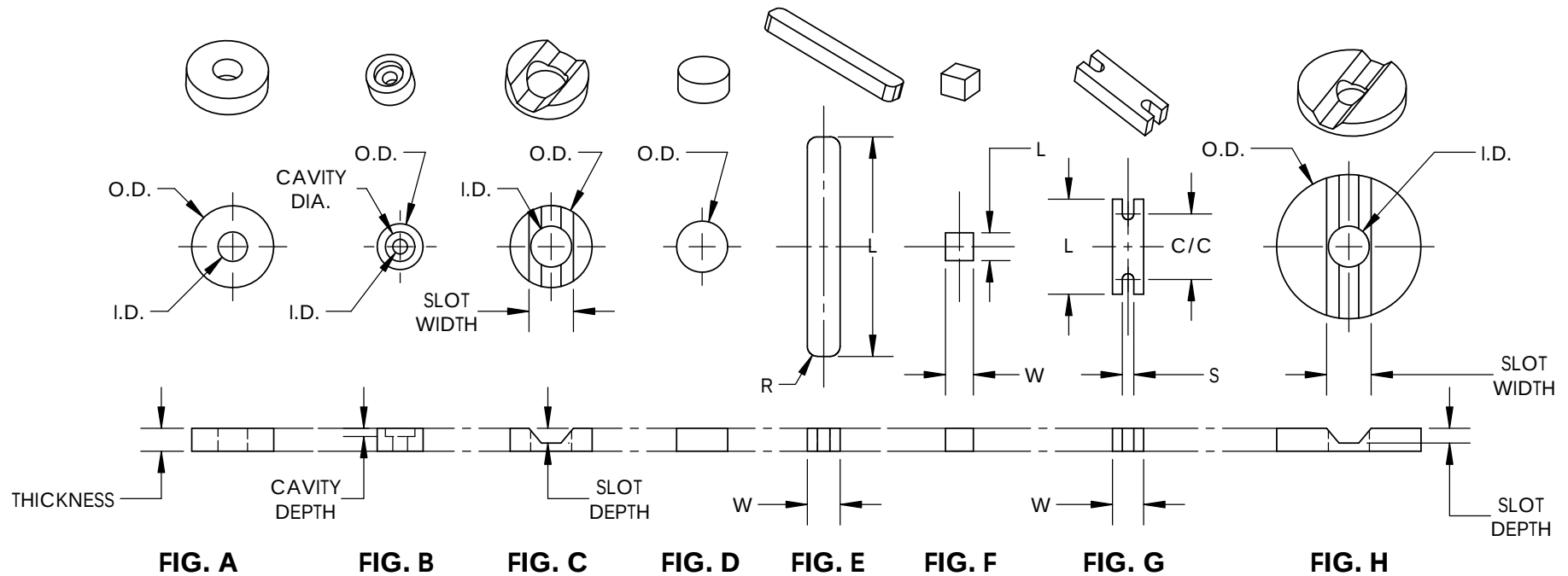


| REVISIONS |                                                        |           |          |
|-----------|--------------------------------------------------------|-----------|----------|
| REV.      | DESCRIPTION                                            | DATE      | APPROVED |
| H         | Add Part Number, See Page 2                            | 3/31/16   | J.C.     |
| J         | Engineering Update w/o Changes                         | 5/13/16   | J.C.     |
| K         | Corrected Typo Dimensions on Page 2 & 3                | 7/29/16   | J.C.     |
| L         | ECO # 1014 , Update tables on Page 2 & 3 (EOL related) | 6/6/2019  | G. O.    |
| M         | ECO-1235, Update Tables & PN List and Table 2          | 2/26/2024 | A.V.     |



EXAMPLE:  
TO-200-100 E

Suffix I.D. (see Table 1)

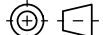
Part Thickness

TO Style

Series

| TABLE 1           |                                                                              |
|-------------------|------------------------------------------------------------------------------|
| I.D. DESCRIPTION  | NOTES                                                                        |
| Wax               | Offered for all part numbers                                                 |
| Effervescent      | Offered for all part numbers (Except for - See Table 2)                      |
| Color Removed     | Offered for all part numbers (Except for - See Table 2)                      |
| Detergent Removed | Offered for all part numbers (Except for - See Table 2)                      |
| Salt              | Not offered for P/Ns: TO-10, TO-11, TO-64, TO-65, TO-68 (Others per Table 2) |
| Extra Hard        | Not offered for P/Ns: TO-10, TO-11, TO-64, TO-65, TO-68 (Others per Table 2) |

**CUSTOMER USE DRAWING**

|                                                    |                     |                                                                                                                                                                              |   |                     |
|----------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------|
| STANDARD TOLERANCE<br>(UNLESS OTHERWISE SPECIFIED) |                     | <div><br/>4 THOMAS, IRVINE, CA. 92618<br/>TEL: (949) 951-8808 FAX: (949) 951-3974</div> |   |                     |
| DECIMALS                                           | ANGULAR             |                                                                                                                                                                              |   |                     |
| .X ± .1                                            | X° ± 1°             | <div></div> <div>TITLE: DISS-O-PADS, WASH AWAY SPACERS</div>                            |   |                     |
| .XX ± .01                                          |                     |                                                                                                                                                                              |   |                     |
| .XXX ± .005                                        |                     |                                                                                                                                                                              |   |                     |
| DESIGNED:<br>D. GREEN                              | DATE:<br>10/15/2003 | DRAWING NO:<br>TO-XXX-XXX                                                                                                                                                    |   | REVISION:<br>M      |
| REVISED:<br>A.VALDEZ                               | DATE:<br>02/26/2024 | SHEET<br>SIZE                                                                                                                                                                | A | CAGE CODE:<br>32559 |
| CHECKED:<br>R.PEREYRA                              | DATE:<br>02/26/2024 | SCALE: 1:1                                                                                                                                                                   |   | SHEET # 1 OF 4      |
| CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING     |                     |                                                                                                                                                                              |   |                     |

# GENERAL PURPOSE

| Part No | I.D.         | O.D.          | THICKNESS                                                  | FIG. |
|---------|--------------|---------------|------------------------------------------------------------|------|
| TO-46   | .090 (2.3mm) | .250 (6.4mm)  | .040, .050, .060, .070, .090, .100, .120, .130             | A    |
| TO-19   | .250 (6.4mm) | .480 (12.2mm) | .050, .060                                                 | A    |
| TO-22   | .225 (5.7mm) | .437 (11.1mm) | .040, .050, .060, .070, .080, .090, .100, .110             | A    |
| TO-23   | .090 (2.3mm) | .310 (7.9mm)  | .040, .050, .055, .060, .070, .090, .100, .120             | A    |
| TO-24   | .090 (2.3mm) | .340 (8.6mm)  | .040, .050, .060, .070, .090, .100                         | A    |
| TO-30   | .275 (7.0mm) | .397 (10.0mm) | .040, .050, .060, .070, .090, .100                         | A    |
| TO-25   | .180 (4.6mm) | .480 (12.2mm) | .040, .050, .060, .070, .090, .100, .120, .130             | A    |
| TO-28   | .172 (4.4mm) | .343 (8.7mm)  | .040, .050, .060, .070, .090, .100, .120, .130             | A    |
| TO-41   | .156 (4.0mm) | .360 (9.1mm)  | .030, .040, .050, .060, .070, .090, .100, .120, .130, .140 | A    |
| TO-42   | .250 (6.4mm) | .438 (11.1mm) | .040, .050, .060, .070, .090, .100, .120                   | A    |

# RECTANGULAR & SQUARE

| Part No | L             | W            | R             | THICKNESS                                      | FIG. | SHAPE       |
|---------|---------------|--------------|---------------|------------------------------------------------|------|-------------|
| TO-100  | .670 (17.0mm) | .100 (2.5mm) | .031 (.79mm)  | .040, .050, .060, .065, .070, .090             | E    | Rectangular |
| TO-101  | .562 (14.3mm) | .185 (4.7mm) | -             | .040, .050, .060, .080, .100, .130, .150       | E    | Rectangular |
| TO-102  | .505 (12.8mm) | .160 (4.1mm) | -             | .040, .050, .060, .070, .090, .100, .120       | E    | Rectangular |
| TO-116  | .666 (16.9mm) | .300 (7.6mm) | .063 (1.6mm)  | .040, .060, .070, .080, .090, .120, .130, .150 | E    | Rectangular |
| TO-117  | .666 (16.9mm) | .281 (7.1mm) | .100 (2.54mm) | .060, .070, .080, .100, .125                   | E    | Rectangular |
| TO-118  | .705 (17.9mm) | .260 (6.6mm) | .080 (2.0mm)  | .040, .050, .060, .070, .090, .100, .120, .150 | E    | Rectangular |
| TO-120  | .085 (2.2mm)  | .085 (2.2mm) | -             | .040, .050, .060, .070                         | F    | Square      |
| TO-121  | .095 (2.4mm)  | .095 (2.4mm) | -             | .050, .060, .070, .100                         | F    | Square      |

# RADIAL & AXIAL DEVICE

| Part No | C/C           | S            | W            | L             | THICKNESS                                      | FIG. |
|---------|---------------|--------------|--------------|---------------|------------------------------------------------|------|
| TO-200  | .100 (2.5mm)  | .035 (.89mm) | .095 (2.4mm) | .190 (4.8mm)  | .040, .050, .060, .090, .100, .120, .130, .150 | G    |
| TO-201  | .150 (3.8mm)  | .035 (.89mm) | .095 (2.4mm) | .240 (6.1mm)  | .040, .050, .060, .100                         | G    |
| TO-203  | .200 (5.1mm)  | .035 (.89mm) | .095 (2.4mm) | .290 (7.4mm)  | .040, .050, .060, .090, .100                   | G    |
| TO-204  | .250 (6.4mm)  | .040 (1.0mm) | .145 (3.7mm) | .340 (8.6mm)  | .040, .100, .120                               | G    |
| TO-205  | .300 (7.6mm)  | .040 (1.0mm) | .145 (3.7mm) | .390 (9.9mm)  | .040, .060, .070, .090                         | G    |
| TO-206  | .400 (10.2mm) | .045 (1.1mm) | .195 (5.0mm) | .490 (12.4mm) | .040, .050, .070, .100, .120, .130, .150       | G    |
| TO-207  | .500 (12.7mm) | .045 (1.1mm) | .195 (5.0mm) | .590 (15.0mm) | .040, .050, .060, .070, .090, .100, .120, .130 | G    |

# REVISIONS

| REV. | DESCRIPTION | DATE | APPROVED |
|------|-------------|------|----------|
| -    | See Sheet1  | -    | -        |

**CUSTOMER USE DRAWING**

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|                                                |              |                                  |                              |
|------------------------------------------------|--------------|----------------------------------|------------------------------|
| <b>CAGE CODE:</b>                              | <b>32559</b> | <b>DRAWING NO:</b><br>TO-XXX-XXX | <b>REVISION:</b><br><b>M</b> |
| <b>SHEET SIZE:</b>                             | <b>A</b>     | <b>SCALE:</b> 1:1                | <b>SHEET # 2 OF 4</b>        |
| CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING |              |                                  |                              |

| TO-5    |              |               |                                                            |      |             |
|---------|--------------|---------------|------------------------------------------------------------|------|-------------|
| Part No | I.D.         | O.D.          | THICKNESS                                                  | FIG. | TO--5       |
| TO-5    | .225 (5.7mm) | .375 (9.5mm)  | .040, .050, .060, .070, .085, .090, .100, .120, .130, .150 | A    | Spacer      |
| TO-6    | .250 (6.4mm) | .375 (9.5mm)  | .040, .050, .060, .070, .090, .100, .120, .130, .150       | A    | I.C. Spacer |
| TO-9    | .300 (7.6mm) | .437 (11.1mm) | .040, .050, .070, .080, .090, .100, .120, .130, .150, .180 | A    | -           |
| TO-13   | .225 (5.7mm) | .310 (7.9mm)  | .050, .060                                                 | A    | Epoxy Case  |

| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
| -         | See Sheet1  | -    | -        |

| TO-18   |              |              |                |              |                                                                                    |                     |
|---------|--------------|--------------|----------------|--------------|------------------------------------------------------------------------------------|---------------------|
| Part No | I.D.         | O.D.         | CAVITY DIA.    | CAVITY DEPTH | THICKNESS                                                                          | FIG. TO-18          |
| TO-12   | .125 (3.2mm) | .310 (7.9mm) | .215 ( (5.5mm) | .065 (1.7mm) | .080, .090, .100                                                                   | B .250 (6.4mm) L.S. |
| TO-16   | .125 (3.2mm) | .205 (5.2mm) | -              | -            | .040, .050, .060, .070, .080, .090, .100, .120, .130, .200                         | A Epoxy Case        |
| TO-17   | .170 (4.3mm) | .250 (6.4mm) | -              | -            | .035, .040, .050, .060, .070, .090, .100, .120, .130, .140, .150, .170, .180, .200 | A Thin Walls        |
| TO-18   | .125 (3.2mm) | .250 (6.4mm) | -              | -            | .040, .050, .060, .070, .090, .100, .120, .130, .150, .190                         | A Standard          |
| TO-20   | .125 (3.2mm) | .290 (7.4mm) | .200 (5.1mm)   | .065 (1.7mm) | 0.07                                                                               | B .200 (5.1mm) L.S. |
| TO-27   | .125 (3.2mm) | .290 (7.4mm) | -              | -            | .040, .050, .060, .070, .090                                                       | A Heavy Walls       |

#### AXIAL

| Part No | I.D.         | O.D.          | THICKNESS                                            | SLOT DEPTH   | SLOT WIDTH   | FIG. |
|---------|--------------|---------------|------------------------------------------------------|--------------|--------------|------|
| TO-21   | .125 (3.2mm) | .250 (6.4mm)  | .050, .070, .080, .090, .100, .120, .130, .150,      | .045 (1.1mm) | .060 (1.5mm) | C    |
| TO-35   | -            | .440 (11.2mm) | .100, .120, .130, .140, .150, .170, .180, .190, .220 | .065 (1.7mm) | .230 (5.8mm) | H    |
| TO-36   | -            | .187 (4.7mm)  | .050, .060, .070, .080, .090, .100, .120, .130, .150 | .040 (1.0mm) | .080 (2.0mm) | H    |
| TO-37   | -            | .156 (4.0mm)  | .050, .070, .080, .090, .100, .120                   | .025 (.64mm) | .050 (1.3mm) | H    |

| ON-END/CORDWOOD |              |              |              |              |                                                                                                      |      |
|-----------------|--------------|--------------|--------------|--------------|------------------------------------------------------------------------------------------------------|------|
| Part No         | I.D.         | O.D.         | CAVITY DIA.  | CAVITY DEPTH | THICKNESS                                                                                            | FIG. |
| TO-7            | .075 (1.9mm) | .175 (4.4mm) | -            | -            | .030, .040, .050, .060, .070, .090, .100, .120, .130, .150                                           | A    |
| TO-8            | .062 (1.6mm) | .156 (4.0mm) | -            | -            | .030, .035, .040, .050, .055, .060, .065, .070, .080, .085, .090, .100, .105, .120, .130, .150, .160 | A    |
| TO-10           | .040 (1.0mm) | .085 (2.2mm) | -            | -            | .030, .040, .050, .060, .065, .070, .080, .100                                                       | A    |
| TO-11           | .045 (1.1mm) | .100 (2.5mm) | -            | -            | .030, .040, .050, .060, .070, .080, .100                                                             | A    |
| TO-26           | .070 (1.8mm) | .187 (4.7mm) | -            | -            | .030, .040, .050, .060, .070, .090, .100, .120                                                       | A    |
| TO-40           | .045 (1.1mm) | .156 (4.0mm) | -            | -            | .030, .040, .050, .060, .070, .080, .090, .100, .120, .130, .150                                     | A    |
| TO-64           | .045 (1.1mm) | .140 (3.6mm) | -            | -            | .030, .035, .040, .050, .060, .070, .090, .100, .120, .125, .130, .140, .150                         | A    |
| TO-65           | .075 (1.9mm) | .140 (3.6mm) | -            | -            | .030, .035, .040, .045, .050, .060, .070, .080, .090, .100, .120, .125, .130                         | A    |
| TO-67           | .045 (1.1mm) | .140 (3.6mm) | .090 (2.3mm) | .025 (.64mm) | .050, .055, .060, .070, .090                                                                         | B    |
| TO-68           | .045 (1.1mm) | .110 (2.8mm) | .075 (1.9mm) | .025 (.64mm) | .040, .050, .055, .060, .070, .090, .100, .120, .130                                                 | B    |

#### SOLID

| Part No | I.D. | O.D.         | THICKNESS                                                  | FIG. |
|---------|------|--------------|------------------------------------------------------------|------|
| TO-29   | -    | .156 (4.0mm) | .040, .050, .060, .070, .090, .100                         | D    |
| TO-31   | -    | .125 (3.2mm) | .040, .050, .060, .070, .090, .100, .120, .130             | D    |
| TO-32   | -    | .187 (4.7mm) | .030, .040, .050, .060, .070, .080, .090, .100             | D    |
| TO-33   | -    | .250 (6.4mm) | .030, .040, .050, .060, .070, .080, .090, .100, .120, .130 | D    |
| TO-34   | -    | .375 (9.5mm) | .040, .050, .060, .070, .090, .100                         | D    |

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|                                                |       |                           |                |
|------------------------------------------------|-------|---------------------------|----------------|
| CAGE CODE:                                     | 32559 | DRAWING NO:<br>TO-XXX-XXX | REVISION:<br>M |
| SHEET SIZE:                                    | A     | SCALE: 1:1                | SHEET # 3 OF 4 |
| CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING |       |                           |                |

**TABLE 2 - PART NUMBERS NOT OFFERED WITH:**

| <b>EFFERVESCENT (E)</b> |            |            | <b>COLOR REMOVED (CR)</b> | <b>DETERGENT REMOVED (DR)</b> | <b>SALT (H)</b> | <b>EXTRA HARD (XH)</b> |
|-------------------------|------------|------------|---------------------------|-------------------------------|-----------------|------------------------|
| TO-100-040              | TO-120-070 | TO-200-120 | TO-100-040                | TO-100-040                    | TO-100-090      | TO-101-060             |
| TO-100-060              | TO-120-150 | TO-200-150 | TO-121-050                | TO-100-060                    | TO-101-040      | TO-118-120             |
| TO-100-090              | TO-121-050 | TO-201-040 | TO-121-060                | TO-10-040                     | TO-116-040      | TO-17-050              |
| TO-101-040              | TO-121-060 | TO-201-050 | TO-11-030                 | TO-10-060                     | TO-116-060      | TO-17-070              |
| TO-101-050              | TO-121-070 | TO-201-060 | TO-11-040                 | TO-11-060                     | TO-116-070      | TO-200-060             |
| TO-101-060              | TO-121-100 | TO-201-100 | TO-17-050                 | TO-16-050                     | TO-117-070      | TO-201-040             |
| TO-101-100              | TO-10-030  | TO-203-050 | TO-17-070                 | TO-16-120                     | TO-117-080      | TO-203-050             |
| TO-101-130              | TO-10-040  | TO-203-060 | TO-18-040                 |                               | TO-117-100      | TO-203-060             |
| TO-101-150              | TO-10-050  | TO-203-090 | TO-200-090                |                               | TO-117-125      | TO-205-060             |
| TO-102-040              | TO-10-070  | TO-203-100 | TO-203-060                |                               | TO-120-040      |                        |
| TO-102-050              | TO-11-050  | TO-204-040 |                           |                               | TO-13-050       |                        |
| TO-102-060              | TO-11-060  | TO-204-100 |                           |                               | TO-16-050       |                        |
| TO-102-070              | TO-11-070  | TO-205-040 |                           |                               | TO-16-100       |                        |
| TO-102-090              | TO-11-100  | TO-205-060 |                           |                               | TO-17-040       |                        |
| TO-102-100              | TO-13-050  | TO-205-090 |                           |                               | TO-17-050       |                        |
| TO-102-060              | TO-16-040  | TO-206-040 |                           |                               | TO-17-070       |                        |
| TO-116-080              | TO-16-060  | TO-206-040 |                           |                               | TO-17-100       |                        |
| TO-116-060              | TO-16-070  | TO-206-100 |                           |                               | TO-17-120       |                        |
| TO-116-070              | TO-16-090  |            |                           |                               | TO-18-040       |                        |
| TO-116-090              | TO-16-100  |            |                           |                               | TO-18-050       |                        |
| TO-116-130              | TO-16-120  |            |                           |                               | TO-18-060       |                        |
| TO-116-150              | TO-17-070  |            |                           |                               | TO-18-070       |                        |
| TO-117-060              | TO-17-100  |            |                           |                               | TO-18-100       |                        |
| TO-117-070              | TO-17-120  |            |                           |                               | TO-18-150       |                        |
| TO-117-100              | TO-17-130  |            |                           |                               | TO-200-060      |                        |
| TO-118-040              | TO-18-050  |            |                           |                               | TO-200-100      |                        |
| TO-118-050              | TO-18-070  |            |                           |                               | TO-200-130      |                        |
| TO-118-060              | TO-18-090  |            |                           |                               | TO-200-150      |                        |
| TO-118-070              | TO-18-100  |            |                           |                               | TO-201-040      |                        |
| TO-118-090              | TO-18-120  |            |                           |                               | TO-201-060      |                        |
| TO-118-100              | TO-18-150  |            |                           |                               | TO-203-040      |                        |
| TO-118-120              | TO-19-050  |            |                           |                               | TO-204-100      |                        |
| TO-118-150              | TO-20-070  |            |                           |                               | TO-205-040      |                        |
| TO-120-040              | TO-200-040 |            |                           |                               | TO-205-070      |                        |
| TO-120-050              | TO-200-050 |            |                           |                               | TO-205-090      |                        |
| TO-120-060              | TO-200-060 |            |                           |                               | TO-206-040      |                        |

**CUSTOMER USE DRAWING**

|                                                |              |                                  |                              |
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| <b>CAGE CODE:</b>                              | <b>32559</b> | <b>DRAWING NO:</b><br>TO-XXX-XXX | <b>REVISION:</b><br><b>M</b> |
| <b>SHEET SIZE:</b>                             | <b>A</b>     | SCALE: 1:1                       | <b>SHEET # 4 OF 4</b>        |
| CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING |              |                                  |                              |