

# O-Ring Reference Commander 114, 114A & 114B

| Section   | Description             | Page     | Figure #   | Index #     | Part Number   | Alternative | Try?        | Description                      | Units    |       | Serial #         |       |
|-----------|-------------------------|----------|------------|-------------|---------------|-------------|-------------|----------------------------------|----------|-------|------------------|-------|
|           |                         |          |            |             |               |             |             |                                  | per Assy | MTO   | Effectivity From | To    |
| 2-1       | Power Plant             |          |            |             |               |             |             |                                  |          |       |                  |       |
|           | Prop                    | 2-1-3    | 2-1 / 1    | 11          | S-0310-228R   | MS28775-228 |             | O-Ring (Prop HCC2YR1BFF84677)    | 1        |       |                  |       |
|           | Prop                    | 2-1-3    | 2-1 / 1    | 18          | A1633 -11     |             | Prop Manf.  | O-Ring (Prop B3D34C405/90DFA-13) | 1        |       |                  |       |
|           | Prop                    | 2-1-5    | 2-1 / 2    | 25          | A1633 -11     |             | Prop Manf.  | O-Ring (Prop B3D32C419/82NHA-5)  | 1        |       |                  |       |
| 2-2       | Fuel & Oil              |          |            |             |               |             |             |                                  |          |       |                  |       |
|           | Fuel Pump               | 2-2-3    | 2-8 / 3    | 10          | S-0310-906F   |             | MS29513-6   | O-Ring                           | 2        |       | 14000            | 14540 |
|           | Gascolator              | 2-2-3    | 2-8 / 5    | 22          | MS29513-031   |             |             | O-Ring                           | 2        |       | 14000            | 14540 |
|           | Gascolator              | 2-2-5    | 2-8 / 5    | 28          | S-0310-006F   | MS25913-006 | MS29513-006 | O-Ring                           | 1        |       | 14000            | 14540 |
|           | Gascolator              | 2-2-5    | 2-8 / 5    | 31          | S-0310-010F   | MS25913-010 | MS29513-010 | O-Ring                           | 1        |       | 14000            | 14540 |
|           | Fuel Filler Cap         | 2-2-11   | 2-8 / 7    | 97          | S-0310-012F   | MS29513-012 |             | O-Ring                           | 1        |       |                  |       |
|           | Drain Valve             | 2-2-11   | 2-8 / 1    | 115         | MS29513-020   |             |             | O-Ring                           | 1        |       |                  |       |
| Oil Drain | 2-2-19                  | 2-10 / 2 | 21         | S-0310-910T |               | MS29513-10  | O-Ring      | 1                                |          | 14500 | 14540            |       |
| 2-4       | Landing Gear            |          |            |             |               |             |             |                                  |          |       |                  |       |
|           | Hydraulic Act. Cyl.     | 2-4-5    | 2-14 / 2   | 13          | 2-111-N674-70 |             | MS28775-111 | O-Ring                           | 1        |       |                  |       |
|           |                         | 2-4-5    | 2-14 / 2   | 13A         | MS28744-111   |             |             | Back-up Ring                     | 1        |       |                  |       |
|           |                         | 2-4-5    | 2-14 / 2   | 17          | MS28774-117   |             |             | Back-up Ring                     | 2        |       |                  |       |
|           |                         | 2-4-5    | 2-14 / 2   | 18          | MS28775-117   |             |             | O-Ring                           | 1        |       |                  |       |
|           |                         | 2-4-5    | 2-14 / 2   | 21          | MS28775-117   |             |             | O-Ring                           | 1        |       |                  |       |
|           | Main Landing Gear Strut | 2-4-12   | 2-15 A     | 25          | MS28774-331   |             |             | Back-up Ring                     | 2        |       |                  |       |
|           |                         | 2-4-12   | 2-15 A     | 26          | MS28775-331   |             |             | O-Ring                           | 1        |       |                  |       |
|           |                         | 2-4-12   | 2-15 A     | 28          | AN-6230-10    |             | MS28775-232 | O-Ring                           | 1        |       |                  |       |
|           |                         | 2-4-12   | 2-15 A     | 34          | MS28775-224   |             |             | O-Ring                           | 1        |       |                  |       |
|           |                         |          |            |             |               |             |             |                                  |          |       |                  |       |
|           | Nose Gear Act. Cyl.     | 2-4-25   | 2-18 / 2 A | 16          | MS28775-111   |             |             | O-Ring                           | 1        |       |                  |       |
|           |                         | 2-4-25   | 2-18 / 2 A | 20          | MS28774-214   |             |             | Back-up Ring                     | 1        |       |                  |       |
|           |                         | 2-4-25   | 2-18 / 2 A | 21          | MS28775-214   |             |             | O-Ring                           | 1        |       |                  |       |
|           |                         | 2-4-27   | 2-18 / 2 A | 24          | MS28775-025   |             |             | O-Ring                           | 2        |       |                  |       |
|           | Shimmy Damper           | 2-4-31   | 2-19 / 1   | 7           | MS28775-013   |             |             | O-Ring                           | 2        |       |                  |       |
|           |                         |          |            | 8           | MS28775-022   |             |             | O-Ring                           | 2        |       |                  |       |
|           |                         |          |            | 13          | MS28775-119   |             |             | O-Ring                           | 1        |       |                  |       |
|           |                         |          |            | 14          | MS28775-006   |             |             | O-Ring                           | 1        |       |                  |       |
|           | Nose Gear Assy          | 2-4-34   | 2-19 / 2   | 65          | S-0310-120R   |             | MS28775-120 | O-Ring                           | 2        |       |                  |       |
| 2-4-34    |                         | 2-19 / 2 | 73         | S-0310-134R |               | MS28775-134 | O-Ring      | 1                                |          |       |                  |       |

|                           |                          |          |            |                                   |             |              |        |   |             |
|---------------------------|--------------------------|----------|------------|-----------------------------------|-------------|--------------|--------|---|-------------|
|                           | 2-4-34                   | 2-19 / 2 | 74         | S-0310-222R                       | MS28775-222 | O-Ring       | 1      |   |             |
|                           | 2-4-34                   | 2-19 / 2 | 75         | MS28782-27                        |             | Back-up Ring | 2      |   |             |
|                           | 2-4-34                   | 2-19 / 2 | 81         | S-0310-902R                       | MS28778-2   | O-Ring       | 1      |   |             |
|                           | 2-4-35                   | 2-19 / 2 | 83         | S-0310-113R                       | MS28775-113 | O-Ring       | 1      |   |             |
|                           | 2-4-35                   | 2-19 / 2 | 84         | MS28782-11                        |             | Back-up Ring | 1      |   |             |
| 2-25 Emergency Dump Valve |                          |          |            | MS28775-014 (Large O-ring, qty 1) |             |              |        |   |             |
|                           |                          |          |            | MS28775-006 (Small O-ring, qty 2) |             |              |        |   |             |
| 2-5 Hydraulic System      |                          |          |            |                                   |             |              |        |   |             |
|                           | Hyd Gear Down Tube Assy. | 2-5-5    | 2-20 / 1 A | 28                                | S-0310-904R | MS28778-4    | O-Ring | 1 |             |
|                           | Elbow Fitting            | 2-5-5    | 2-20 / 1 A | 29A                               | S-0310-904R | MS28778-4    | O-Ring | 1 |             |
|                           | Hydraulic Power Pack     | 2-5-6    | 2-20 / 2 C | 43                                | S-0310-012R | MS28775-012  | O-Ring | 4 | 14000 14540 |
|                           | Elbow Hyd Power Pack     | 2-5-7    | 2-20 / 2   | 51                                | MS28775-011 |              | O-Ring | 1 | 14541 SUBQ  |
| 2-8 Instruments           |                          |          |            |                                   |             |              |        |   |             |
|                           | Flap Handle              | 2-8-9    | 2-27 / 2   | 70                                | S-0310-006F | MS28775-006  | O-Ring | 1 | 14541 SUBQ  |
|                           | Piping Eng Instruments   | 2-8-19   | 2-29 / 1   | 50                                | S-0310-904F | MS28778-4    | O-Ring | 1 | 14541 SUBQ  |
| 2-11 Flight Controls      |                          |          |            |                                   |             |              |        |   |             |
|                           | Elevator Trim            | 2-11-21  | 2-39 / 3 F | 61                                | S-0310-910R | MS28778-10   | O-Ring | 1 | 14000 14149 |
| 2-12 Fuselage             |                          |          |            |                                   |             |              |        |   |             |
|                           | Cabin Door               | 2-12-31  | 2-50 / 3 A | 31A                               | MS29561-112 |              | O-Ring | 1 | 14000 14349 |
|                           | Cabin Door               | 2-12-43  | 2-50 / 3 A | 188                               | MS29501-112 | MS29561-112  | O-Ring | 1 | 14350 SUBQ  |

# O-RINGS

## SPECIFICATIONS AND PROPERTIES

To select a suitable replacement O-ring:

- 1) Always try to obtain recommended part # from manufacturers parts manual or service documentation.
- 2) Call Equipment manufacturer or an FAA-DER ( designated engineering representative) for a recommended replacement O-ring part #.
- 3) Only after steps 1 and 2 listed above have completely failed. Select an O-ring part # from this chart that will meet your requirements. Determine 1st if it is a Boss (B), or a Standard (A), size O-ring, then 2nd, determine what fluid compatibility is necessary, then 3rd, determine that the temperature range is acceptable. Durometer is also a factor ( 60= squishy, 90= hard ). To select the last dash # see charts "A" or "B" on the following pages for dimensions.

| PART NUMBERS          | SIZING CHART | SPECIFICATION / MATERIAL              | DUROMETER | TEMPERATURE          | Application, Compatibility / Sizing                  |
|-----------------------|--------------|---------------------------------------|-----------|----------------------|--|
| <b>MS28775-(XXX)</b>  | A            | MIL-P-25732 / Nitrile                 | 70        | -65 Thru +275 deg F. | Aircraft hydraulic fluid MIL-H-5606 / Std sizes      |
| <b>MS29513-(XXX)</b>  | A            | MIL-P-5315 / Nitrile                  | 65        | -65 Thru +200 deg F. | Aircraft fuels / Standard sizes                      |
| <b>MS9021-(XXX)</b>   | A            | AMS7271 / Nitrile                     | 65        | -65 Thru +225 deg F. | Aircraft fuels / Standard sizes                      |
| <b>MS29561-(XXX)</b>  | A            | MIL-R-7362 Type 1 / Nitrile           | 75        | -65 Thru +250 deg F. | Aircraft lubricating oil MIL-L-7808 / Standard sizes |
| <b>M25988/1-(XXX)</b> | A            | MIL-R-25988 Class 1 / Fluoro-silicone | 70        | -80 Thru +400 deg F. | Petroleum oil and fuel, static seals / Std. sizes    |
| <b>M25988/3-(XXX)</b> | A            | MIL-R-25988 Class 1 / Fluoro-silicone | 60        | -80 Thru +400 deg F. | Petroleum oil and fuel, static seals / Std. sizes    |
| <b>NAS1593-(XXX)</b>  | A            | MIL-R-25897 Class 1 / Viton           | 75        | -40 Thru +450 deg F. | Pneumatic, Hydraulic, Fuel, / Standard sizes         |
| <b>NAS1594-(XXX)</b>  | A            | MIL-R-25897 Class 1 / Viton           | 90        | -40 Thru +450 deg F. | Pneumatic, Hydraulic, Fuel, / Standard sizes         |
| <b>MS28778-(XX)</b>   | B            | MIL-P-5510 / Nitrile                  | 90        | -65 Thru +200 deg F. | Aircraft hydraulic fluid MIL-H-5606 / Boss sizes     |
| <b>MS29512-(XX)</b>   | B            | MIL-P-5315 / Nitrile                  | 65        | -65 Thru +200 deg F. | Aircraft fuels / Boss sizes                          |
| <b>MS9020-(XX)</b>    | B            | AMS7271 / Nitrile                     | 65        | -65 Thru +225 deg F. | Aircraft fuels / Boss sizes                          |
| <b>NAS617-(XX)</b>    | B            | MIL-R-7362 Type 1 / Nitrile           | 75        | -65 Thru +250 deg F. | Aircraft lubricating oil MIL-L-7808 / Boss sizes     |
| <b>M25988/1-9(XX)</b> | B            | MIL-R-25988 Class 1 / Fluoro-silicone | 70        | -80 Thru +400 deg F. | Petroleum oil and fuel, static seals / Boss sizes    |
| <b>M25988/3-9(XX)</b> | B            | MIL-R-25988 Class 1 / Fluoro-silicone | 60        | -80 Thru +400 deg F. | Petroleum oil and fuel, static seals / Boss sizes    |
| <b>NAS1595-(XX)</b>   | B            | MIL-R-25897 Class 1 / Viton           | 75        | -40 Thru +450 deg F. | Pneumatic, Hydraulic, Fuel, / Boss sizes             |
| <b>NAS1596-(XX)</b>   | B            | MIL-R-25897 Class 1 / Viton           | 90        | -40 Thru +450 deg F. | Pneumatic, Hydraulic, Fuel, / Boss sizes             |

Documents In this catalog for REFERENCE ONLY, not intended for design. Not guaranteed for accuracy

# O-RINGS

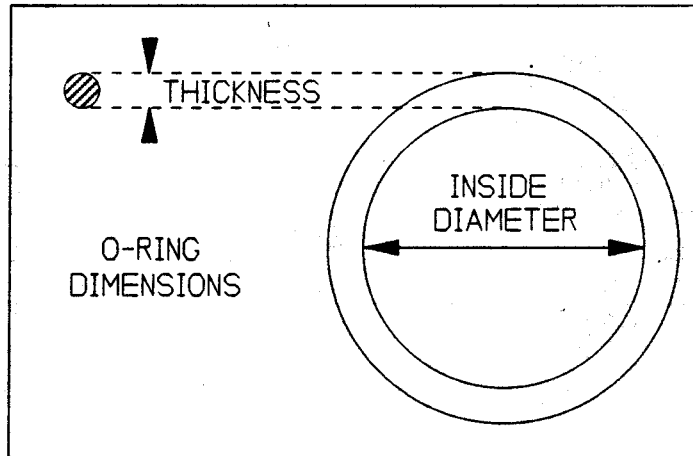
## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

### MS28775 series

For use in static and dynamic applications with aircraft hydraulic fluid, Mil-H-5606  
Made from compound per Mil-P-27532  
For service temperatures of -65 deg to +275 deg F.  
REPLACES AN6227 and AN6230 series.



### " A " Series Chart

NOTE: all dimensions in inches

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -001 *  |                              | .040                | .003                             | 0.029                        | 0.004                              |
| -002 *  |                              | .050                | .003                             | 0.042                        | 0.004                              |
| -003 *  |                              | .060                | .003                             | 0.056                        | 0.004                              |
| -004  |                              | .070                | .003                             | 0.070                        | 0.005                              |
| -005  |                              | .070                | .003                             | 0.101                        | 0.005                              |
| -006  | AN6227-1                     | .070                | .003                             | 0.114                        | 0.005                              |
| -007  | AN6227-2                     | .070                | .003                             | 0.145                        | 0.005                              |
| -008  | AN6227-3                     | .070                | .003                             | 0.177                        | 0.005                              |
| -009  | AN6227-4                     | .070                | .003                             | 0.208                        | 0.005                              |
| -010  | AN6227-5                     | .070                | .003                             | 0.239                        | 0.005                              |
| -011  | AN6227-6                     | .070                | .003                             | 0.301                        | 0.005                              |
| -012  | AN6227-7                     | .070                | .003                             | 0.364                        | 0.005                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -013 *  | * = Static Only              | .070                | .003                             | 0.426                        | 0.005                              |
| -014 *  | * = Static Only              | .070                | .003                             | 0.489                        | 0.005                              |
| -015 *  | * = Static Only              | .070                | .003                             | 0.551                        | 0.005                              |
| -016 *  | * = Static Only              | .070                | .003                             | 0.614                        | 0.005                              |
| -017 *  | * = Static Only              | .070                | .003                             | 0.676                        | 0.005                              |
| -018 *  | * = Static Only              | .070                | .003                             | 0.739                        | 0.005                              |
| -019 *  | * = Static Only              | .070                | .003                             | 0.801                        | 0.006                              |
| -020 *  | * = Static Only              | .070                | .003                             | 0.864                        | 0.006                              |
| -021 *  | * = Static Only              | .070                | .003                             | 0.926                        | 0.006                              |
| -022 *  | * = Static Only              | .070                | .003                             | 0.989                        | 0.006                              |
| -023 *  | * = Static Only              | .070                | .003                             | 1.051                        | 0.006                              |
| -024 *  | * = Static Only              | .070                | .003                             | 1.114                        | 0.006                              |
| -025 *  | * = Static Only              | .070                | .003                             | 1.176                        | 0.006                              |
| -026 *  | * = Static Only              | .070                | .003                             | 1.239                        | 0.006                              |
| -027 *  | * = Static Only              | .070                | .003                             | 1.301                        | 0.006                              |
| -028 *  | * = Static Only              | .070                | .003                             | 1.364                        | 0.006                              |
| -029 ns *                                       | * = Static Only              | .070                | .003                             | 1.489                        | 0.010                              |
| -030 ns *                                       | * = Static Only              | .070                | .003                             | 1.614                        | 0.010                              |
| -031 ns *                                       | * = Static Only              | .070                | .003                             | 1.739                        | 0.010                              |
| -032 ns *                                       | * = Static Only              | .070                | .003                             | 1.864                        | 0.010                              |
| -033 ns *                                       | * = Static Only              | .070                | .003                             | 1.989                        | 0.010                              |
| -034 ns *                                       | * = Static Only              | .070                | .003                             | 2.114                        | 0.010                              |
| -035 ns *                                       | * = Static Only              | .070                | .003                             | 2.239                        | 0.010                              |
| -036 ns *                                       | * = Static Only              | .070                | .003                             | 2.364                        | 0.010                              |
| -037 ns *                                       | * = Static Only              | .070                | .003                             | 2.489                        | 0.010                              |
| -038 ns *                                       | * = Static Only              | .070                | .003                             | 2.614                        | 0.010                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -039 ns *                                       | * = Static Only              | .070                | .003                             | 2.739                        | 0.015                              |
| -040 ns *                                       | * = Static Only              | .070                | .003                             | 2.864                        | 0.015                              |
| -041 ns *                                       | * = Static Only              | .070                | .003                             | 2.989                        | 0.015                              |
| -042 ns *                                       | * = Static Only              | .070                | .003                             | 3.239                        | 0.015                              |
| -043 ns *                                       | * = Static Only              | .070                | .003                             | 3.489                        | 0.015                              |
| -044 ns *                                       | * = Static Only              | .070                | .003                             | 3.739                        | 0.015                              |
| -045 ns *                                       | * = Static Only              | .070                | .003                             | 3.989                        | 0.015                              |
| -046 ns *                                       | * = Static Only              | .070                | .003                             | 4.239                        | 0.015                              |
| -047 ns *                                       | * = Static Only              | .070                | .003                             | 4.489                        | 0.015                              |
| -048 ns *                                       | * = Static Only              | .070                | .003                             | 4.739                        | 0.015                              |
| -049 ns *                                       | * = Static Only              | .070                | .003                             | 4.989                        | 0.023                              |
| -050 ns *                                       | * = Static Only              | .070                | .003                             | 5.239                        | 0.023                              |
| -110  | AN6227-8                     | .103                | .003                             | 0.362                        | 0.005                              |
| -111  | AN6227-9                     | .103                | .003                             | 0.424                        | 0.005                              |
| -112  | AN6227-10                    | .103                | .003                             | 0.487                        | 0.005                              |
| -113  | AN6227-11                    | .103                | .003                             | 0.549                        | 0.005                              |
| -114  | AN6227-12                    | .103                | .003                             | 0.612                        | 0.005                              |
| -115  | AN6227-13                    | .103                | .003                             | 0.674                        | 0.005                              |
| -116  | AN6227-14                    | .103                | .003                             | 0.737                        | 0.005                              |
| -117 *  | * = Static Only              | .103                | .003                             | 0.799                        | 0.006                              |
| -118 *  | * = Static Only              | .103                | .003                             | 0.862                        | 0.006                              |
| -119 *  | * = Static Only              | .103                | .003                             | 0.924                        | 0.006                              |
| -120 *  | * = Static Only              | .103                | .003                             | 0.987                        | 0.006                              |
| -121 *  | * = Static Only              | .103                | .003                             | 1.049                        | 0.006                              |
| -122 *  | * = Static Only              | .103                | .003                             | 1.112                        | 0.006                              |
| -123 *  | * = Static Only              | .103                | .003                             | 1.174                        | 0.006                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -039 ns *                                       | * = Static Only              | .070                | .003                             | 2.739                        | 0.015                              |
| -040 ns *                                       | * = Static Only              | .070                | .003                             | 2.864                        | 0.015                              |
| -041 ns *                                       | * = Static Only              | .070                | .003                             | 2.989                        | 0.015                              |
| -042 ns *                                       | * = Static Only              | .070                | .003                             | 3.239                        | 0.015                              |
| -043 ns *                                       | * = Static Only              | .070                | .003                             | 3.489                        | 0.015                              |
| -044 ns *                                       | * = Static Only              | .070                | .003                             | 3.739                        | 0.015                              |
| -045 ns *                                       | * = Static Only              | .070                | .003                             | 3.989                        | 0.015                              |
| -046 ns *                                       | * = Static Only              | .070                | .003                             | 4.239                        | 0.015                              |
| -047 ns *                                       | * = Static Only              | .070                | .003                             | 4.489                        | 0.015                              |
| -048 ns *                                       | * = Static Only              | .070                | .003                             | 4.739                        | 0.015                              |
| -049 ns *                                       | * = Static Only              | .070                | .003                             | 4.989                        | 0.023                              |
| -050 ns *                                       | * = Static Only              | .070                | .003                             | 5.239                        | 0.023                              |
| -110  | AN6227-8                     | .103                | .003                             | 0.362                        | 0.005                              |
| -111  | AN6227-9                     | .103                | .003                             | 0.424                        | 0.005                              |
| -112  | AN6227-10                    | .103                | .003                             | 0.487                        | 0.005                              |
| -113  | AN6227-11                    | .103                | .003                             | 0.549                        | 0.005                              |
| -114  | AN6227-12                    | .103                | .003                             | 0.612                        | 0.005                              |
| -115  | AN6227-13                    | .103                | .003                             | 0.674                        | 0.005                              |
| -116  | AN6227-14                    | .103                | .003                             | 0.737                        | 0.005                              |
| -117 *  | * = Static Only              | .103                | .003                             | 0.799                        | 0.006                              |
| -118 *  | * = Static Only              | .103                | .003                             | 0.862                        | 0.006                              |
| -119 *  | * = Static Only              | .103                | .003                             | 0.924                        | 0.006                              |
| -120 *  | * = Static Only              | .103                | .003                             | 0.987                        | 0.006                              |
| -121 *  | * = Static Only              | .103                | .003                             | 1.049                        | 0.006                              |
| -122 *  | * = Static Only              | .103                | .003                             | 1.112                        | 0.006                              |
| -123 *  | * = Static Only              | .103                | .003                             | 1.174                        | 0.006                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -124 *  | * = Static Only              | .103                | .003                             | 1.237                        | 0.006                              |
| -125 *  | * = Static Only              | .103                | .003                             | 1.299                        | 0.006                              |
| -126 *  | * = Static Only              | .103                | .003                             | 1.362                        | 0.006                              |
| -127 *  | * = Static Only              | .103                | .003                             | 1.424                        | 0.006                              |
| -128 *  | * = Static Only              | .103                | .003                             | 1.487                        | 0.006                              |
| -129 *  | * = Static Only              | .103                | .003                             | 1.549                        | 0.010                              |
| -130 *  | * = Static Only              | .103                | .003                             | 1.612                        | 0.010                              |
| -131 *  | * = Static Only              | .103                | .003                             | 1.674                        | 0.010                              |
| -132 *  | * = Static Only              | .103                | .003                             | 1.737                        | 0.010                              |
| -133 *  | * = Static Only              | .103                | .003                             | 1.799                        | 0.010                              |
| -134 *  | * = Static Only              | .103                | .003                             | 1.862                        | 0.010                              |
| -135 *  | * = Static Only              | .103                | .003                             | 1.925                        | 0.010                              |
| -136 *  | * = Static Only              | .103                | .003                             | 1.987                        | 0.010                              |
| -137 *  | * = Static Only              | .103                | .003                             | 2.050                        | 0.010                              |
| -138 *  | * = Static Only              | .103                | .003                             | 2.112                        | 0.010                              |
| -139 *  | * = Static Only              | .103                | .003                             | 2.175                        | 0.010                              |
| -140 *  | * = Static Only              | .103                | .003                             | 2.237                        | 0.010                              |
| -141 *  | * = Static Only              | .103                | .003                             | 2.300                        | 0.010                              |
| -142 *  | * = Static Only              | .103                | .003                             | 2.362                        | 0.010                              |
| -143 *  | * = Static Only              | .103                | .003                             | 2.425                        | 0.010                              |
| -144 *  | * = Static Only              | .103                | .003                             | 2.487                        | 0.010                              |
| -145 *  | * = Static Only              | .103                | .003                             | 2.550                        | 0.010                              |
| -146 *  | * = Static Only              | .103                | .003                             | 2.612                        | 0.010                              |
| -147 *  | * = Static Only              | .103                | .003                             | 2.675                        | 0.015                              |
| -148 *  | * = Static Only              | .103                | .003                             | 2.737                        | 0.015                              |
| -149 *  | * = Static Only              | .103                | .003                             | 2.800                        | 0.015                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -150 ns *                                       | * = Static Only              | .103                | .003                             | 2.862                        | 0.015                              |
| -151 ns *                                       | * = Static Only              | .103                | .003                             | 2.987                        | 0.015                              |
| -152 ns *                                       | * = Static Only              | .103                | .003                             | 3.237                        | 0.015                              |
| -153 ns *                                       | * = Static Only              | .103                | .003                             | 3.487                        | 0.015                              |
| -154 ns *                                       | * = Static Only              | .103                | .003                             | 3.737                        | 0.015                              |
| -155 ns *                                       | * = Static Only              | .103                | .003                             | 3.987                        | 0.015                              |
| -156 ns *                                       | * = Static Only              | .103                | .003                             | 4.237                        | 0.015                              |
| -157 ns *                                       | * = Static Only              | .103                | .003                             | 4.487                        | 0.015                              |
| -158 ns *                                       | * = Static Only              | .103                | .003                             | 4.737                        | 0.015                              |
| -159 ns *                                       | * = Static Only              | .103                | .003                             | 4.987                        | 0.015                              |
| -160 ns *                                       | * = Static Only              | .103                | .003                             | 5.237                        | 0.023                              |
| -161 ns *                                       | * = Static Only              | .103                | .003                             | 5.487                        | 0.023                              |
| -162 ns *                                       | * = Static Only              | .103                | .003                             | 5.737                        | 0.023                              |
| -163 ns *                                       | * = Static Only              | .103                | .003                             | 5.987                        | 0.023                              |
| -210  | AN6227-15                    | .139                | .004                             | 0.734                        | 0.006                              |
| -211  | AN6227-16                    | .139                | .004                             | 0.796                        | 0.006                              |
| -212  | AN6227-17                    | .139                | .004                             | 0.859                        | 0.006                              |
| -213  | AN6227-18                    | .139                | .004                             | 0.921                        | 0.006                              |
| -214  | AN6227-19                    | .139                | .004                             | 0.984                        | 0.006                              |
| -215  | AN6227-20                    | .139                | .004                             | 1.046                        | 0.006                              |
| -216  | AN6227-21                    | .139                | .004                             | 1.109                        | 0.006                              |
| -217  | AN6227-22                    | .139                | .004                             | 1.171                        | 0.006                              |
| -218  | AN6227-23                    | .139                | .004                             | 1.234                        | 0.006                              |
| -219  | AN6227-24                    | .139                | .004                             | 1.296                        | 0.006                              |
| -220  | AN6227-25                    | .139                | .004                             | 1.359                        | 0.006                              |
| -221  | AN6227-26                    | .139                | .004                             | 1.421                        | 0.006                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -222  | AN6227-27                    | .139                | .004                             | 1.484                        | 0.006                              |
| -223 *  | AN6230-1                     | .139                | .004                             | 1.609                        | 0.010                              |
| -224 *  | AN6230-2                     | .139                | .004                             | 1.734                        | 0.010                              |
| -225 *  | AN6230-3                     | .139                | .004                             | 1.859                        | 0.010                              |
| -226 *  | AN6230-4                     | .139                | .004                             | 1.984                        | 0.010                              |
| -227 *  | AN6230-5                     | .139                | .004                             | 2.109                        | 0.010                              |
| -228 *  | AN6230-6                     | .139                | .004                             | 2.234                        | 0.010                              |
| -229 *  | AN6230-7                     | .139                | .004                             | 2.359                        | 0.010                              |
| -230 *  | AN6230-8                     | .139                | .004                             | 2.484                        | 0.010                              |
| -231 *  | AN6230-9                     | .139                | .004                             | 2.609                        | 0.010                              |
| -232 *  | AN6230-10                    | .139                | .004                             | 2.734                        | 0.015                              |
| -233 *  | AN6230-11                    | .139                | .004                             | 2.859                        | 0.015                              |
| -234 *  | AN6230-12                    | .139                | .004                             | 2.984                        | 0.015                              |
| -235 *  | AN6230-13                    | .139                | .004                             | 3.109                        | 0.015                              |
| -236 *  | AN6230-14                    | .139                | .004                             | 3.234                        | 0.015                              |
| -237 *  | AN6230-15                    | .139                | .004                             | 3.359                        | 0.015                              |
| -238 *  | AN6230-16                    | .139                | .004                             | 3.484                        | 0.015                              |
| -239 *  | AN6230-17                    | .139                | .004                             | 3.609                        | 0.015                              |
| -240 *  | AN6230-18                    | .139                | .004                             | 3.734                        | 0.015                              |
| -241 *  | AN6230-19                    | .139                | .004                             | 3.859                        | 0.015                              |
| -242 *  | AN6230-20                    | .139                | .004                             | 3.984                        | 0.015                              |
| -243 *  | AN6230-21                    | .139                | .004                             | 4.109                        | 0.015                              |
| -244 *  | AN6230-22                    | .139                | .004                             | 4.234                        | 0.015                              |
| -245 *  | AN6230-23                    | .139                | .004                             | 4.359                        | 0.015                              |
| -246 *  | AN6230-24                    | .139                | .004                             | 4.484                        | 0.015                              |
| -247 *  | AN6230-25                    | .139                | .004                             | 4.609                        | 0.015                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -248 ns *                                       | AN6230-26                    | .139                | .004                             | 4.734                        | 0.015                              |
| -249 ns *                                       | AN6230-27                    | .139                | .004                             | 4.859                        | 0.015                              |
| -250 ns *                                       | AN6230-28                    | .139                | .004                             | 4.984                        | 0.015                              |
| -251 ns *                                       | AN6230-29                    | .139                | .004                             | 5.109                        | 0.023                              |
| -252 ns *                                       | AN6230-30                    | .139                | .004                             | 5.234                        | 0.023                              |
| -253 ns *                                       | AN6230-31                    | .139                | .004                             | 5.359                        | 0.023                              |
| -254 ns *                                       | AN6230-32                    | .139                | .004                             | 5.484                        | 0.023                              |
| -255 ns *                                       | AN6230-33                    | .139                | .004                             | 5.609                        | 0.023                              |
| -256 ns *                                       | AN6230-34                    | .139                | .004                             | 5.734                        | 0.023                              |
| -257 ns *                                       | AN6230-35                    | .139                | .004                             | 5.859                        | 0.023                              |
| -258 ns *                                       | AN6230-36                    | .139                | .004                             | 5.984                        | 0.023                              |
| -325  | AN6227-28                    | .210                | .005                             | 1.475                        | 0.010                              |
| -326  | AN6227-29                    | .210                | .005                             | 1.600                        | 0.010                              |
| -327  | AN6227-30                    | .210                | .005                             | 1.725                        | 0.010                              |
| -328  | AN6227-31                    | .210                | .005                             | 1.850                        | 0.010                              |
| -329  | AN6227-32                    | .210                | .005                             | 1.975                        | 0.010                              |
| -330  | AN6227-33                    | .210                | .005                             | 2.100                        | 0.010                              |
| -331  | AN6227-34                    | .210                | .005                             | 2.225                        | 0.010                              |
| -332  | AN6227-35                    | .210                | .005                             | 2.350                        | 0.010                              |
| -333  | AN6227-36                    | .210                | .005                             | 2.475                        | 0.010                              |
| -334  | AN6227-37                    | .210                | .005                             | 2.600                        | 0.010                              |
| -335  | AN6227-38                    | .210                | .005                             | 2.725                        | 0.015                              |
| -336  | AN6227-39                    | .210                | .005                             | 2.850                        | 0.015                              |
| -337  | AN6227-40                    | .210                | .005                             | 2.975                        | 0.015                              |
| -338  | AN6227-41                    | .210                | .005                             | 3.100                        | 0.015                              |
| -339  | AN6227-42                    | .210                | .005                             | 3.225                        | 0.015                              |

# O-RINGS

## DYNAMIC (ACTUATOR), and STATIC (GLAND) MS28775 for Hydraulic service with Mil-H-5606

ORDER BY the MS28775 Number, use the " A " series chart for sizing.

Example MS28775-(XXX), \* = static use only, ns = non standard.

Genuine Aircraft Hardware Company

| MS28775-(XXX)<br>"A" series chart<br>Size (XXX) | OLD<br>AN6227 or<br>AN6230 # | O-RING<br>THICKNESS | TOLERANCE<br>THICKNESS<br>+ or - | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>O-RING I.D.<br>+ or - |
|---|------------------------------|---------------------|----------------------------------|------------------------------|------------------------------------|
| -340  | AN6227-43                    | .210                | .005                             | 3.350                        | 0.015                              |
| -341  | AN6227-44                    | .210                | .005                             | 3.475                        | 0.015                              |
| -342  | AN6227-45                    | .210                | .005                             | 3.600                        | 0.015                              |
| -343  | AN6227-46                    | .210                | .005                             | 3.725                        | 0.015                              |
| -344  | AN6227-47                    | .210                | .005                             | 3.850                        | 0.015                              |
| -345  | AN6227-48                    | .210                | .005                             | 3.975                        | 0.015                              |
| -346  | AN6227-49                    | .210                | .005                             | 4.100                        | 0.015                              |
| -347  | AN6227-50                    | .210                | .005                             | 4.225                        | 0.015                              |
| -348  | AN6227-51                    | .210                | .005                             | 4.350                        | 0.015                              |
| -349  | AN6227-52                    | .210                | .005                             | 4.475                        | 0.015                              |
| -350 ns *                                       | * = Static Only              | .210                | .005                             | 4.600                        | 0.015                              |
| -351 ns *                                       | * = Static Only              | .210                | .005                             | 4.725                        | 0.015                              |
| -352 ns *                                       | * = Static Only              | .210                | .005                             | 4.850                        | 0.015                              |
| -353 ns *                                       | * = Static Only              | .210                | .005                             | 4.975                        | 0.015                              |
| -354 ns *                                       | * = Static Only              | .210                | .005                             | 5.100                        | 0.023                              |
| -355 ns *                                       | * = Static Only              | .210                | .005                             | 5.225                        | 0.023                              |
| -356 ns *                                       | * = Static Only              | .210                | .005                             | 5.350                        | 0.023                              |
| -357 ns *                                       | * = Static Only              | .210                | .005                             | 5.475                        | 0.023                              |
| -358 ns *                                       | * = Static Only              | .210                | .005                             | 5.600                        | 0.023                              |
| -359 ns *                                       | * = Static Only              | .210                | .005                             | 5.725                        | 0.023                              |
| -360 ns *                                       | * = Static Only              | .210                | .005                             | 5.850                        | 0.023                              |
| -361 ns *                                       | * = Static Only              | .210                | .005                             | 5.975                        | 0.023                              |

# O-RINGS

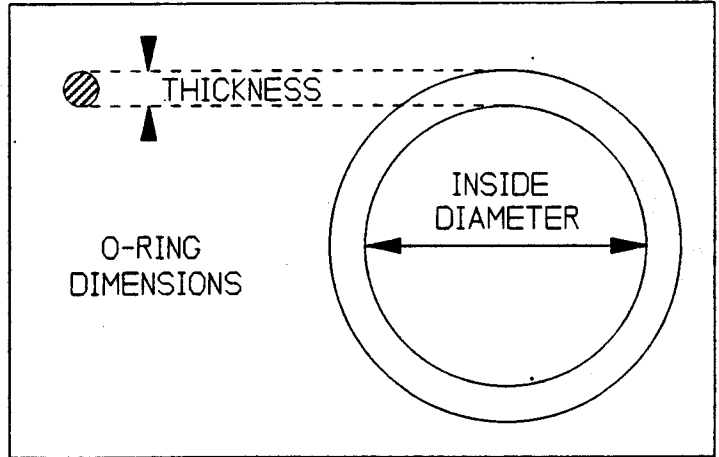
## STATIC BOSS PACKING FOR TUBE FITTINGS MS28778 for (HYD) / MS29512 for (FUEL) These use " B " series chart, for sizing

### MS28778 series

For use in static applications with aircraft hydraulic fluid, Mil-H-5606  
Made from compound per Mil-P-5510  
For service temperatures of -65 deg to +200 deg F.

### MS29512 series

For use in static applications with hydrocarbon fuels, JP-4, JP-5  
Made from compound per Mil-P-5315  
For service temperatures of -65 deg to +200 deg F.



### " B " Series Chart

NOTE; all dimensions in inches

\* When sizing the series MS9020, MS29512, M25988, place a zero in front of the single digit size numbers. Example -2 should be -02.

| FITTING SIZE<br>or "B" Series<br>Size (XX)* | TUBING<br>OUTSIDE<br>DIAMETER | O-RING<br>THICKNESS | TOLERANCE<br>FOR<br>THICKNESS | O-RING<br>INSIDE<br>DIAMETER | TOLERANCE<br>FOR<br>O-RING I.D. |
|---|-------------------------------|---------------------|-------------------------------|------------------------------|---------------------------------|
| 2   | 1/8                           | .064                | + OR - .003                   | .239                         | + OR - .005                     |
| 3   | 3/16                          | .064                |                               | .301                         |                                 |
| 4   | 1/4                           | .072                |                               | .351                         |                                 |
| 5   | 5/16                          | .072                |                               | .414                         |                                 |
| 6   | 3/8                           | .078                |                               | .468                         |                                 |
| 8   | 1/2                           | .087                |                               | .644                         |                                 |
| 10  | 5/8                           | .097                |                               | .755                         |                                 |
| 12  | 3/4                           | .116                | + OR - .004                   | .924                         | + OR - .006                     |
| 14  | 7/8                           |                     |                               | 1.047                        |                                 |
| 16  | 1"                            |                     |                               | 1.171                        |                                 |
| 20  | 1"+1/4                        | .118                |                               | 1.475                        | + OR - .010                     |
| 24  | 1"+1/2                        |                     |                               | 1.720                        |                                 |
| 28  | 1"+ 3/4                       |                     |                               | 2.090                        |                                 |
| 32  | 2"                            |                     | 2.337                         |                              |                                 |