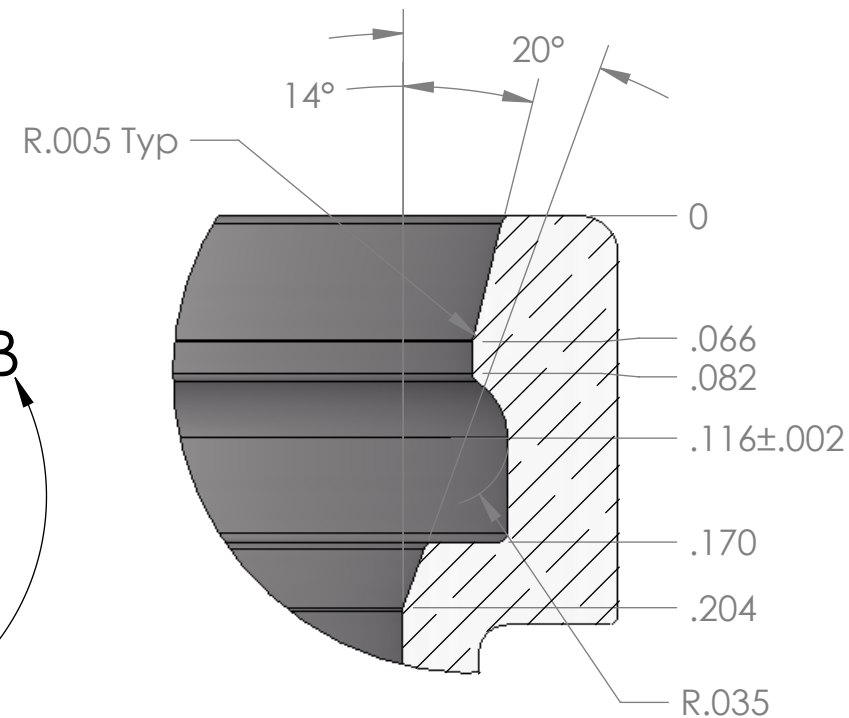
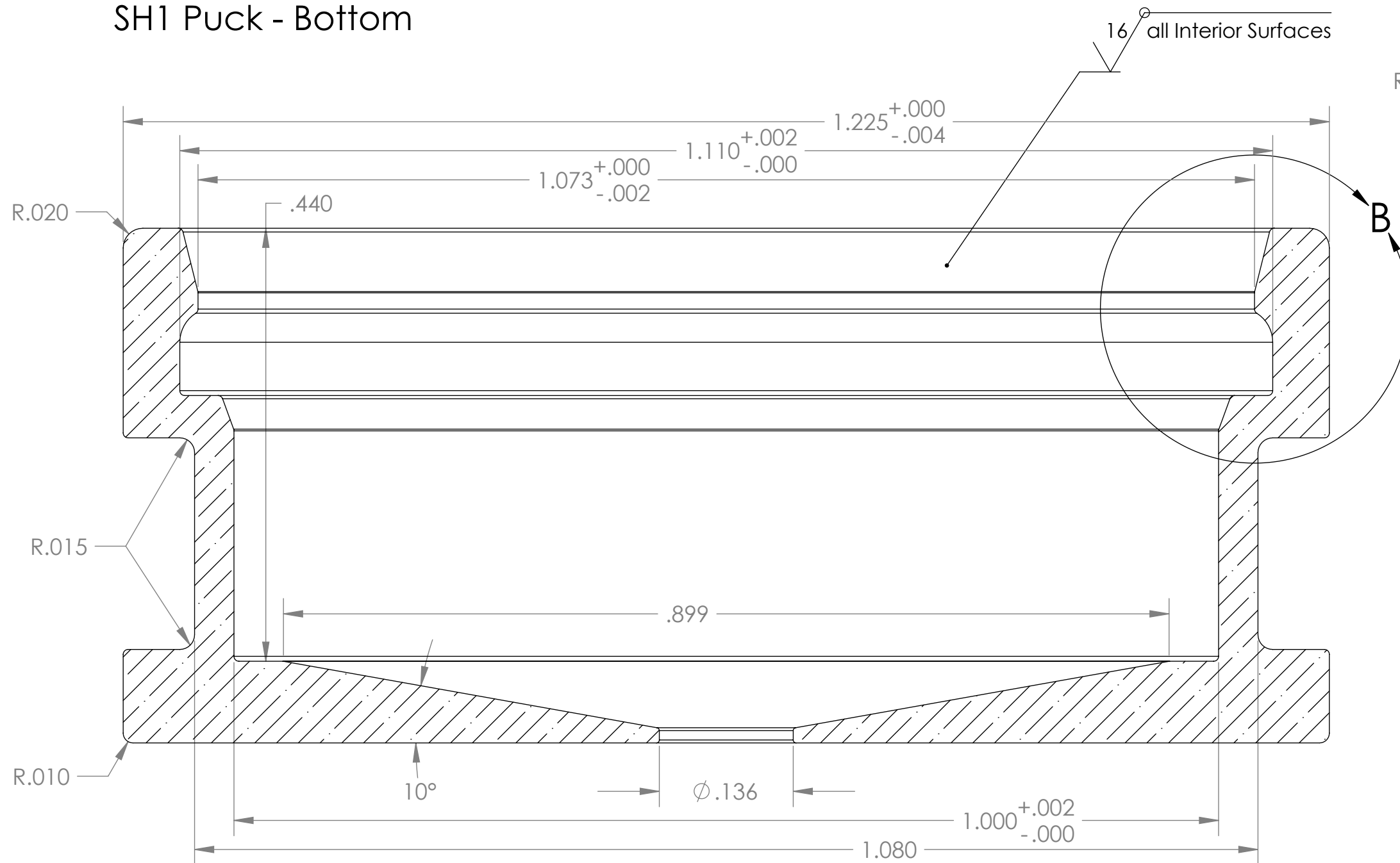


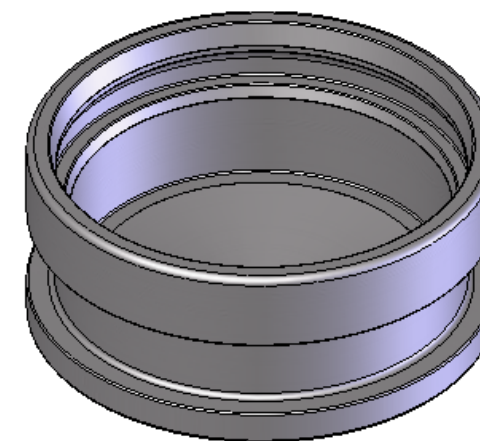
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| REVISIONS |                      |      |          |
|-----------|----------------------|------|----------|
| REV.      | DESCRIPTION          | DATE | APPROVED |
| B         | New Design Initiated | 3/07 | MP       |

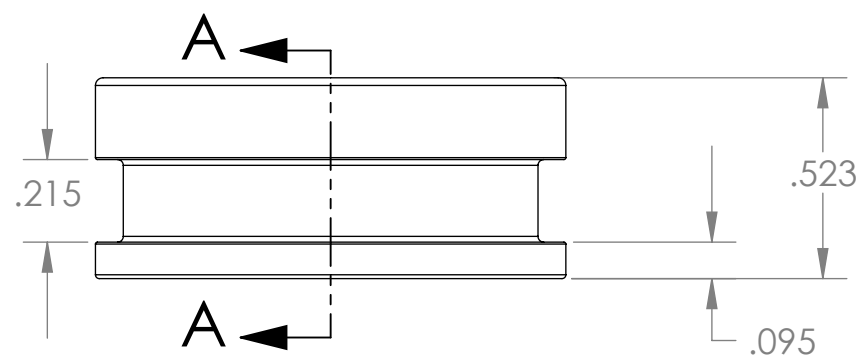
## SH1 Puck - Bottom



DETAIL B  
SCALE 10 : 1



SECTION A-A  
SCALE 8 : 1

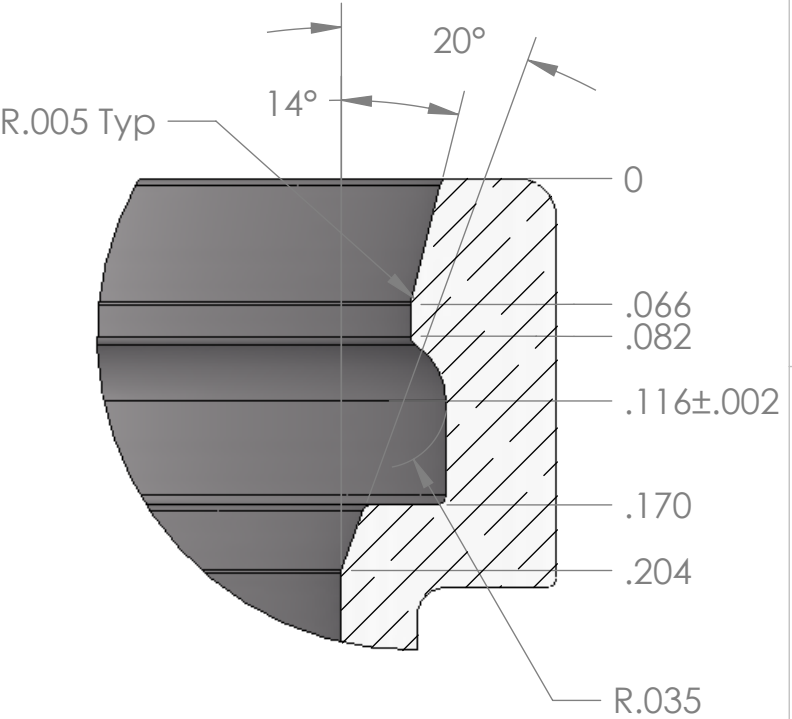
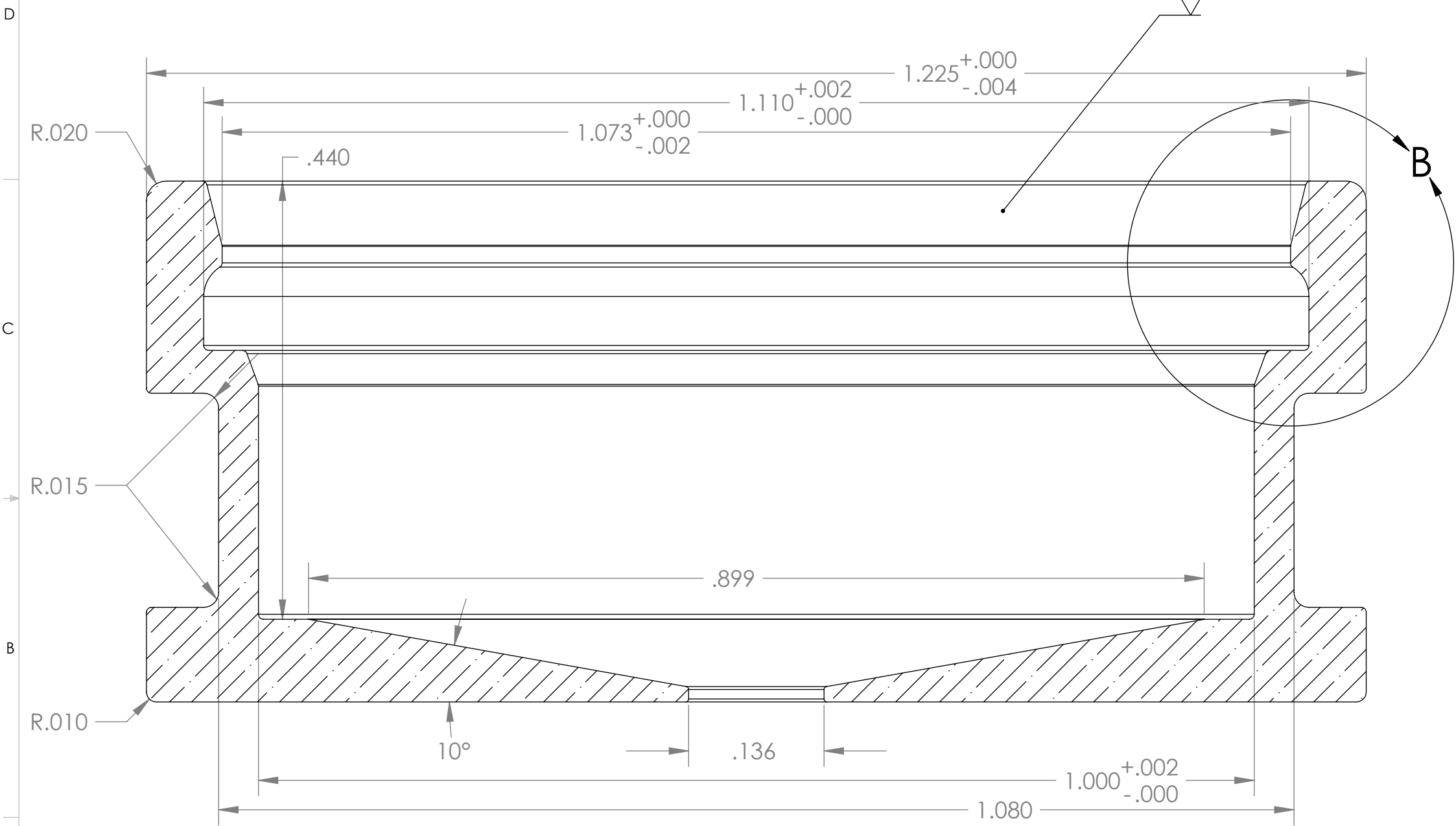


|                          |                  |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               |                                                                                                                                                                                                                                                  |  |
|--------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PART NUMBER              |                  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                     |                     | MATERIAL                      |               | QTY.                                                                                                                                                                                                                                             |  |
| SH1 Bottom               |                  | SH1 Puck Bottom                                                                                                                                                                                                                                                                                                                                 |                     | Grade 2 Titanium              |               | 1                                                                                                                                                                                                                                                |  |
| <b>BILL OF MATERIALS</b> |                  |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               |                                                                                                                                                                                                                                                  |  |
| <b>Shop / Q.C.</b>       |                  | UNLESS OTHERWISE SPECIFIED<br>TOLERANCES ARE:                                                                                                                                                                                                                                                                                                   |                     | APPROVALS                     |               | DATE                                                                                                                                                                                                                                             |  |
| Inspector                |                  | 1 PLACE DIM<br>±.1/16                                                                                                                                                                                                                                                                                                                           | 2 PLACE DIM<br>±.02 | 3 PLACE DIM<br>±.005          | ANGLES<br>±1° |                                                                                                                                                                                                                                                  |  |
| Shop Foreman             |                  | 1. DIMENSIONS ARE IN INCHES<br>2. DIMENSION LIMITS HELD AFTER PLATING.<br>3. REMOVE BURRS AND SHARP EDGES .015 MAX.<br>4. MACHINED FILLET RADII .0150-.030.<br>5. MACHINED DIAMETERS ON A CUCKON CENTERLINE CONCENTRIC WITHIN .005<br>6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE. |                     |                               |               | DRAWN<br>Michael Parker<br>03/14/07<br>ENGINEER<br>Doug Pargett<br>03/14/07<br>CHECKED                                                                                                                                                           |  |
| Engineer                 |                  |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               |                                                                                                                                                                                                                                                  |  |
| NEXT ASSY Description    | NEXT ASSY Number |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               |                                                                                                                                                                                                                                                  |  |
| Application              |                  | DO NOT SCALE DRAWING                                                                                                                                                                                                                                                                                                                            |                     | WEIGHT                        |               |                                                                                                                                                                                                                                                  |  |
|                          |                  |                                                                                                                                                                                                                                                                                                                                                 |                     | PROJECT NO.<br>701312         |               | <b>Monterey Bay Aquarium Research Institute</b><br><b>MBARI</b><br><b>7700 Sandholdt RD.</b><br><b>Moss Landing, CA 95039</b><br><b>PH: (831) 775-1700</b>  |  |
|                          |                  |                                                                                                                                                                                                                                                                                                                                                 |                     | PROJECT<br>ESP 2G             |               |                                                                                                                                                                                                                                                  |  |
|                          |                  | SIZE<br>B                                                                                                                                                                                                                                                                                                                                       |                     | DWG. NO.                      |               | REV.<br>B                                                                                                                                                                                                                                        |  |
|                          |                  | SCALE 2:1                                                                                                                                                                                                                                                                                                                                       |                     | CAD FILE: MECH ENG ON TORNADO |               | SHEET 1 OF 2                                                                                                                                                                                                                                     |  |
|                          |                  |                                                                                                                                                                                                                                                                                                                                                 |                     | 100XXXDWG                     |               |                                                                                                                                                                                                                                                  |  |

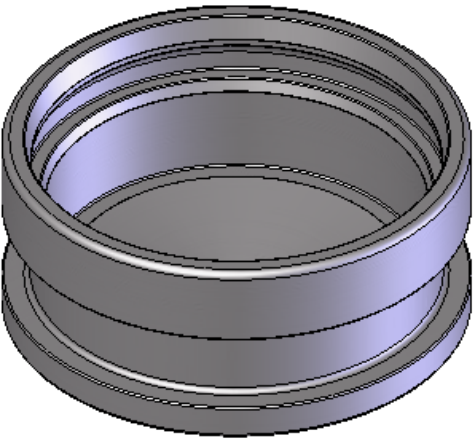
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| REVISIONS |                      |      |          |
|-----------|----------------------|------|----------|
| REV.      | DESCRIPTION          | DATE | APPROVED |
| B         | New Design Initiated | 3/07 | MP       |

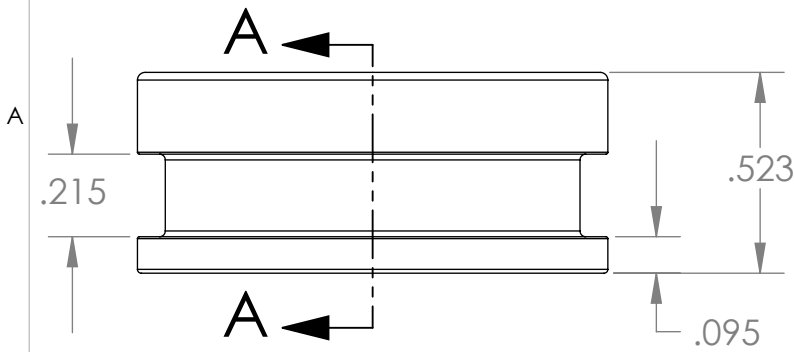
# SH1 High Volume Puck - Bottom



DETAIL B  
SCALE 10 : 1



SECTION A-A  
SCALE 8 : 1



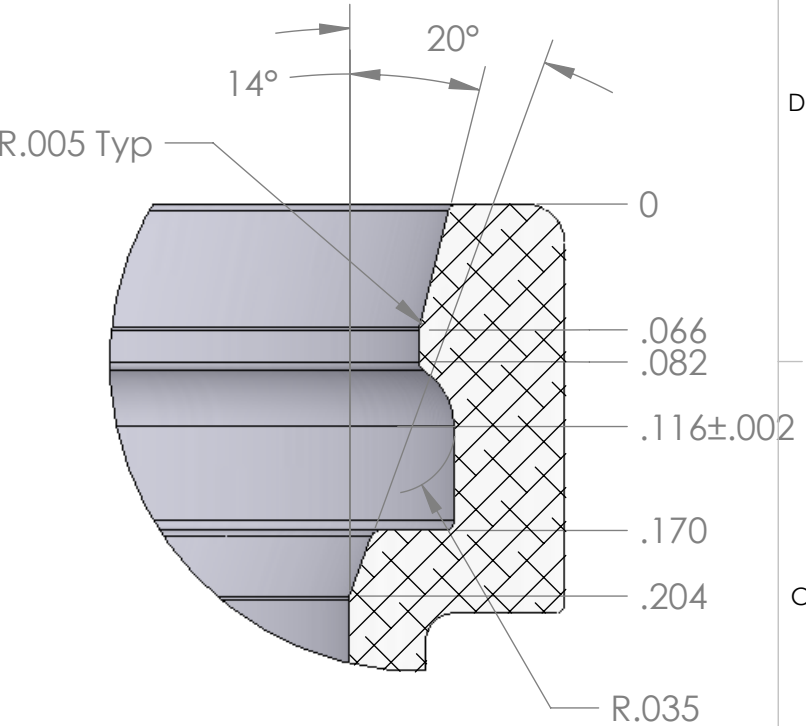
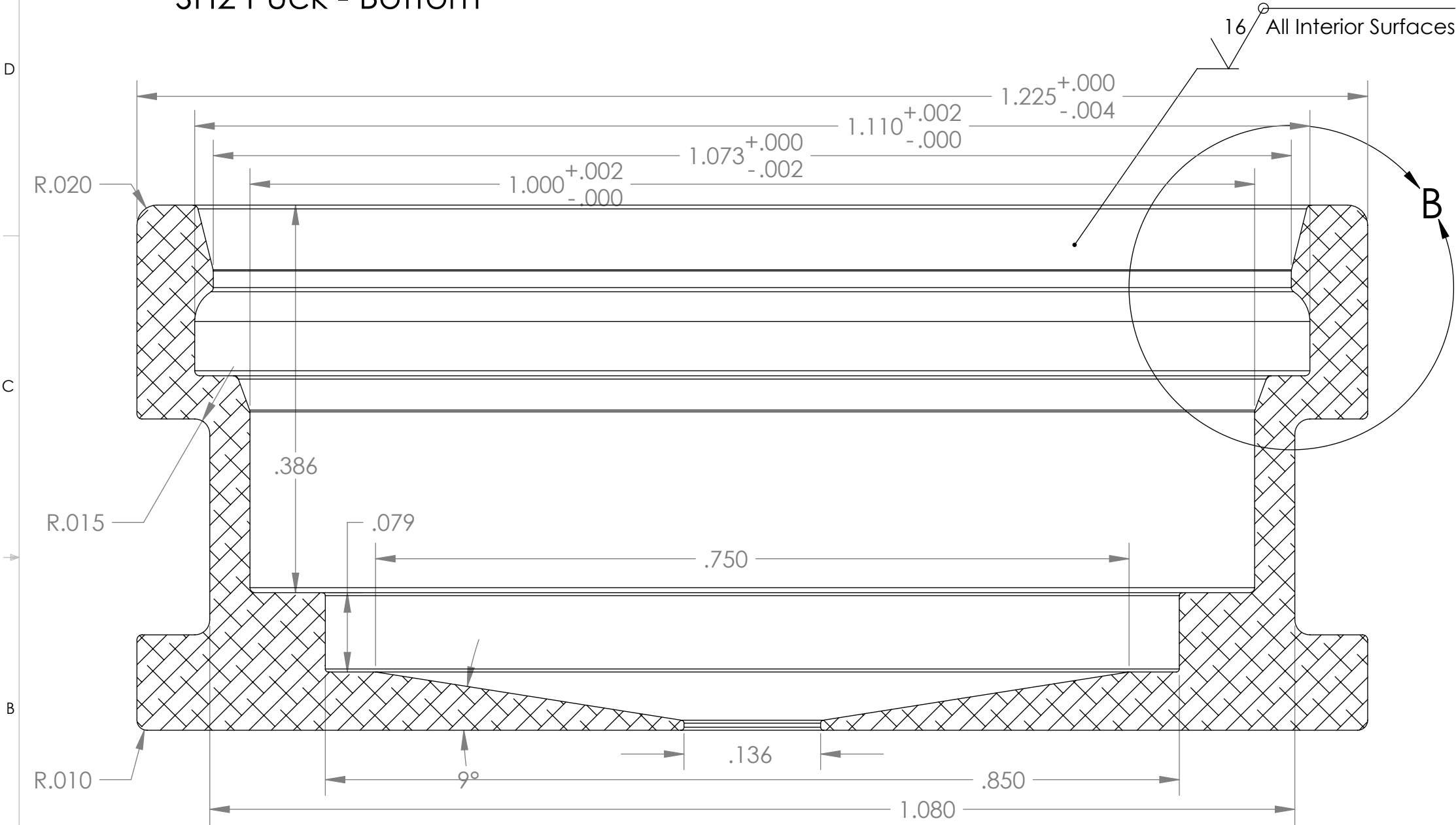
| PART NUMBER   | DESCRIPTION        | MATERIAL         | QTY. |
|---------------|--------------------|------------------|------|
| SH1 HV Bottom | SH1 HV Puck Bottom | Grade 2 Titanium | 1    |

| BILL OF MATERIALS     |                  |                                                                                                          |                     |                      |               |                          |                               |                                                                                                                                                                                                                                                  |  |
|-----------------------|------------------|----------------------------------------------------------------------------------------------------------|---------------------|----------------------|---------------|--------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                               |                     |                      |               | APPROVALS                |                               | DATE                                                                                                                                                                                                                                             |  |
| Inspector             |                  | 1 PLACE DIM<br>±1/16                                                                                     | 2 PLACE DIM<br>±.02 | 3 PLACE DIM<br>±.005 | ANGLES<br>±1° | DRAWN<br>Michael Parker  | 03/14/07                      | <b>Monterey Bay Aquarium Research Institute</b><br><b>MBARI</b><br><b>7700 Sandholdt RD.</b><br><b>Moss Landing, CA 95039</b><br><b>PH: (831) 775-1700</b>  |  |
| Shop Foreman          |                  | 1. DIMENSIONS ARE IN INCHES                                                                              |                     |                      |               | ENGINEER<br>Doug Pargett | 03/14/07                      |                                                                                                                                                                                                                                                  |  |
| Engineer              |                  | 2. DIMENSION LIMITS HELD AFTER PLATING.                                                                  |                     |                      |               | CHECKED                  |                               |                                                                                                                                                                                                                                                  |  |
| NEXT ASSY Description | NEXT ASSY Number | 3. REMOVE BURRS AND SHARP EDGES .015 MAX.                                                                |                     |                      |               | PROJECT NO.              | 701312                        |                                                                                                                                                                                                                                                  |  |
|                       |                  | 4. MACHINED FILLET RADII .0150-.030.                                                                     |                     |                      |               | PROJECT                  | ESP 2G                        |                                                                                                                                                                                                                                                  |  |
|                       |                  | 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                      |                     |                      |               |                          |                               |                                                                                                                                                                                                                                                  |  |
|                       |                  | 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH MAX .012 INCHES FOR SINGLE SURFACE. |                     |                      |               |                          |                               |                                                                                                                                                                                                                                                  |  |
| Application           |                  | DO NOT SCALE DRAWING                                                                                     |                     |                      |               | WEIGHT                   |                               |                                                                                                                                                                                                                                                  |  |
|                       |                  |                                                                                                          |                     |                      |               | SIZE<br>B                | DWG. NO.                      | REV.                                                                                                                                                                                                                                             |  |
|                       |                  |                                                                                                          |                     |                      |               | 100XXXDWG                |                               |                                                                                                                                                                                                                                                  |  |
|                       |                  |                                                                                                          |                     |                      |               | SCALE 2:1                | CAD FILE: MECH ENG ON TORNADO | SHEET 2 OF 5                                                                                                                                                                                                                                     |  |

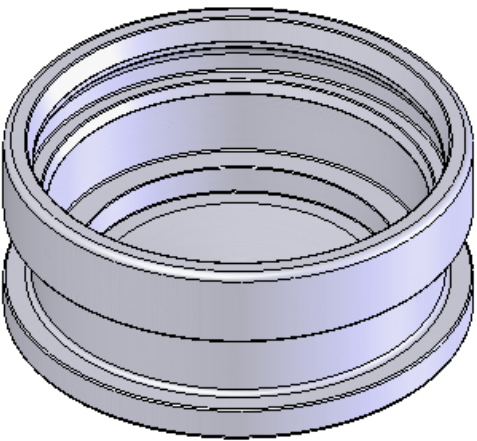
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|-----------|----------------------|------|----------|
| REV.      | DESCRIPTION          | DATE | APPROVED |
| B         | New Design Initiated | 3/07 | MP       |

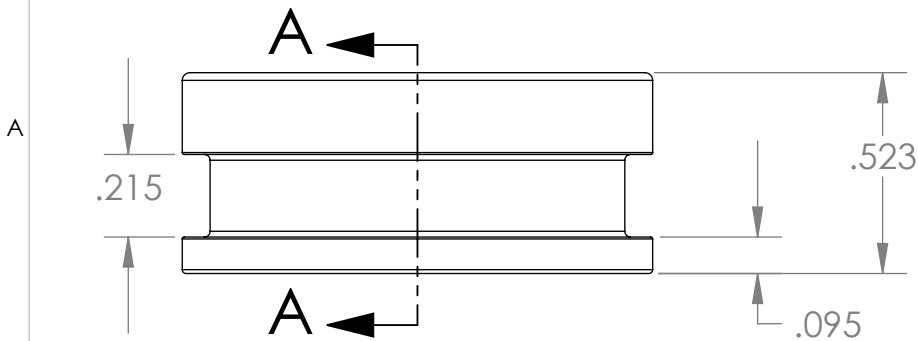
## SH2 Puck - Bottom



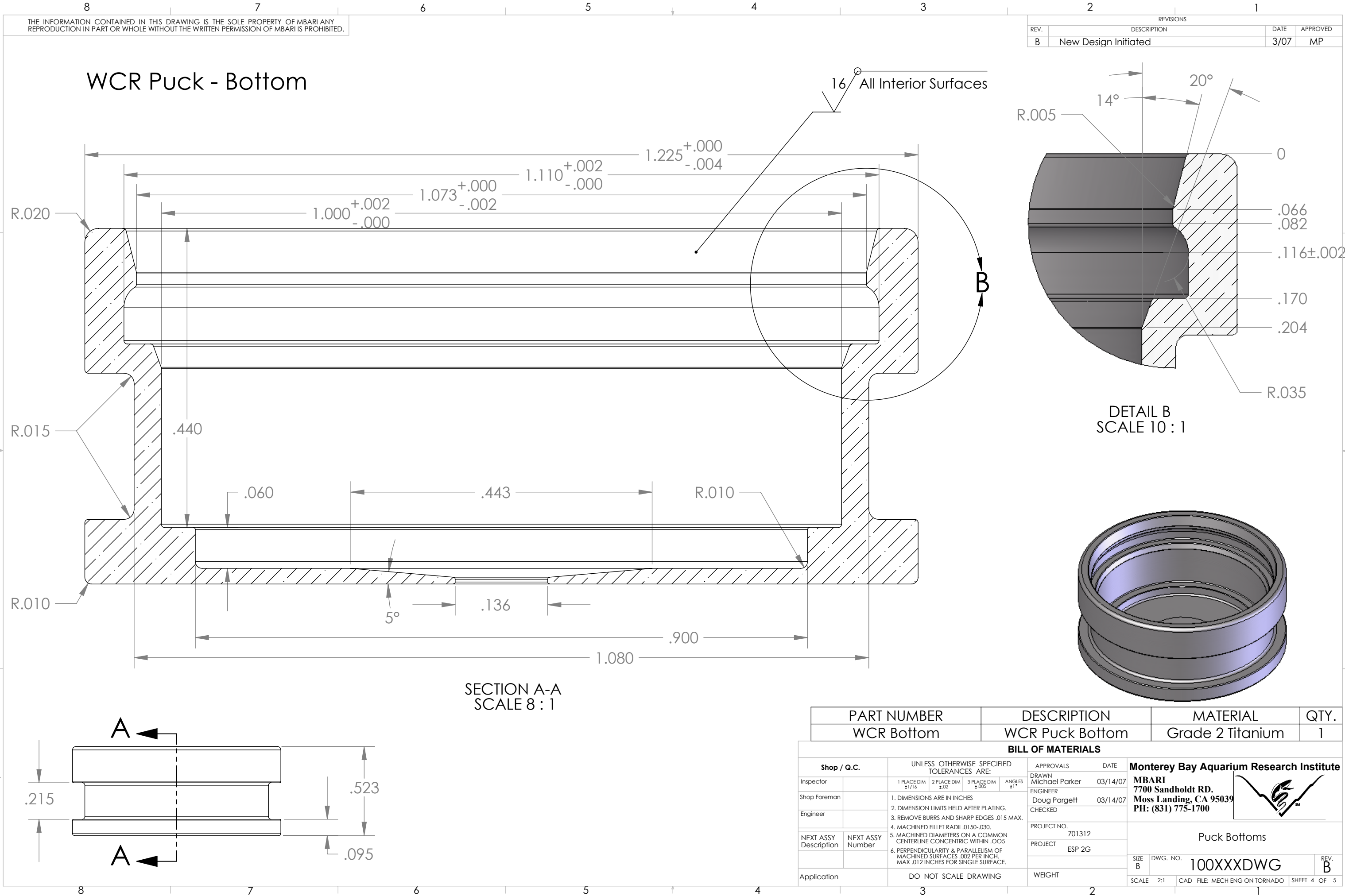
DETAIL B  
SCALE 10 : 1

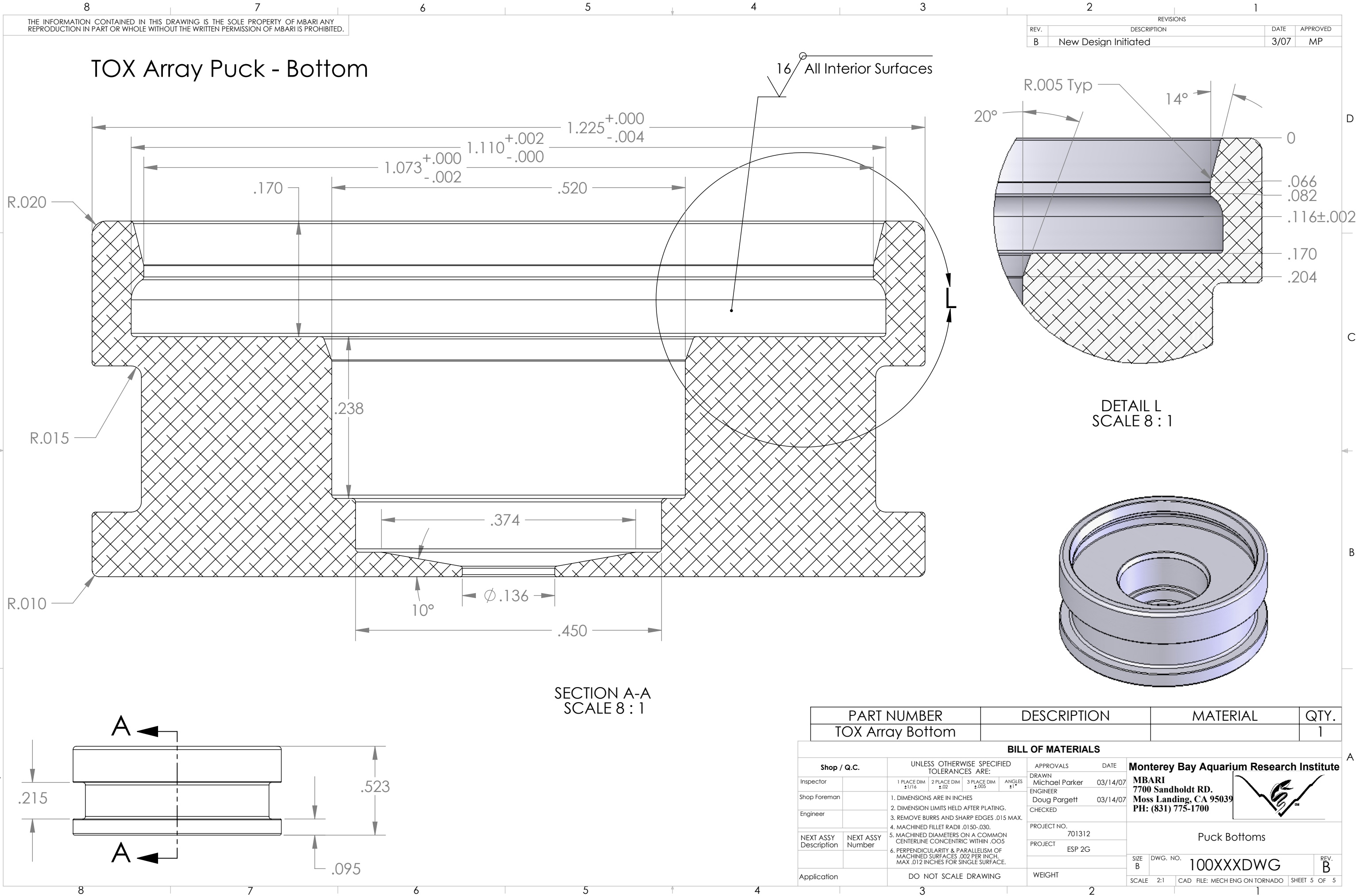


SECTION A-A  
SCALE 8 : 1



|                       |                  |                                                                                                                                                                                   |                     |                      |               |                                                                                                                                                                                                                                                      |  |
|-----------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PART NUMBER           |                  | DESCRIPTION                                                                                                                                                                       |                     | MATERIAL             |               | QTY.                                                                                                                                                                                                                                                 |  |
| SH2 Bottom            |                  | SH2 Puck Bottom                                                                                                                                                                   |                     | 6061-T6 Aluminum     |               | 1                                                                                                                                                                                                                                                    |  |
| BILL OF MATERIALS     |                  |                                                                                                                                                                                   |                     |                      |               |                                                                                                                                                                                                                                                      |  |
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                                                                                        |                     | APPROVALS            |               | DATE                                                                                                                                                                                                                                                 |  |
| Inspector             |                  | 1 PLACE DIM<br>±1/16                                                                                                                                                              | 2 PLACE DIM<br>±.02 | 3 PLACE DIM<br>±.005 | ANGLES<br>±1° | <b>Monterey Bay Aquarium Research Institute</b><br><br><b>MBARI</b><br><b>7700 Sandholdt RD.</b><br><b>Moss Landing, CA 95039</b><br><b>PH: (831) 775-1700</b>  |  |
| Shop Foreman          |                  | 1. DIMENSIONS ARE IN INCHES<br>2. DIMENSION LIMITS HELD AFTER PLATING.<br>3. REMOVE BURRS AND SHARP EDGES .015 MAX.<br>4. MACHINED FILLET RADII .0150-.030.                       |                     |                      |               | DRAWN<br>Michael Parker<br>03/14/07<br>ENGINEER<br>Doug Pargett<br>03/14/07<br>CHECKED                                                                                                                                                               |  |
| Engineer              |                  | 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005<br>6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX. .012 INCHES FOR SINGLE SURFACE. |                     |                      |               | PROJECT NO.<br>701312<br>PROJECT<br>ESP 2G                                                                                                                                                                                                           |  |
| NEXT ASSY Description | NEXT ASSY Number |                                                                                                                                                                                   |                     |                      |               | SIZE<br>B                                                                                                                                                                                                                                            |  |
|                       |                  |                                                                                                                                                                                   |                     |                      |               | DWG. NO.<br>100XXXDWG                                                                                                                                                                                                                                |  |
|                       |                  |                                                                                                                                                                                   |                     |                      |               | SCALE<br>2:1                                                                                                                                                                                                                                         |  |
|                       |                  |                                                                                                                                                                                   |                     |                      |               | CAD FILE: MECH ENG ON TORNADO                                                                                                                                                                                                                        |  |
|                       |                  |                                                                                                                                                                                   |                     |                      |               | SHEET 3 OF 5                                                                                                                                                                                                                                         |  |
| Application           |                  | DO NOT SCALE DRAWING                                                                                                                                                              |                     | WEIGHT               |               | REV.<br>B                                                                                                                                                                                                                                            |  |





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| REV.      | DESCRIPTION          | DATE | APPROVED |
| B         | New Design Initiated | 3/07 | MP       |

TOX Array Puck - Bottom

SECTION A-A  
SCALE 8 : 1

DETAIL L  
SCALE 8 : 1

| PART NUMBER      | DESCRIPTION | MATERIAL | QTY. |
|------------------|-------------|----------|------|
| TOX Array Bottom |             |          | 1    |

| BILL OF MATERIALS     |                  |                                                                                                           |                                |
|-----------------------|------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------|
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                | APPROVALS                      |
| Inspector             |                  | 1 PLACE DIM ±1/16                                                                                         | 2 PLACE DIM ±.02               |
| Shop Foreman          |                  | 3 PLACE DIM ±.005                                                                                         | ANGLES ±1°                     |
| Engineer              |                  | 1. DIMENSIONS ARE IN INCHES                                                                               | DRAWN Michael Parker 03/14/07  |
|                       |                  | 2. DIMENSION LIMITS HELD AFTER PLATING.                                                                   | ENGINEER Doug Pargett 03/14/07 |
|                       |                  | 3. REMOVE BURRS AND SHARP EDGES .015 MAX.                                                                 | CHECKED                        |
|                       |                  | 4. MACHINED FILLET RADII .0150-.030.                                                                      | PROJECT NO. 701312             |
| NEXT ASSY Description | NEXT ASSY Number | 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                       | PROJECT ESP 2G                 |
|                       |                  | 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE. | WEIGHT                         |
| Application           |                  | DO NOT SCALE DRAWING                                                                                      |                                |

Monterey Bay Aquarium Research Institute  
MBARI  
7700 Sandholdt RD.  
Moss Landing, CA 95039  
PH: (831) 775-1700



Puck Bottoms

| SIZE  | DWG. NO.  | REV.                          |
|-------|-----------|-------------------------------|
| B     | 100XXXDWG | B                             |
| SCALE | 2:1       | CAD FILE: MECH ENG ON TORNADO |
| SHEET | 5         | OF 5                          |