116 | 19.00                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-117 | 20.57                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-118 | 22.17                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-119 | 23.75                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-120 | 25.35                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-121 | 26.92                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-122 | 28.52                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-123 | 30.10                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-124 | 31.70                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-125 | 33.30                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-126 | 34.90                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-127 | 36.50                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-128 | 38.13                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-129 | 39.70                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-130 | 41.33                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-131 | 42.90                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-132 | 44.53                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-133 | 46.13                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-134 | 47.73                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-135 | 49.35                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-136 | 50.93                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-137 | 52.55                | 1.47       | 2.06       | 0.08       | 19-22        |
| AS5860R(XX)-138 | 53.92                | 1.47       | 2.06       | 0.08       | 12-15        |
| AS5860R(XX)-139 | 55.52                | 1.47       | 2.06       | 0.08       | 12-15        |

**Table 2B - Female (rod) applications - Dimensions in millimeters and degrees (continued)**

| Part<br>No.     | Gauge<br>ID<br>±0.025 | T<br>±0.051 | W<br>±0.025 | G<br>±0.076 | A<br>Degrees |
|-----------------|-----------------------|-------------|-------------|-------------|--------------|
| AS5860R(XX)-210 | 19.00                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-211 | 20.57                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-212 | 22.17                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-213 | 23.75                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-214 | 25.35                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-215 | 26.92                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-216 | 28.52                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-217 | 30.10                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-218 | 31.70                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-219 | 33.27                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-220 | 34.87                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-221 | 36.45                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-222 | 38.08                 | 1.58        | 2.85        | 0.08        | 19-22        |
| AS5860R(XX)-223 | 41.22                 | 1.58        | 2.85        | 0.08        | 12-15        |
| AS5860R(XX)-224 | 44.40                 | 1.58        | 2.85        | 0.08        | 12-15        |
| AS5860R(XX)-225 | 47.57                 | 1.58        | 2.85        | 0.08        | 12-15        |
| AS5860R(XX)-226 | 50.75                 | 1.58        | 2.85        | 0.08        | 12-15        |
| AS5860R(XX)-227 | 53.92                 | 1.58        | 2.85        | 0.08        | 12-15        |
| AS5860R(XX)-228 | 57.10                 | 1.58        | 2.85        | 0.08        | 12-15        |
| AS5860R(XX)-229 | 60.27                 | 1.58        | 2.85        | 0.08        | 12-15        |
| AS5860R(XX)-230 | 63.45                 | 1.58        | 2.85        | 0.08        | 12-15        |