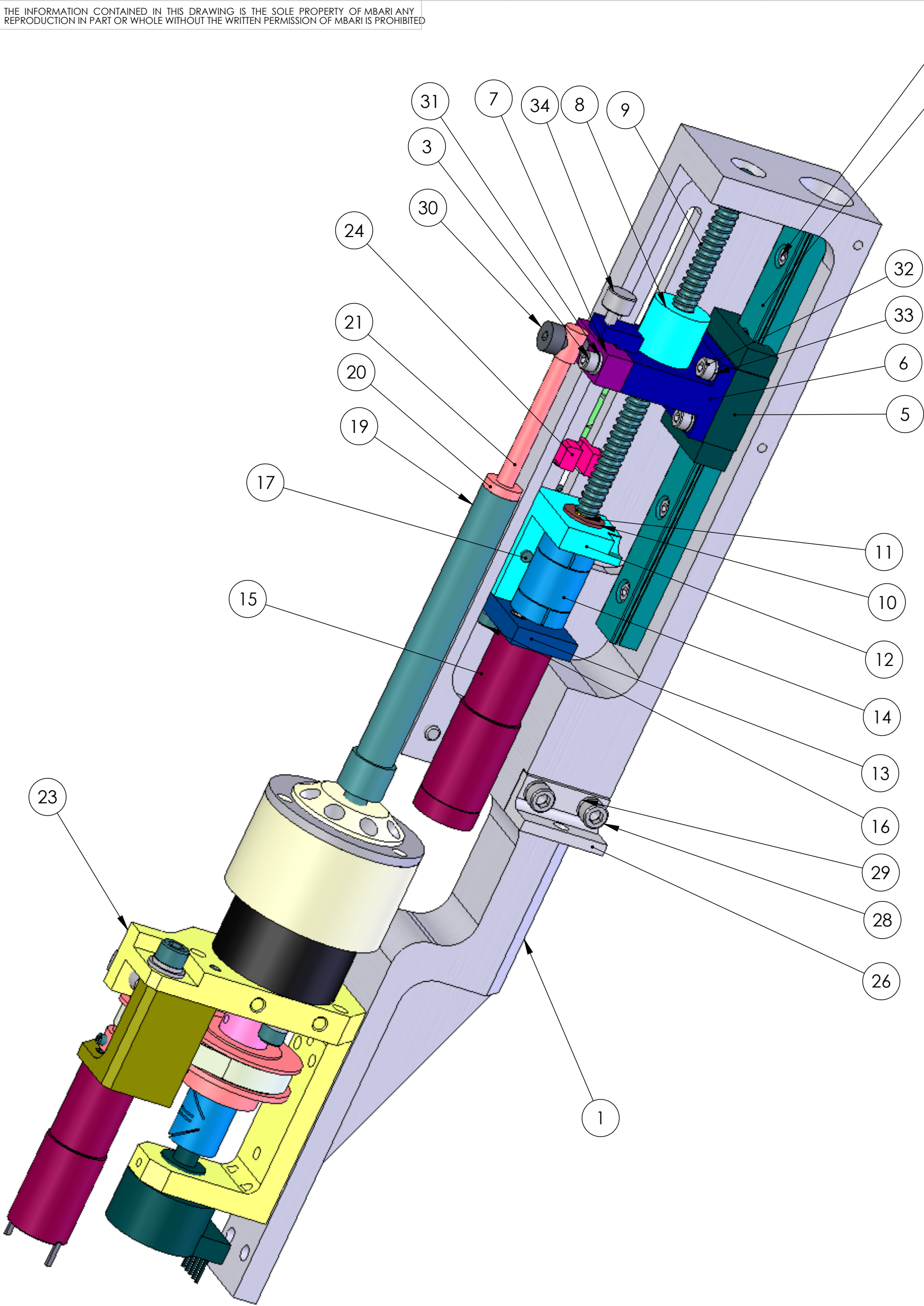


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COLLECTION SYRINGE ASSEMBLY

NOTES: CONT. FROM THE TITLE BLOCK.

|          |                         |                          |                 |                 |                                  |                        |                      |
|----------|-------------------------|--------------------------|-----------------|-----------------|----------------------------------|------------------------|----------------------|
| 46       | -                       | -                        | 1               | 1002562.DWG     | 8-Way small Rotary Valve Assem.  |                        |                      |
| 45       | -                       | -                        | 1               | 24139           | Kloehn 10ml PLUNGER              | Kloehn                 |                      |
| 44       | -                       | -                        | 1               | 24139           | Kloehn 10ml rear seal            | Kloehn                 |                      |
| 43       | -                       | -                        | 1               | 24139           | Kloehn 10ml Syringe              | Kloehn                 |                      |
| 42       | -                       | 4                        | 4               | #4-40 x         | Sckt Hd Cap Screw                |                        | S.S.                 |
| 41       | -                       | 1                        | -               | 1002562.DWG     | 4-Way small Rotary Valve Assem.  |                        |                      |
| 40       | -                       | 1                        | -               | 1002258-010     | Kloehn 25ml adaptor              |                        | PEEK                 |
| 39       | -                       | 2                        | -               | #18031          | Kloehn Teflon Seal Washer        | Kloehn                 |                      |
| 38       | -                       | 1                        | -               | 25380           | Kloehn 25ml PLUNGER              | Kloehn                 |                      |
| 37       | -                       | 1                        | -               | 25380           | Kloehn 25ml Syring rear seal     | Kloehn                 |                      |
| 36       | -                       | 1                        | -               | 25380           | Kloehn 25ml Syringe              | Kloehn                 |                      |
| 35       | -                       | 1                        | -               | #286268         | MAXON Motor GP16A29 to 1-REmax17 | MAXON                  |                      |
| 34       | 1                       | 1                        | 1               | MMC# 92545A127  | Knurled Thumb Screw              | McMaster-Carr          | 18-8 S.S.            |
| 33       | 4                       | 4                        | 4               |                 | Spring Lock Washer M3            |                        |                      |
| 32       | 4                       | 4                        | 4               | ???????         | SckHd Cap Screw                  |                        | S.S.                 |
| 31       | 2                       | 2                        | 2               | #4              | Flat Washer Type b Narrow        |                        | 18-8 S.S.            |
| 30       | 1                       | 1                        | 1               | 188x157         | SocHd Shldr Screw                |                        | S.S.                 |
| 29       | 4                       | 3                        | 4               |                 | #8 Split Lock Washer             |                        |                      |
| 28       | 4                       | -                        | -               |                 | Sckt Hd Cap Screw                |                        | S.S.                 |
| 27       | 1                       | 1                        | 1               | 1002258-007     | Syringe Mounting Bracket_Long    |                        | Aluminum extrusion   |
| 26       | 1                       | 1                        | 1               | 1002258-008     | Syringe Mounting Bracket_Short   |                        | Aluminum extrusion   |
| 25       | 2                       | 2                        | 2               |                 | Cross Pan Hd Screw #5-40x.312    |                        | 18-8 S.S.            |
| 24       | 1                       | 1                        | 1               |                 | SYRINGE HALL EFFECT ASSEM        |                        |                      |
| 23       | 1                       | -                        | -               | 1002562.DWG     | 8-Way small Rotary Valve Assem.  |                        |                      |
| 22       | 1                       | -                        | 1               | #18031          | Syringe Thick Teflon Seal Washer |                        | PTFE                 |
| 21       | 1                       | -                        | -               | 25388           | Kloehn 2.5ml PLUNGER             | Kloehn                 |                      |
| 20       | 1                       | -                        | -               | 25388           | Kloehn 2.5ml Syring rear seal    | Kloehn                 |                      |
| 19       | 1                       | -                        | -               | 25388           | Kloehn 2.5ml Syringe             | Kloehn                 |                      |
| 18       | 2                       | 2                        | 2               | ???????         | SckHd Cap Screw                  |                        | S.S.                 |
| 17       | 4                       | 4                        | 4               |                 | #5-40x.5 Sckt Hd Cap Screw       | MCMaster-CARR          | 316 SS               |
| 16       | 2                       | 2                        | 2               |                 | #5-40x.375 Sckt Hd Cap Screw     | MCMaster-CARR          | 316 SS               |
| 15       | 1                       | -                        | 1               | 305844          | Motor-Gearbox-305844             | MAXON                  |                      |
| 14       | 1                       | 1                        | 1               | W7C 15-3-3      | Motor Shaft Coupling             | Helical Products       | S.S. 17-4 PH         |
| 13       | 1                       | 1                        | 1               | 1002258-002     | Syringe Motor Mount              |                        | 17-4 Stainless Steel |
| 12       | 1                       | 1                        | 1               | 1002258-003     | Syringe Motor Bracket            |                        | 17-4 Stainless Steel |
| 11       | 2                       | 2                        | 2               | SS1-104         | S.S. Shaft Spacer_Inner Race     | Berg                   | S.S. DIN 1.4310      |
| 10       | 2                       | 2                        | 2               | ABS-A7-40       | Flanged Metric Ball Bearing      | NORDEX                 |                      |
| 9        | 1                       | 1                        | 1               | 1002098-001     | Syringe Ball Screw               | Nook                   | Alloy                |
| 8        | 1                       | 1                        | 1               | ???????         | 6x2mm Ball Nut                   | Nook Ind.              |                      |
| 7        | 1                       | 1                        | 1               | 1002258-004     | Syringe Shoulder Screw Slider    |                        | 17-4 Stainless Steel |
| 6        | 1                       | 1                        | 1               | 1002258-005     | Syringe Arm                      |                        | 17-4 Stainless Steel |
| 5        | 1                       | 1                        | 1               | LWL-12-B        | Linear Ball-Bearing Car          | IKO International, Inc |                      |
| 4        | 11                      | 11                       | 11              |                 | Spring Lock Washer               |                        |                      |
| 3        | 7                       | 7                        | 7               |                 | #5-40x.5 Sckt Hd Cap Screw       |                        | S.S.                 |
| 2        | 1                       | 1                        | 1               | LWL12C1R150BPS2 | Linear Bearing Track             | IKO International, Inc | Stainless Steel      |
| 1        | 1                       | 1                        | 1               | 1002258-001     | SYRINGE ASSEM. FRAME             |                        | 6061-T6 Aluminum     |
| ITEM NO. | collec<br>tion/Q<br>TY. | internal<br>sampler/QTY. | processing/QTY. | Part_Number     | DESCRIPTION                      | Vendor                 | MATERIAL             |

Shop / Q.C.

Inspector

Shop Foreman

Engineer

NEXT ASSY Description

NEXT ASSY Number

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM ±1/16

2 PLACE DIM ±.01

3 PLACE DIM ±.005

ANGLES ±1°

1. DIMENSIONS ARE IN INCHES

2. DIMENSION LIMITS HELD AFTER PLATING

3. REMOVE BURRS & SHARP EDGES .010 MAX

4. MACHINED FILLET RADII .010 TO .020

5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005

6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .001 PER INCH. MAX .010 INCHES FOR SINGLE SURFACE.

7. SURFACE FINISH TO BE 63 MICRON UNLESS OTHERWISE SPECIFIED

APPROVALS

ENGINEER

CHECKED

PROJECT NUMBER

PROJECT

CAD FILE:

DATE

Mon, Apr 30, 2007 11:38:11 AM

Monterey Bay Aquarium Research Institute

7700 Sandholdt Road

Moss Landing, CA 95039

PROJECT NUMBER

701312.00

PROJECT

ESP 2G

CAD FILE:

X:\701312 ESP 2G\SolidWorks files\internal structure (1002209)

SHEET 1 OF 11

syringe

SIZE

C

DWG. NO.

1002258

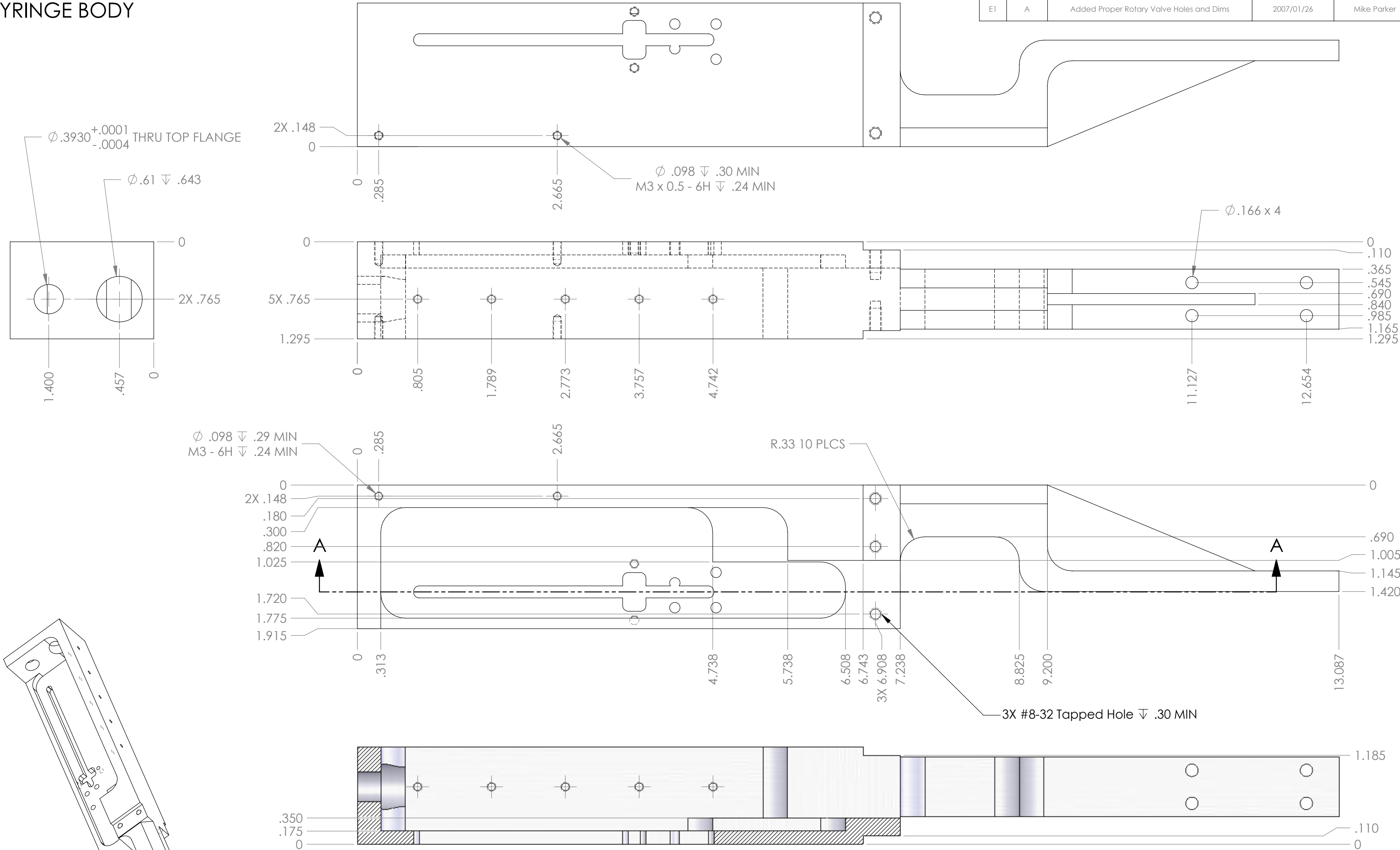
REV.

A

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1002258-001  
SYRINGE BODY

| REVISIONS |      |                                          |            |             |
|-----------|------|------------------------------------------|------------|-------------|
| ZONE      | REV. | DESCRIPTION                              | DATE       | APPROVED    |
| E1        | A    | Added Proper Rotary Valve Holes and Dims | 2007/01/26 | Mike Parker |



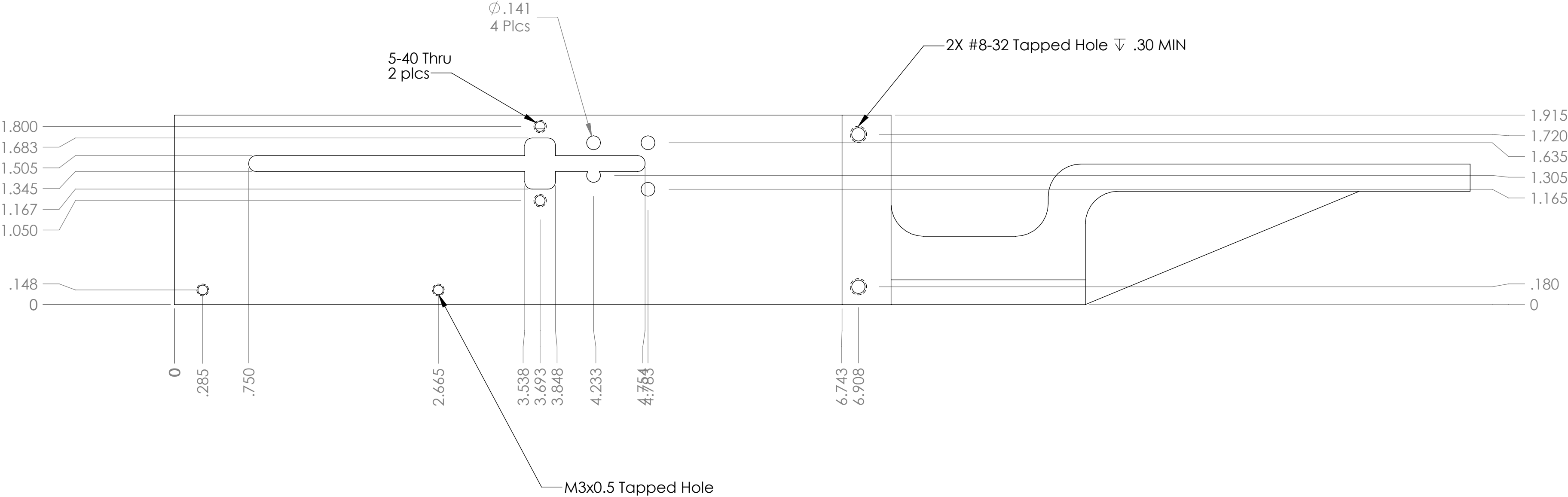
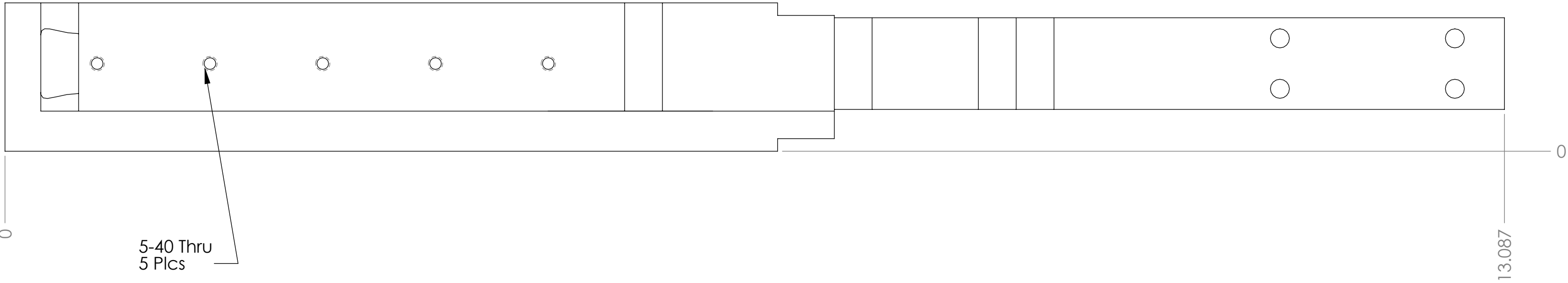
SECTION A-A

Material: 6061-T6 Aluminum  
Qty: 3

| BILL OF MATERIALS     |                  |                                                                                                           |                       |                        | last updated on:                                               |  |
|-----------------------|------------------|-----------------------------------------------------------------------------------------------------------|-----------------------|------------------------|----------------------------------------------------------------|--|
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                |                       |                        | Monday, April 30, 2007 11:38:11 AM                             |  |
| Inspector             |                  | 1 PLACE DIM $\pm 1/16$                                                                                    | 2 PLACE DIM $\pm .01$ | 3 PLACE DIM $\pm .005$ | APPROVALS DATE                                                 |  |
| Shop Foreman          |                  | 1. DIMENSIONS ARE IN INCHES                                                                               |                       |                        | Monterey Bay Aquarium Research Institute                       |  |
| Engineer              |                  | 2. DIMENSION LIMITS HELD AFTER PLATING                                                                    |                       |                        | ENGINEER                                                       |  |
|                       |                  | 3. REMOVE BURRS & SHARP EDGES .010 MAX                                                                    |                       |                        | Jason Feldman                                                  |  |
|                       |                  | 4. MACHINED FILLET RADII .010 TO .020                                                                     |                       |                        | 831-775-1837                                                   |  |
|                       |                  | 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                       |                       |                        | CHECKED                                                        |  |
| NEXT ASSY Description | NEXT ASSY Number | 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .001 PER INCH. MAX .010 INCHES FOR SINGLE SURFACE. |                       |                        | 7700 Sandholdt Road                                            |  |
|                       |                  | 7. SURFACE FINISH TO BE 63 MICRON UNLESS OTHERWISE SPECIFIED                                              |                       |                        | Moss Landing, CA                                               |  |
| DO NOT SCALE DRAWING  |                  |                                                                                                           |                       |                        | 95039                                                          |  |
|                       |                  |                                                                                                           |                       |                        | PROJECT NUMBER                                                 |  |
|                       |                  |                                                                                                           |                       |                        | 701312.00                                                      |  |
|                       |                  |                                                                                                           |                       |                        | SIZE                                                           |  |
|                       |                  |                                                                                                           |                       |                        | DWG. NO.                                                       |  |
|                       |                  |                                                                                                           |                       |                        | 1002258                                                        |  |
|                       |                  |                                                                                                           |                       |                        | REV.                                                           |  |
|                       |                  |                                                                                                           |                       |                        | A                                                              |  |
|                       |                  |                                                                                                           |                       |                        | CAD FILE:                                                      |  |
|                       |                  |                                                                                                           |                       |                        | X:\701312 ESP 2G\SolidWorks files\internal structure (1002209) |  |
|                       |                  |                                                                                                           |                       |                        | SHEET 2 OF 11                                                  |  |

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1002258-001

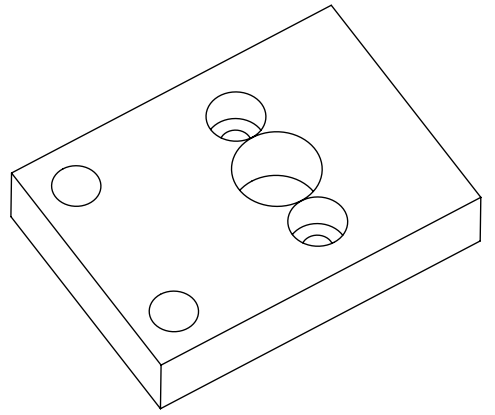
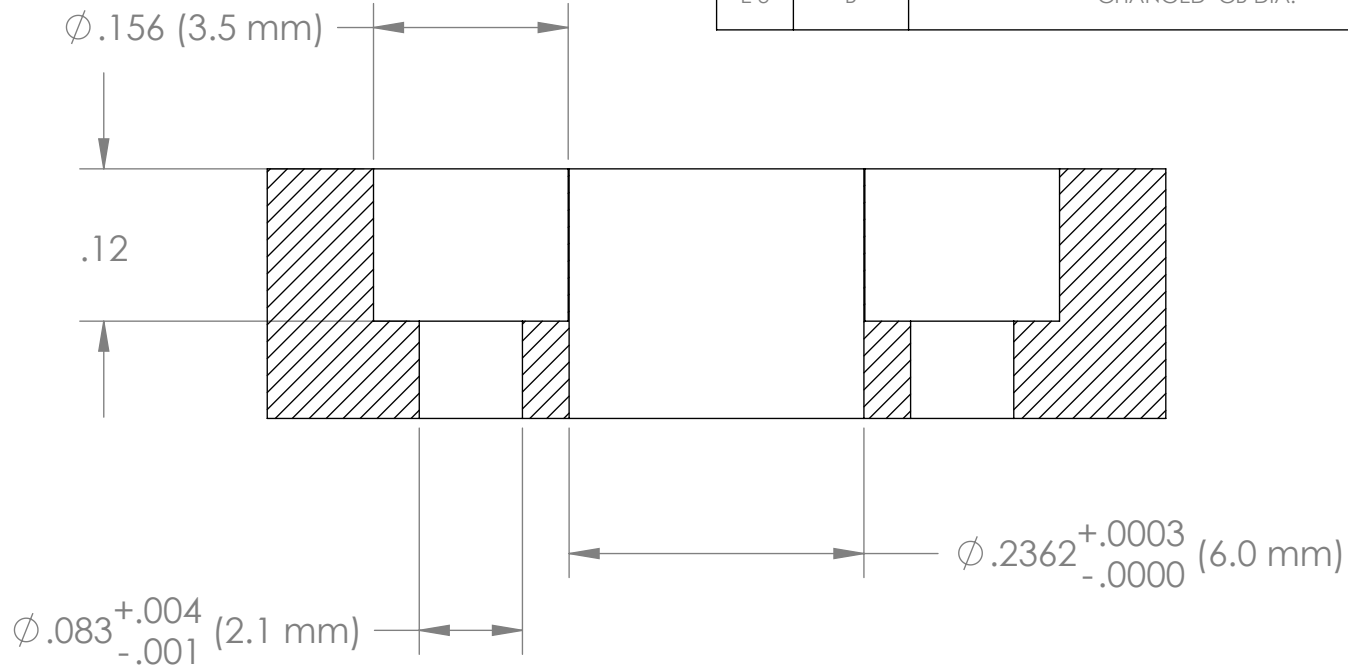
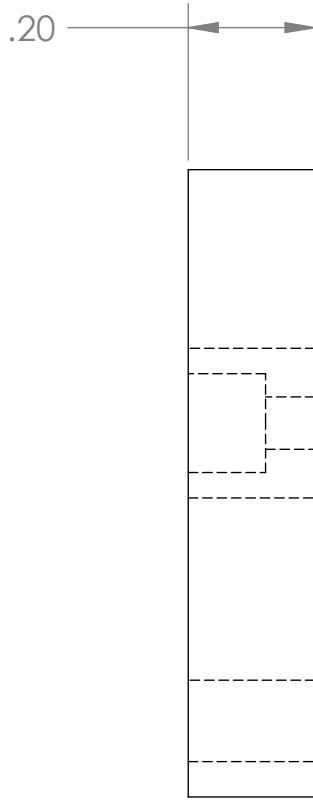
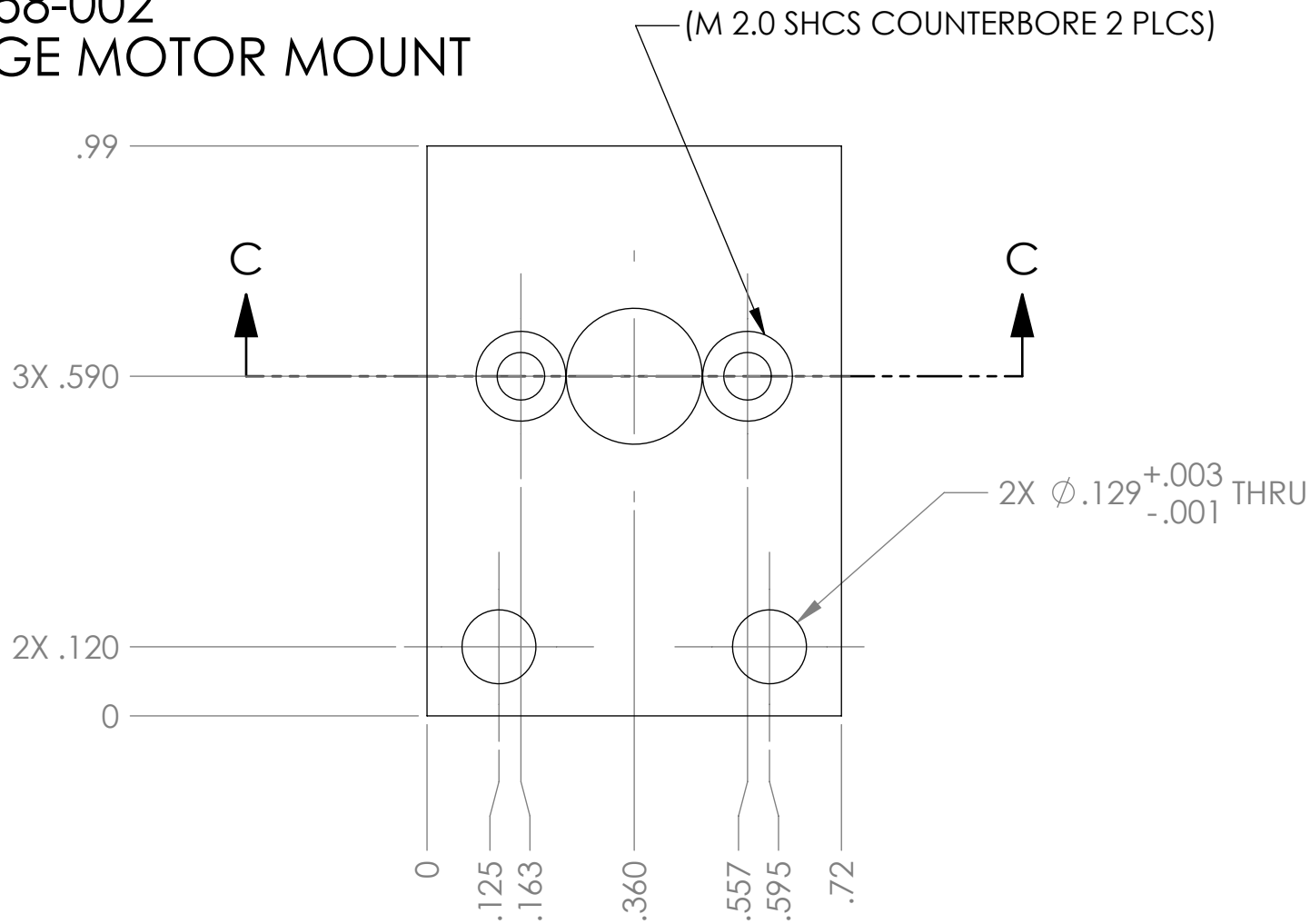


Material: 6061-T6 Aluminum  
Qty: 3

| BILL OF MATERIALS     |                  |                                                                                                           |                  | last updated on:                                                         |                                                  |
|-----------------------|------------------|-----------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------|--------------------------------------------------|
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                |                  | APPROVALS DATE                                                           |                                                  |
| Inspector             |                  | 1 PLACE DIM ±1/16                                                                                         | 2 PLACE DIM ±.01 | ENGINEER                                                                 | Monterey Bay Aquarium Research Institute         |
| Shop Foreman          |                  | 3 PLACE DIM ±.005                                                                                         | ANGLES ±1°       | Jason Feldman                                                            |                                                  |
| Engineer              |                  | 1. DIMENSIONS ARE IN INCHES                                                                               |                  | 831-775-1837                                                             | 7700 Sandholdt Road<br>Moss Landing, CA<br>95039 |
| NEXT ASSY Description | NEXT ASSY Number | 2. DIMENSION LIMITS HELD AFTER PLATING                                                                    |                  | CHECKED                                                                  |                                                  |
| DO NOT SCALE DRAWING  |                  | 3. REMOVE BURRS & SHARP EDGES .010 MAX                                                                    |                  | PROJECT NUMBER                                                           | syringe                                          |
|                       |                  | 4. MACHINED FILLET RADII .010 TO .020                                                                     |                  | 701312.00                                                                |                                                  |
|                       |                  | 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                       |                  | PROJECT                                                                  | ESP 2G                                           |
|                       |                  | 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .001 PER INCH, MAX .010 INCHES FOR SINGLE SURFACE. |                  | SIZE                                                                     | C                                                |
|                       |                  | 7. SURFACE FINISH TO BE 63 MICRON UNLESS OTHERWISE SPECIFIED                                              |                  | DWG. NO.                                                                 | 1002258                                          |
|                       |                  |                                                                                                           |                  | REV.                                                                     | A                                                |
|                       |                  |                                                                                                           |                  | CAD FILE: X:\701312 ESP 2G\SolidWorks files\internal structure (1002209) |                                                  |
|                       |                  |                                                                                                           |                  | SHEET 3 OF 11                                                            |                                                  |

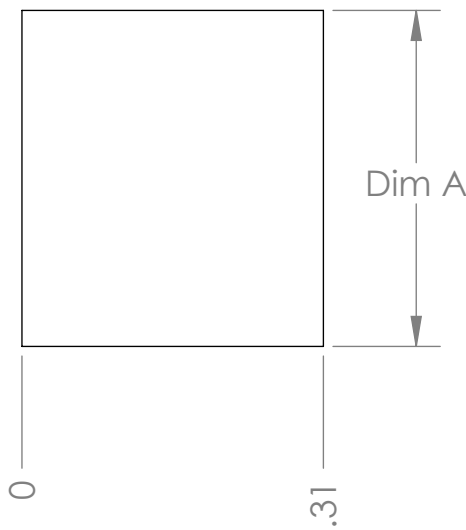
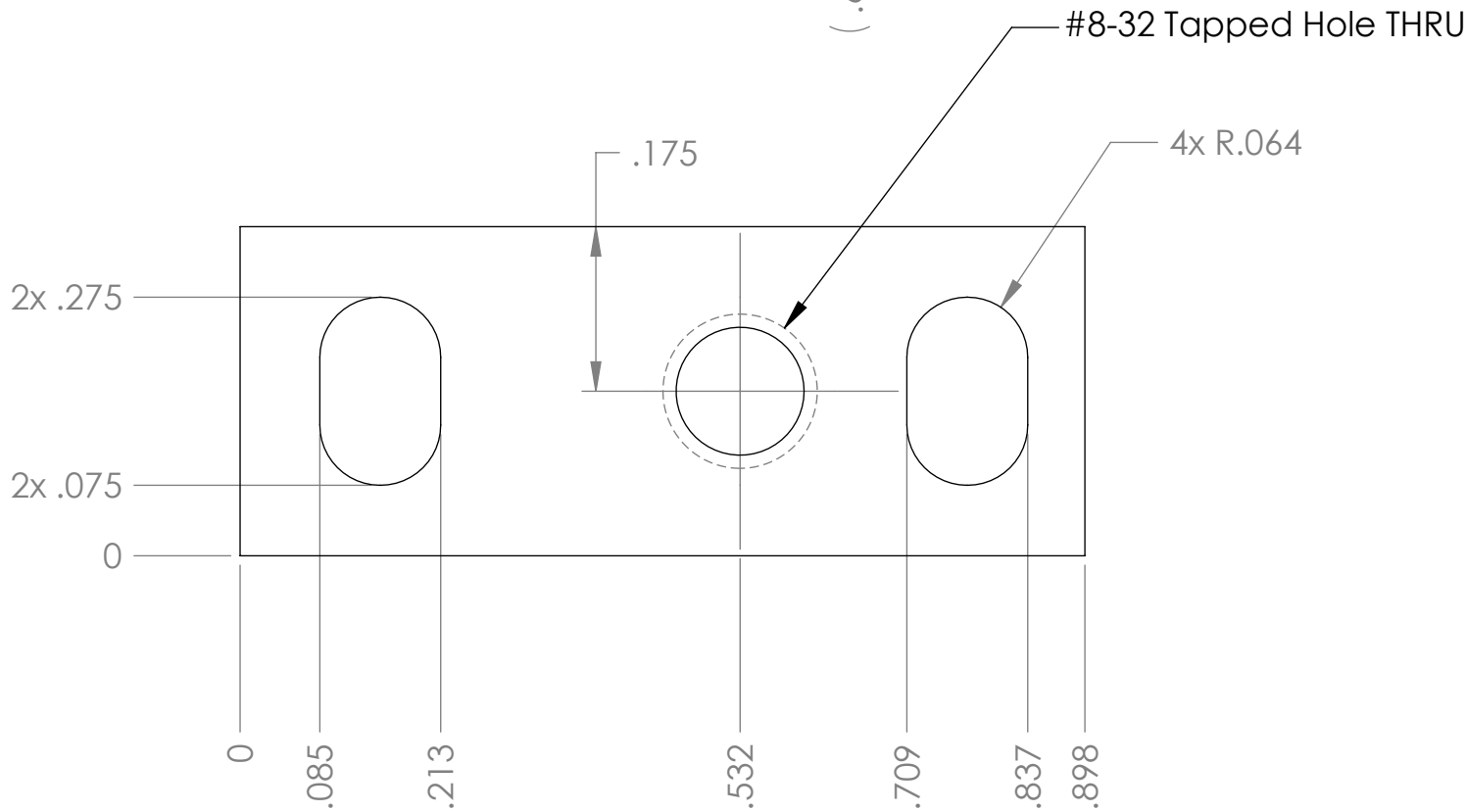
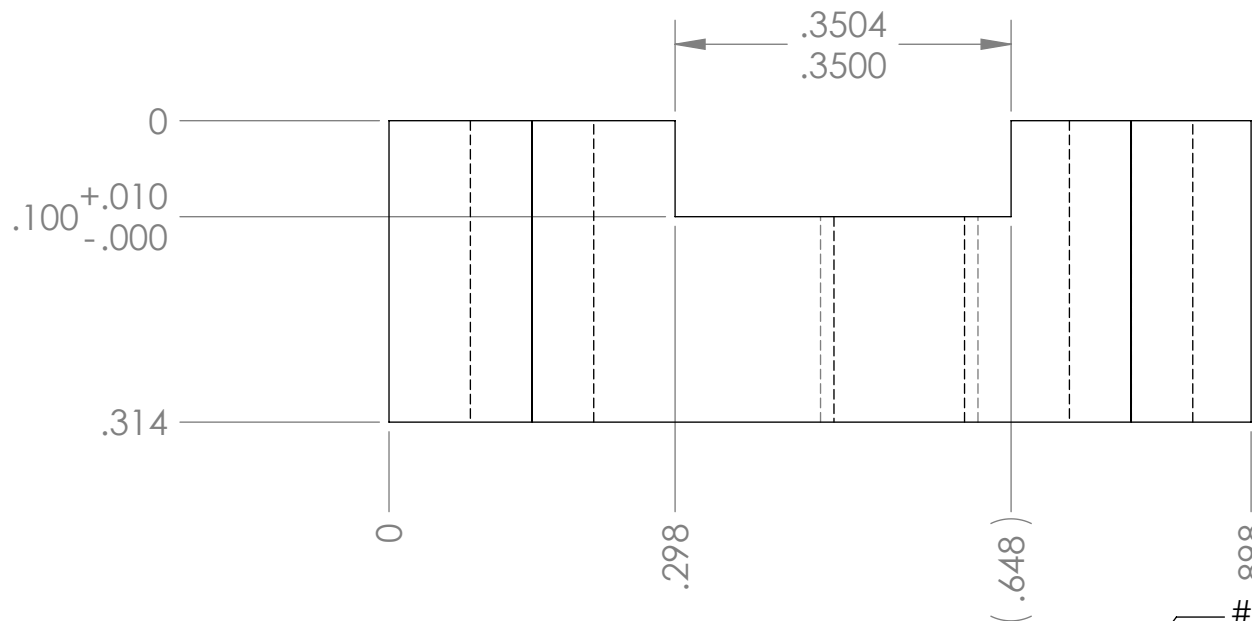
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1002258-002  
SYRINGE MOTOR MOUNT

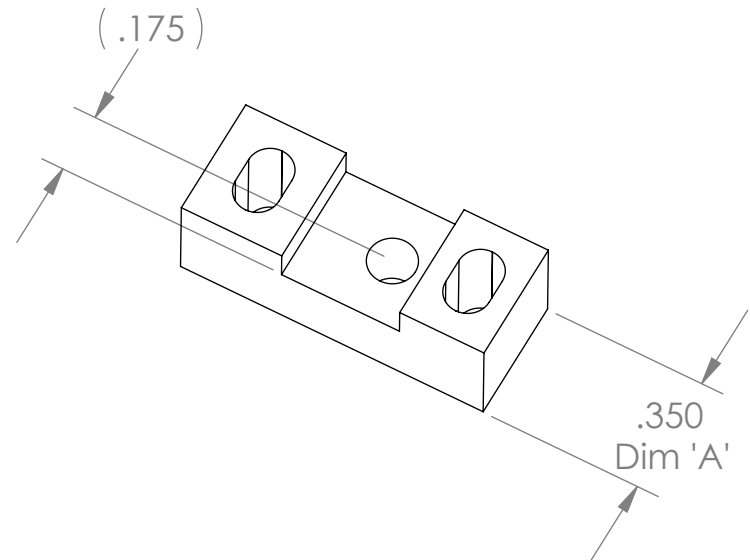


SECTION C-C

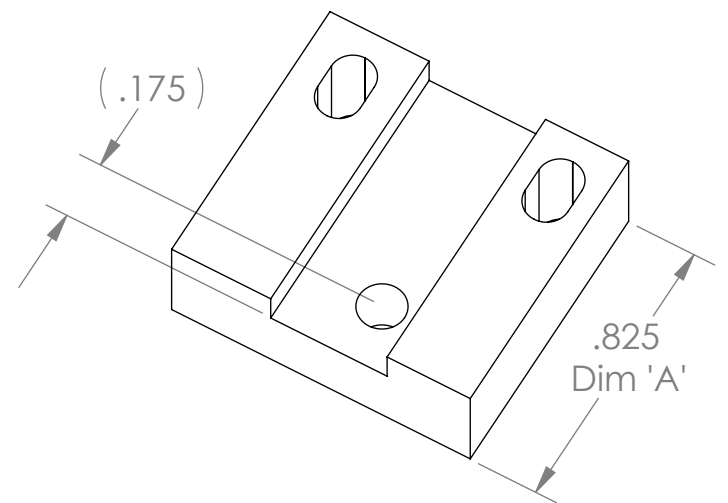
1002258-004  
SYRINGE SHOULDER SCREW SLIDER



Sample Syringe Valve



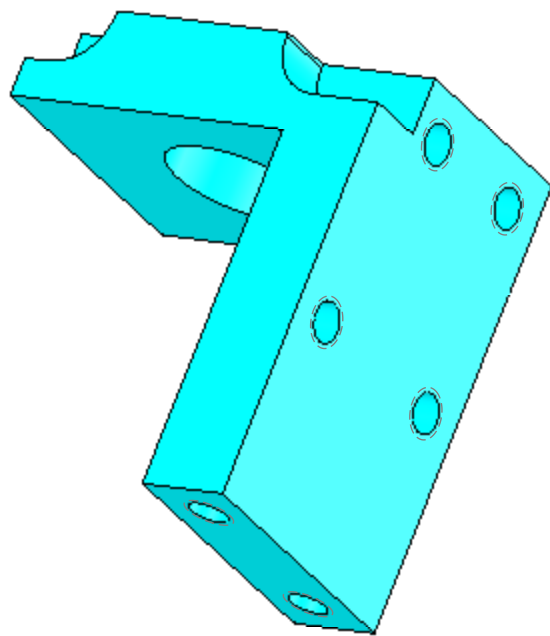
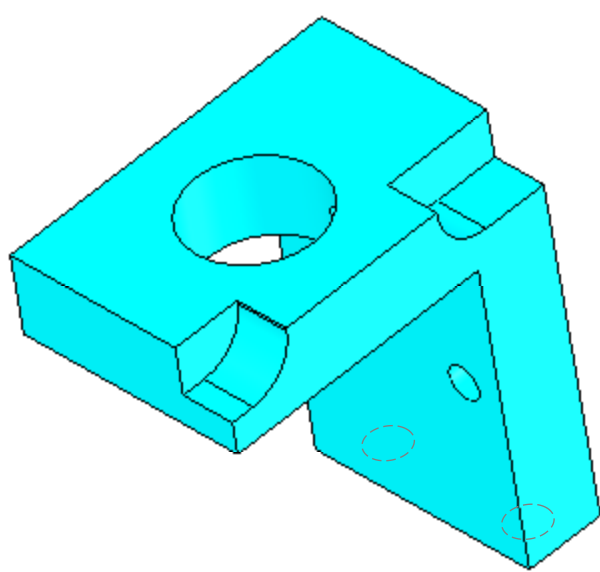
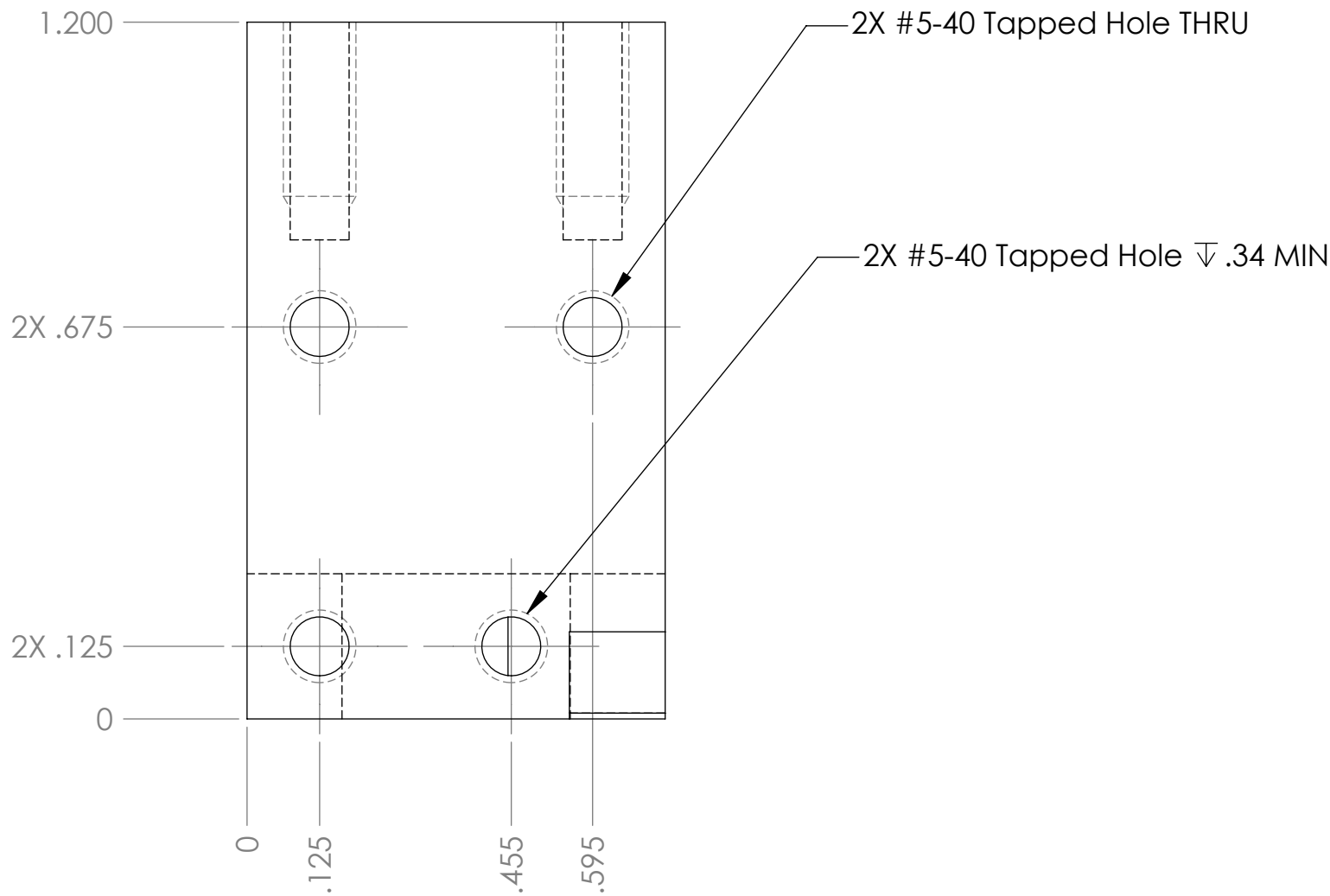
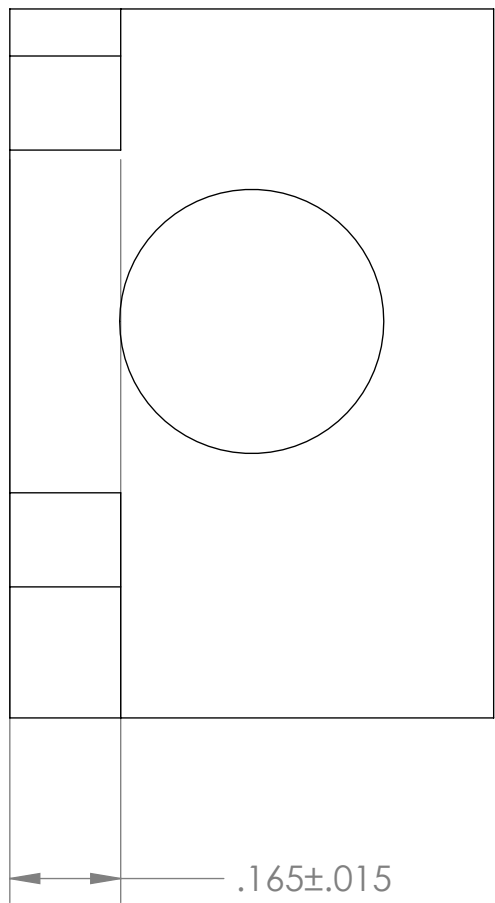
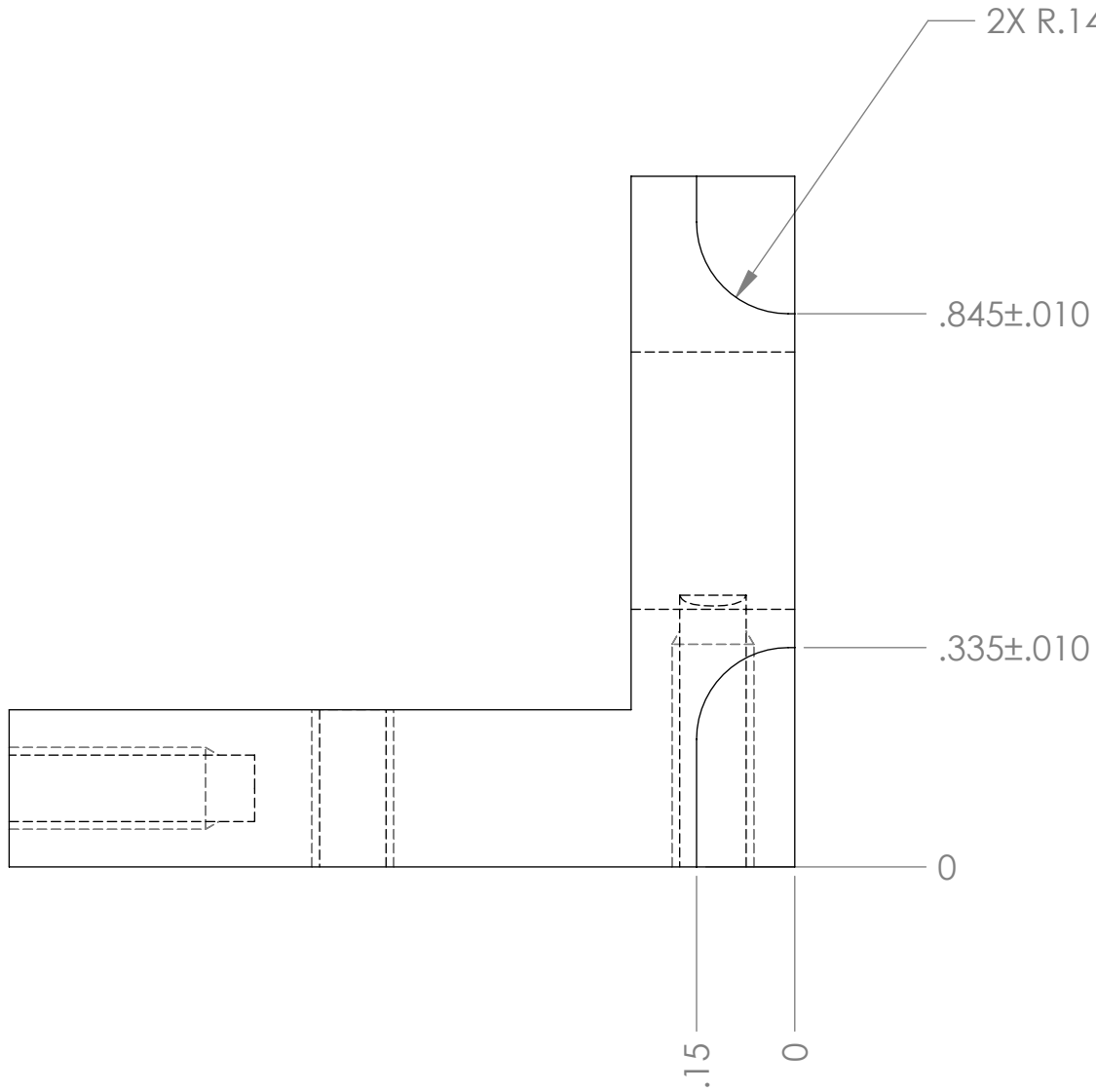
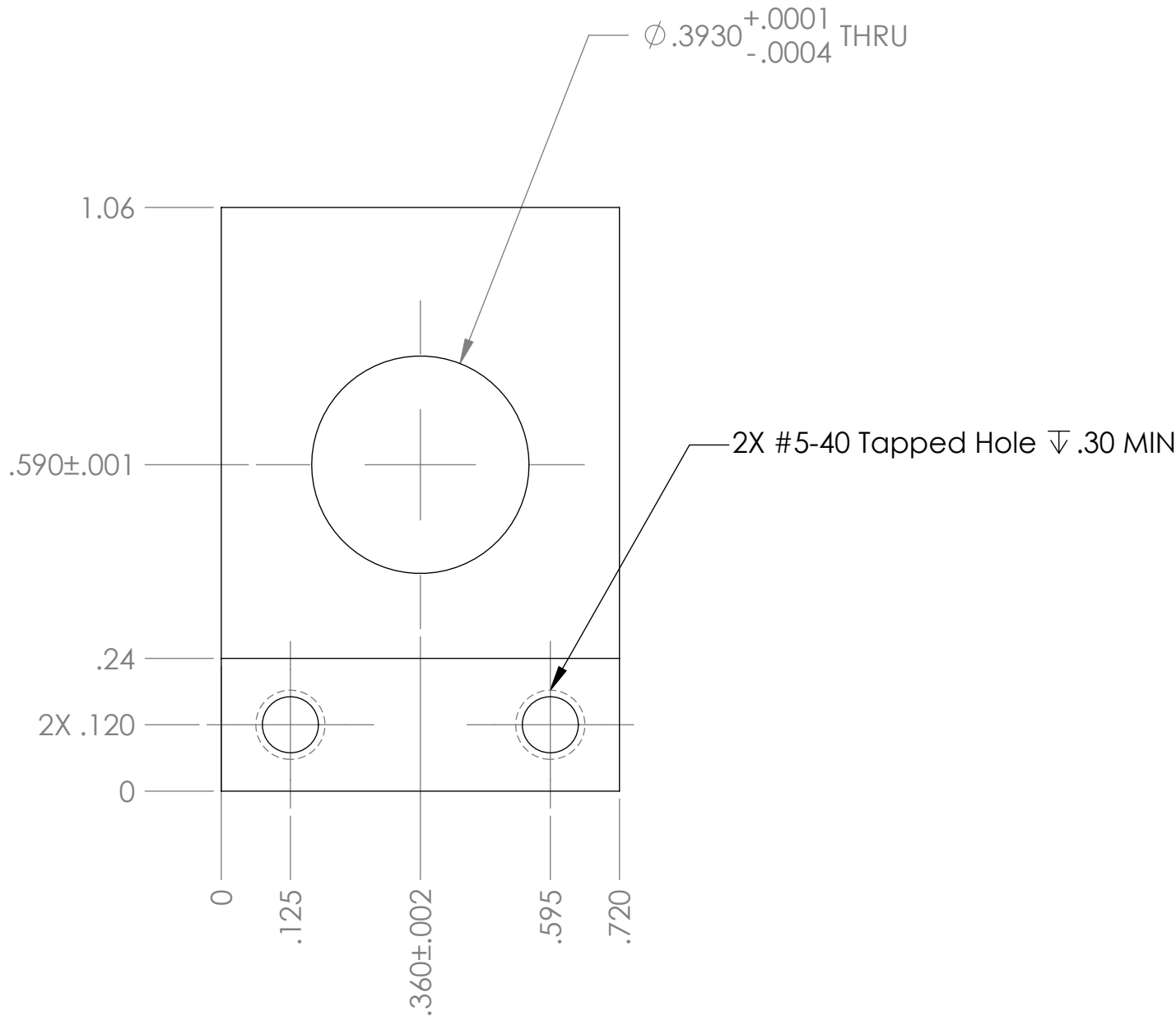
Collection and Processing Syringe Valve



|                                                     |      |                                                                                                            |                               |                          |                      |
|-----------------------------------------------------|------|------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------|----------------------|
| 1                                                   | 1    | 1002258-002                                                                                                | Syringe Motor Mount           |                          | 17-4 Stainless Steel |
| ITEM NO.                                            | QTY. | Part Number                                                                                                | DESCRIPTION                   | VENDOR                   | MATERIAL             |
| 1                                                   | 1    | 1002258-004                                                                                                | Syringe Shoulder Screw Slider |                          | 17-4 Stainless Steel |
| ITEM NO.                                            | QTY. | Part Number                                                                                                | DESCRIPTION                   | VENDOR                   | MATERIAL             |
| last updated on: Monday, April 30, 2007 11:38:11 AM |      |                                                                                                            |                               |                          |                      |
| BILL OF MATERIALS                                   |      |                                                                                                            |                               |                          |                      |
| Shop / Q.C.                                         |      | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                 |                               | APPROVALS DATE           |                      |
| Inspector                                           |      | 1 PLACE DIM $\pm 1/16$                                                                                     | 2 PLACE DIM $\pm .01$         | 3 PLACE DIM $\pm .005$   | ANGLES $\pm 1^\circ$ |
| Shop Foreman                                        |      | 1. DIMENSIONS ARE IN INCHES                                                                                |                               | ENGINEER Jason Feldman   |                      |
| Engineer                                            |      | 2. DIMENSION LIMITS HELD AFTER PLATING                                                                     |                               | 831-775-1837             |                      |
| NEXT ASSY Description                               |      | 3. REMOVE BURRS & SHARP EDGES .010 MAX                                                                     |                               | CHECKED                  |                      |
| NEXT ASSY Number                                    |      | 4. MACHINED FILLET RADII .010 TO .020                                                                      |                               | PROJECT NUMBER 701312.00 |                      |
|                                                     |      | 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                        |                               | PROJECT ESP 2G           |                      |
|                                                     |      | 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .001 PER INCH. MAX. .010 INCHES FOR SINGLE SURFACE. |                               | SIZE C                   |                      |
|                                                     |      | 7. SURFACE FINISH TO BE 63 MICRON UNLESS OTHERWISE SPECIFIED                                               |                               | DWG. NO. 1002258         |                      |
| DO NOT SCALE DRAWING                                |      | CAD FILE: X:\701312 ESP 2G\SolidWorks files\internal structure (1002209)                                   |                               | REV. B                   |                      |

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1002258-003  
SYRINGE MOTOR BRACKET



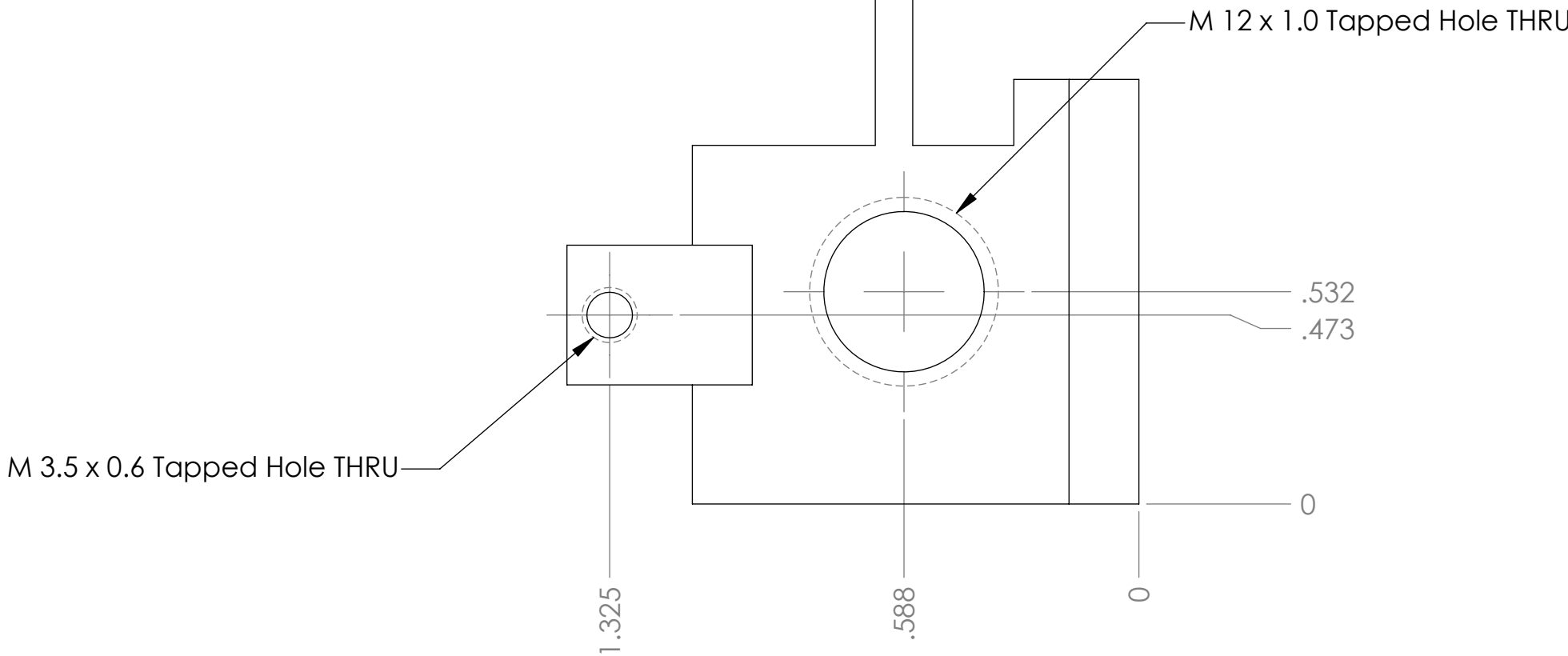
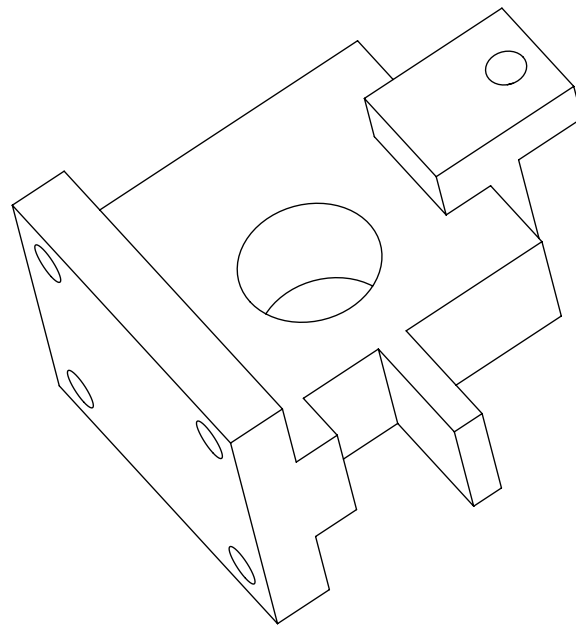
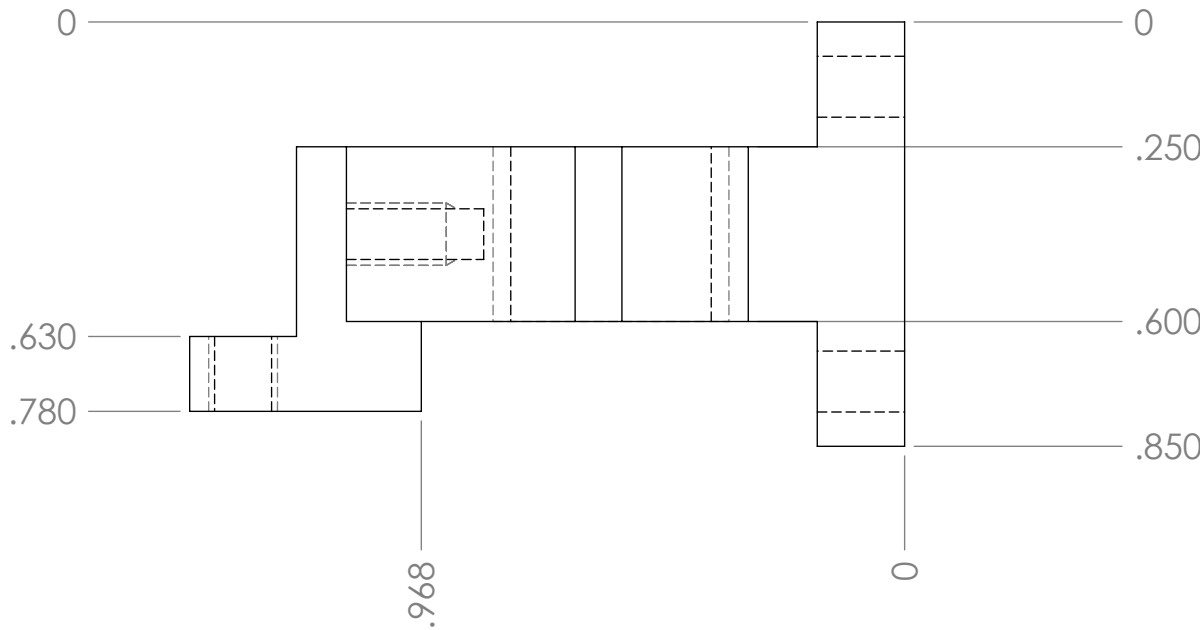
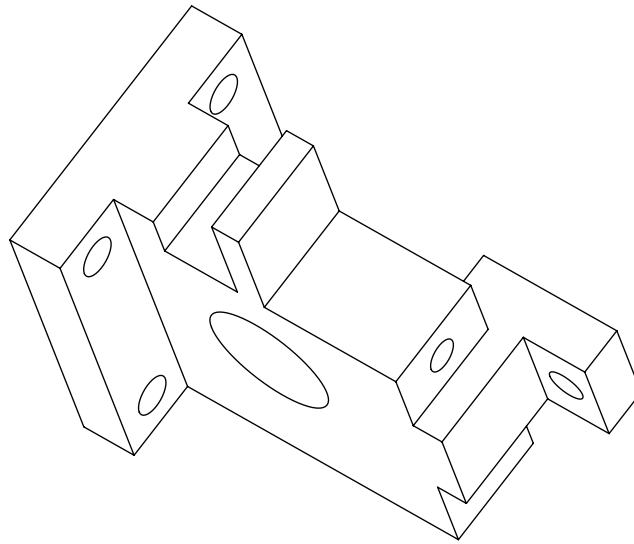
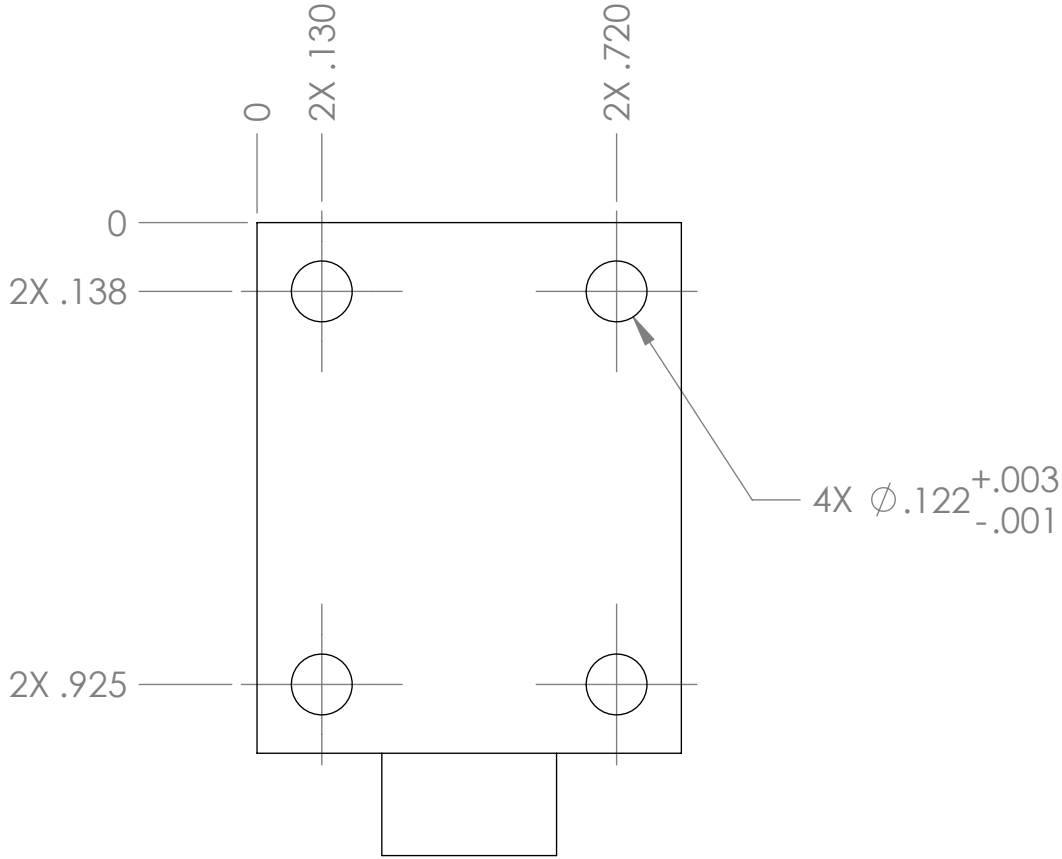
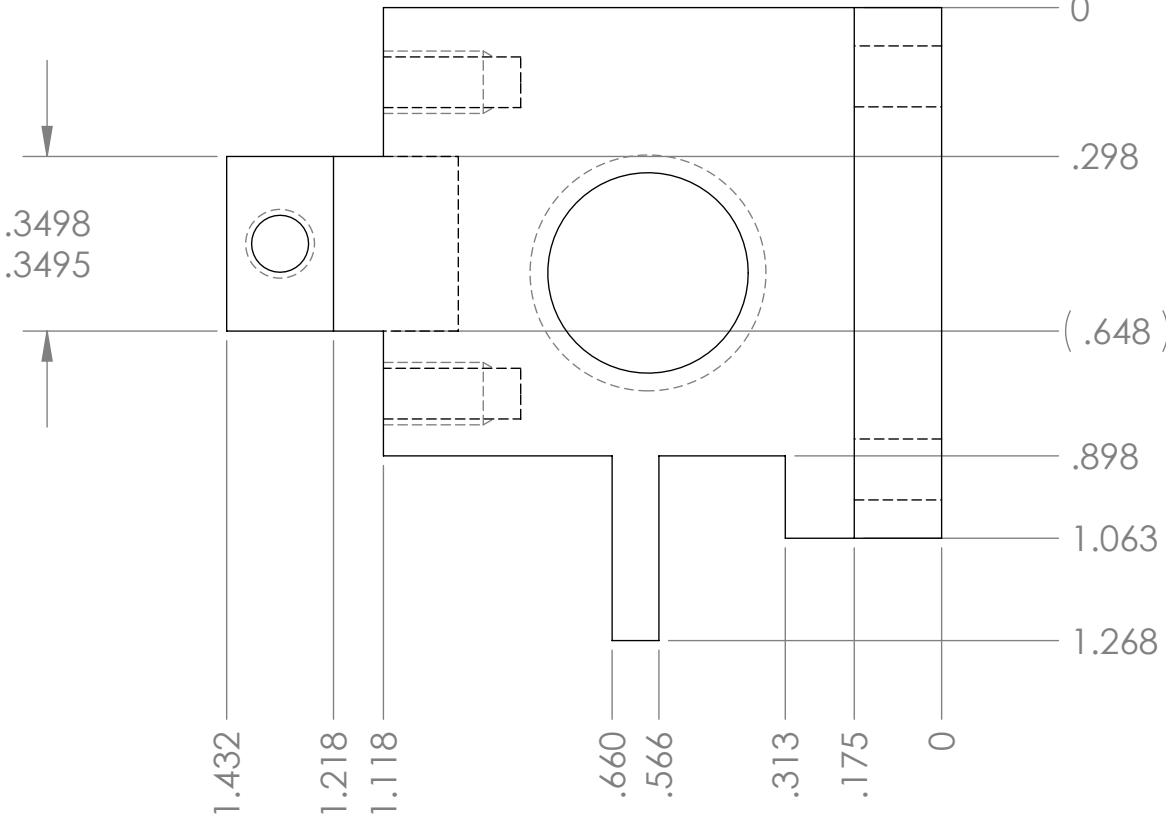
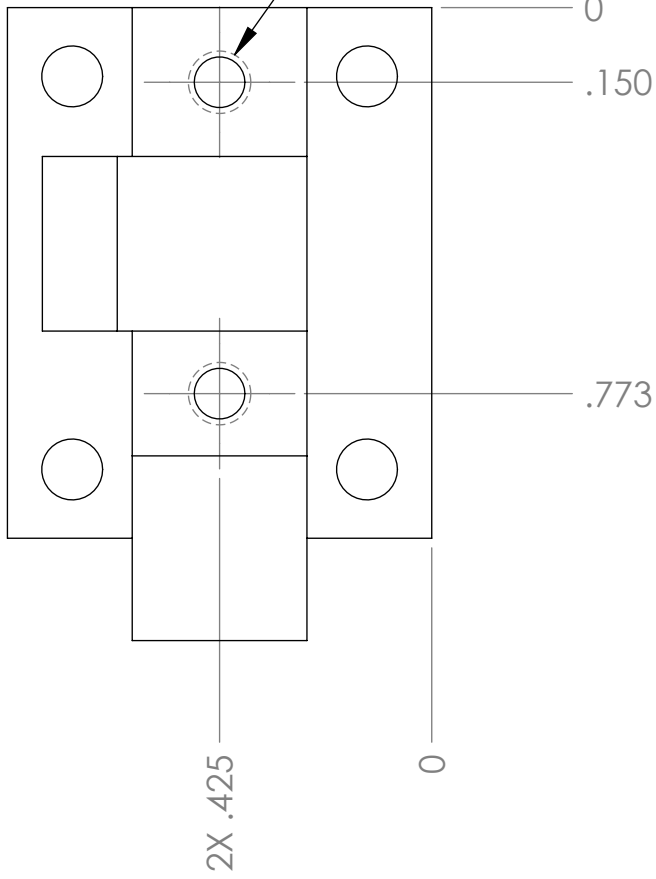
Qty: 3

|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  |                                                                          |                                                                                       |                                                                                               |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1                     | 1                | 1002258-003                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Syringe Motor Bracket |  |                                                                          | 17-4 Stainless Steel                                                                  |                                                                                               |
| ITEM NO.              | QTY.             | Part Number                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DESCRIPTION           |  | VENDOR                                                                   | MATERIAL                                                                              |                                                                                               |
| BILL OF MATERIALS     |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | last updated on:<br>Monday, April 30, 2007 11:38:11 AM                   |                                                                                       |                                                                                               |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  |                                                                          |                                                                                       |                                                                                               |
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED<br>TOLERANCES ARE:<br><br>1. DIMENSIONS ARE IN INCHES<br>2. DIMENSION LIMITS HELD AFTER PLATING<br>3. REMOVE BURRS & SHARP EDGES .010 MAX<br>4. MACHINED FILLET RADII .010 TO .020<br>5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005<br>6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .001 PER INCH, MAX .010 INCHES FOR SINGLE SURFACE.<br>7. SURFACE FINISH TO BE 63 MICRON UNLESS OTHERWISE SPECIFIED |                       |  | APPROVALS                                                                |                                                                                       | DATE                                                                                          |
| Inspector             |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | ENGINEER<br>Jason Feldman<br>831-775-1837<br>CHECKED                     |                                                                                       | Monterey Bay Aquarium Research Institute<br><br>7700 Sandholdt Road<br>Moss Landing, CA 95039 |
| Shop Foreman          |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  |                                                                          |  |                                                                                               |
| Engineer              |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  |                                                                          |                                                                                       |                                                                                               |
| NEXT ASSY Description | NEXT ASSY Number |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  |                                                                          |                                                                                       |                                                                                               |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  |                                                                          |                                                                                       |                                                                                               |
| DO NOT SCALE DRAWING  |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | PROJECT NUMBER<br>701312.00                                              |                                                                                       |                                                                                               |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | SIZE<br>ESP 2G                                                           |                                                                                       |                                                                                               |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | DWG. NO.<br>C 1002258                                                    |                                                                                       |                                                                                               |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | REV.<br>A                                                                |                                                                                       |                                                                                               |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | CAD FILE: X:\701312 ESP 2G\SolidWorks files\internal structure (1002209) |                                                                                       |                                                                                               |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |  | SHEET 5 OF 11                                                            |                                                                                       |                                                                                               |

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED

1002258-005  
SYRINGE CAR

2X #5-40 Tapped Hole  $\nabla$  .20



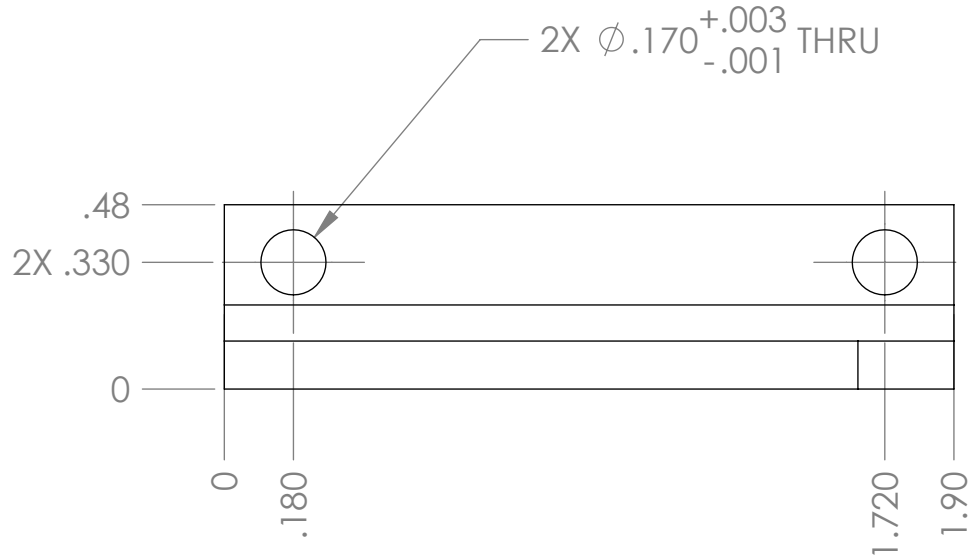
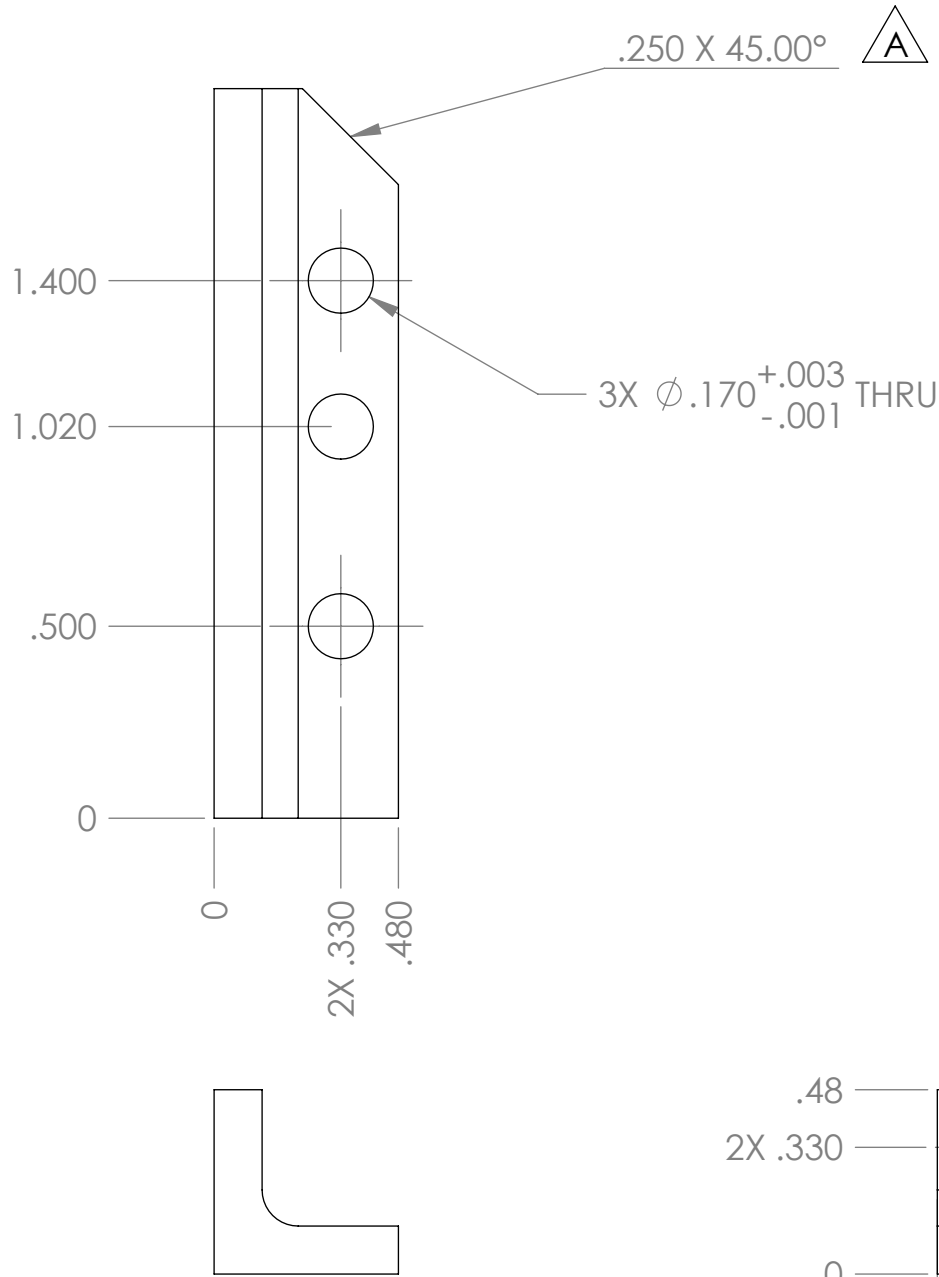
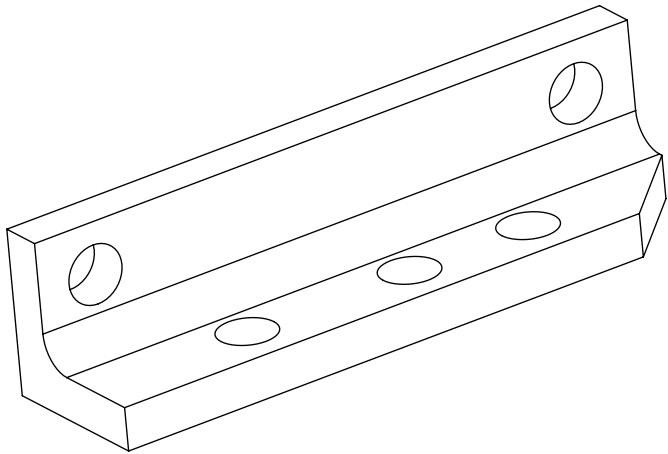
3 ea.

|                       |                  |                                                                                                                                                                                                                                 |                                                     |                                           |                      |
|-----------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------|----------------------|
| 1                     | 1                | 1002258-005                                                                                                                                                                                                                     | Syringe Arm                                         |                                           | 17-4 Stainless Steel |
| ITEM NO.              | QTY.             | Part Number                                                                                                                                                                                                                     | DESCRIPTION                                         | VENDOR                                    | MATERIAL             |
|                       |                  |                                                                                                                                                                                                                                 | last updated on: Monday, April 30, 2007 11:38:11 AM |                                           |                      |
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED<br>TOLERANCES ARE:                                                                                                                                                                                   |                                                     | APPROVALS DATE                            |                      |
| Inspector             |                  | 1 PLACE DIM<br>$\pm$ 1/16                                                                                                                                                                                                       | 2 PLACE DIM<br>$\pm$ .01                            | 3 PLACE DIM<br>$\pm$ .005                 | ANGLES<br>$\pm$ 1°   |
| Shop Foreman          |                  | 1. DIMENSIONS ARE IN INCHES<br>2. DIMENSION LIMITS HELD AFTER PLATING<br>3. REMOVE BURRS & SHARP EDGES .010 MAX<br>4. MACHINED FILLET RADII .010 TO .020<br>5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 |                                                     | ENGINEER<br>Jason Feldman<br>831-775-1837 |                      |
| Engineer              |                  | 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .001 PER INCH. MAX .010 INCHES FOR SINGLE SURFACE.<br>7. SURFACE FINISH TO BE 63 MICRON UNLESS OTHERWISE SPECIFIED                                                       |                                                     | CHECKED                                   |                      |
| NEXT ASSY Description | NEXT ASSY Number | PROJECT NUMBER<br>701312.00                                                                                                                                                                                                     |                                                     | PROJECT<br>ESP 2G                         |                      |
| DO NOT SCALE DRAWING  |                  | PROJECT<br>ESP 2G                                                                                                                                                                                                               |                                                     | SIZE<br>C                                 | DWG. NO.<br>1002258  |
|                       |                  | CAD FILE: X:\701312 ESP 2G\SolidWorks files\internal structure (1002209)                                                                                                                                                        |                                                     | REV.<br>A                                 |                      |

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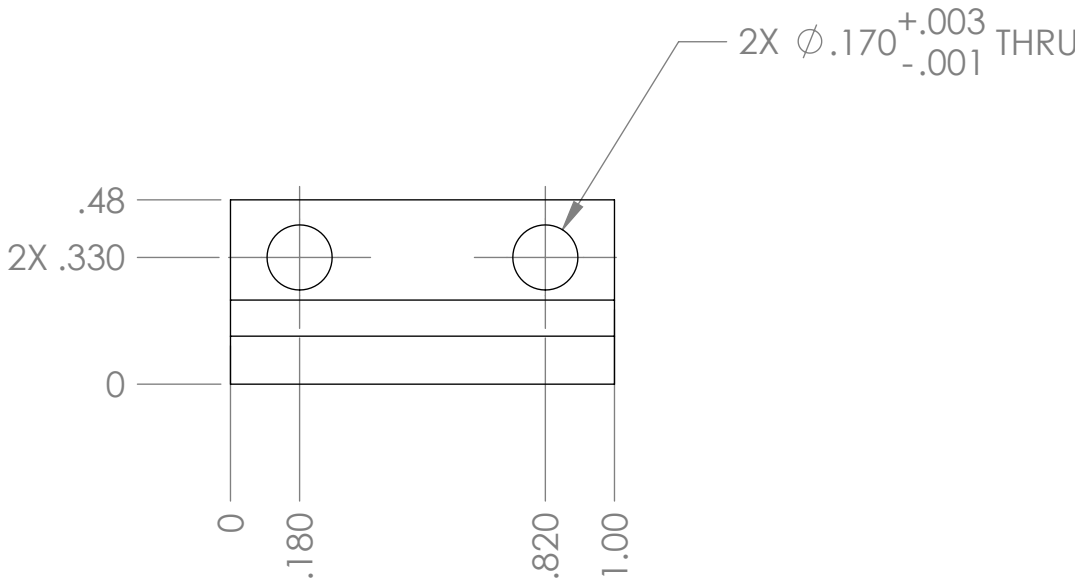
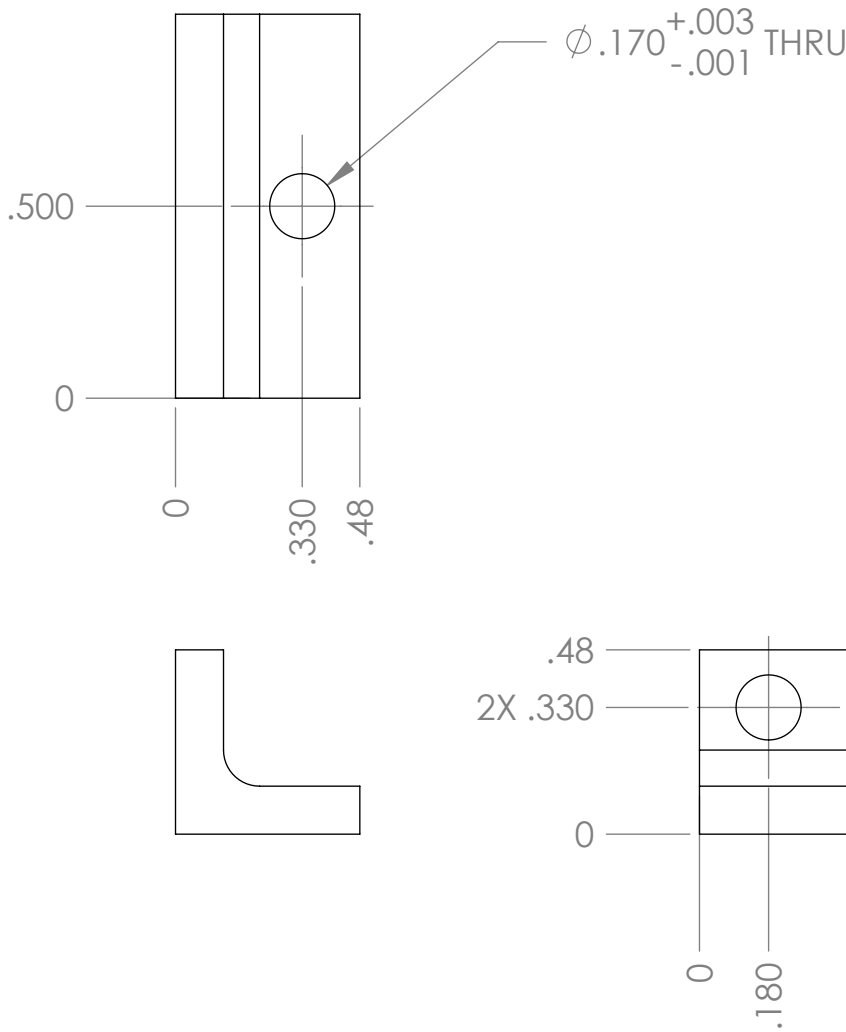
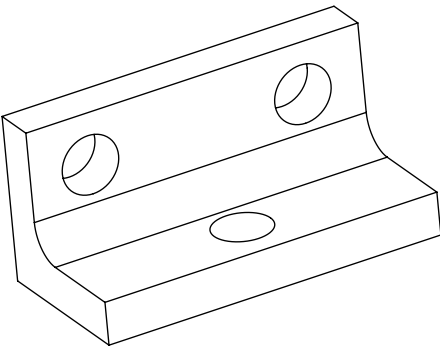
1002258-007  
SYRINGE MOUNTING BRACKET - LONG

Mat'l: 6061-T6 Aluminum  
Qty: 3



1002258-008  
SYRINGE MOUNTING BRACKET - SHORT

Mat'l: 6061-T6  
Qty: 3



|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                              |                               |                                                                                        |                                                                                           |
|-----------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 1                     | 1                | 1002258-007                                                                                                                                                                                                                                                                                                                                                                                                  | Syringe Mounting Bracket_Long |                                                                                        | Aluminum extrusion                                                                        |
| ITEM NO.              | QTY.             | Part Number                                                                                                                                                                                                                                                                                                                                                                                                  | DESCRIPTION                   | VENDOR                                                                                 | MATERIAL                                                                                  |
| BILL OF MATERIALS     |                  |                                                                                                                                                                                                                                                                                                                                                                                                              |                               | last updated on: Monday, April 30, 2007 11:38:11 AM                                    |                                                                                           |
| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                                                                                                                                                                                                                                                                                                                   |                               | APPROVALS DATE                                                                         |                                                                                           |
| Inspector             |                  | 1 PLACE DIM ±1/16                                                                                                                                                                                                                                                                                                                                                                                            | 2 PLACE DIM ±.01              | ENGINEER Jason Feldman 831-775-1837                                                    | Monterey Bay Aquarium Research Institute<br>7700 Sandholdt Road<br>Moss Landing, CA 95039 |
| Shop Foreman          |                  | 3 PLACE DIM ±.005                                                                                                                                                                                                                                                                                                                                                                                            | ANGLES ±1°                    | CHECKED                                                                                |                                                                                           |
| Engineer              |                  | 1. DIMENSIONS ARE IN INCHES<br>2. DIMENSION LIMITS HELD AFTER PLATING<br>3. REMOVE BURRS & SHARP EDGES .010 MAX<br>4. MACHINED FILLET RADII .010 TO .020<br>5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005<br>6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .001 PER INCH. MAX .010 INCHES FOR SINGLE SURFACE.<br>7. SURFACE FINISH TO BE 63 MICRON UNLESS OTHERWISE SPECIFIED |                               | PROJECT NUMBER 701312.00                                                               | syringe                                                                                   |
| NEXT ASSY Description | NEXT ASSY Number |                                                                                                                                                                                                                                                                                                                                                                                                              |                               | PROJECT ESP 2G                                                                         |                                                                                           |
| DO NOT SCALE DRAWING  |                  |                                                                                                                                                                                                                                                                                                                                                                                                              |                               | SIZE C                                                                                 | DWG. NO. 1002258                                                                          |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                              |                               | REV. A                                                                                 |                                                                                           |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                                                                              |                               | CAD FILE: X:\701312 ESP 2G\SolidWorks files\internal structure (1002209) SHEET 7 OF 11 |                                                                                           |

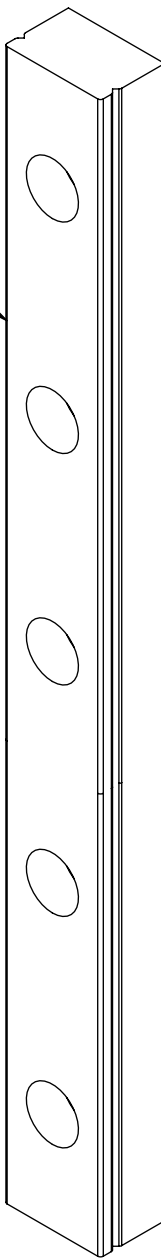
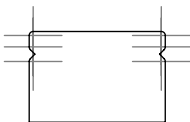
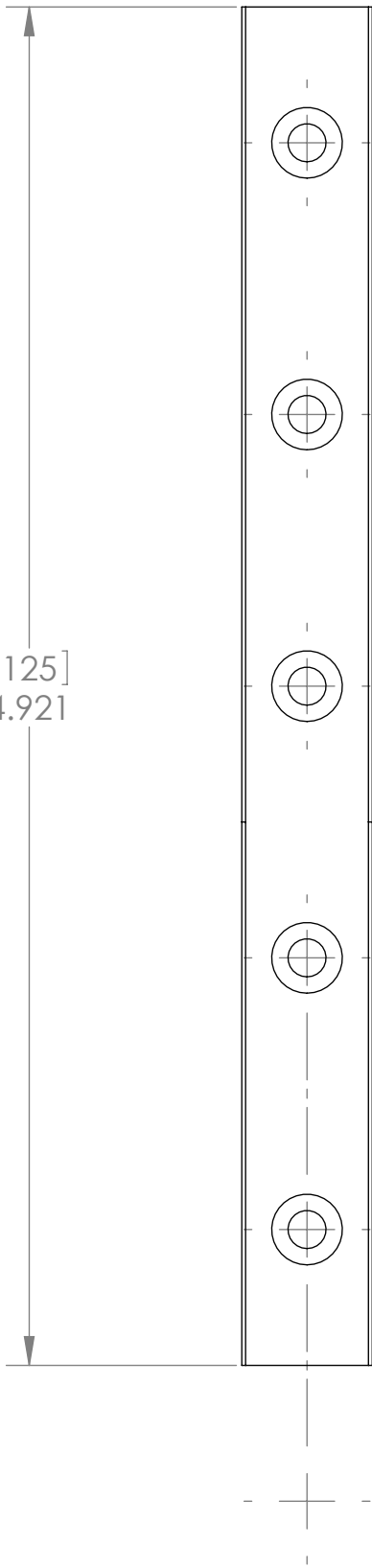
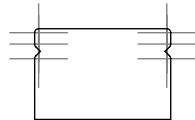
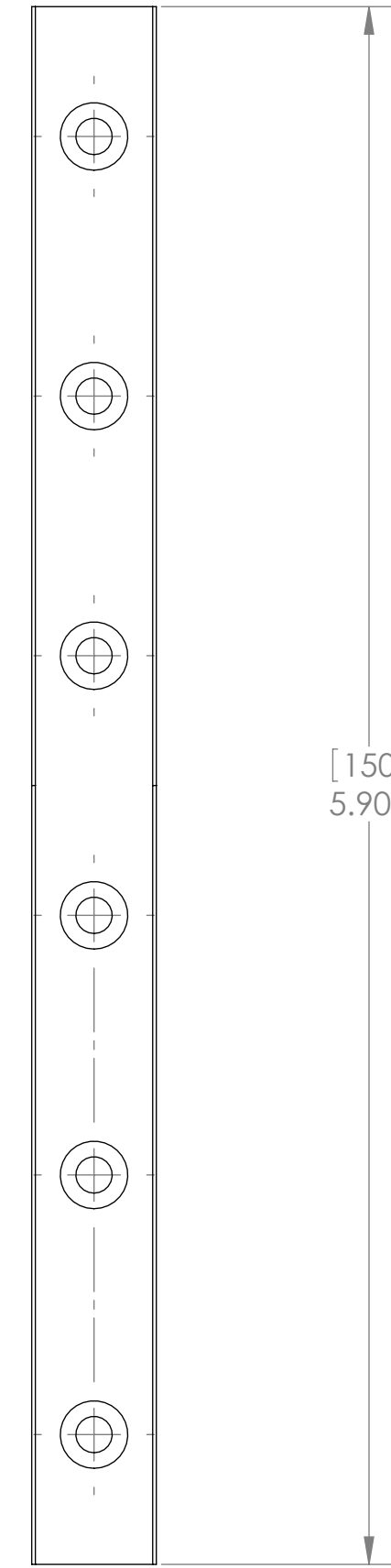
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| REV. |  | DESCRIPTION |  | REVISIONS |  | DATE    | APPROVED |
|------|--|-------------|--|-----------|--|---------|----------|
|      |  |             |  |           |  | X/XX/XX | J.E.     |
|      |  |             |  |           |  |         |          |
|      |  |             |  |           |  |         |          |

STOCK PART

MOD. PART

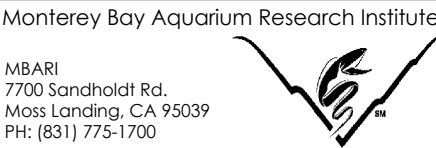
1002258-009



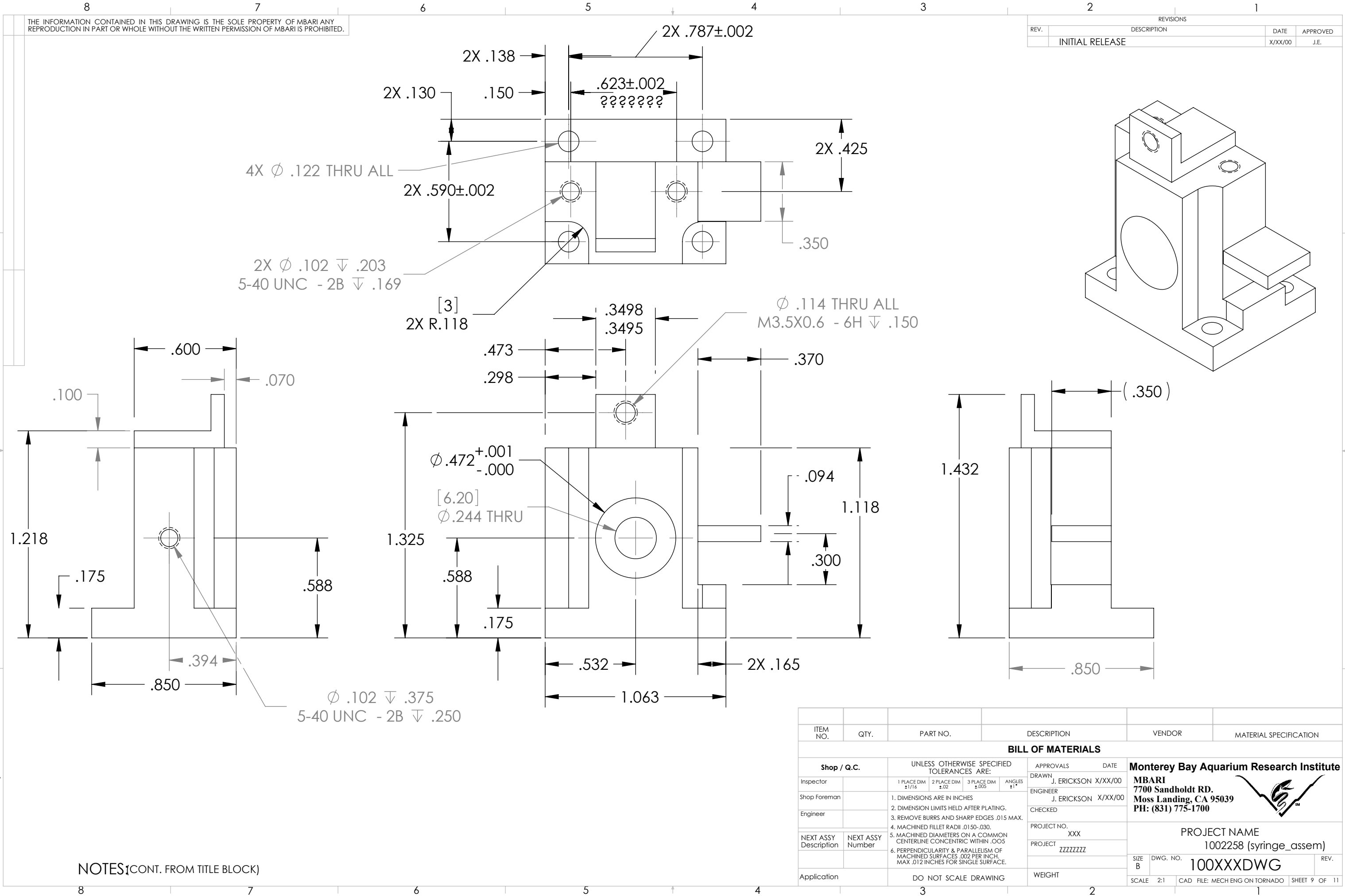
## PART MODIFICATION DRAWING

NOTES: (CONT. FROM TITLE BLOCK)

|                       |      |                                                                                                                                                                                   |                      |                                  |                 |
|-----------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------|-----------------|
| 1                     | 1    | LWL12C1R150BPS2                                                                                                                                                                   | Linear Bearing Track | I/O International, Inc.          | Stainless Steel |
| ITEM NO.              | QTY. | Part Number                                                                                                                                                                       | DESCRIPTION          | Vendor                           | MATERIAL        |
| BILL OF MATERIALS     |      |                                                                                                                                                                                   |                      |                                  |                 |
| Shop / Q.C.           |      | UNLESS OTHERWISE SPECIFIED                                                                                                                                                        |                      | APPROVALS                        |                 |
| Inspector             |      | TOLERANCES ARE:                                                                                                                                                                   |                      | DRAWN                            |                 |
| Shop Foreman          |      | 1. PLACE DIM. ±.015 2. SPACE DIM. ±.005 3. PLACE DIM. ±.005 4. ANGLE ±.1°                                                                                                         |                      | J. ERICKSON 10/19/06             |                 |
| Engineer              |      | 1. DIMENSIONS ARE IN INCHES.<br>2. DIMENSION LINES HELD AFTER PLATING.<br>3. REMOVE BURRS AND SHARP EDGES .015 MAX.<br>4. MACHINED FILLET RADIUS .015-.030.                       |                      | ENGINEER<br>J. ERICKSON 10/19/06 |                 |
| NEXT ASSY Description |      | 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. |                      | CHECKED                          |                 |
| APPLICATION           |      | DO NOT SCALE DRAWING                                                                                                                                                              |                      | PROJECT No. 703506               |                 |
|                       |      |                                                                                                                                                                                   |                      | PROJECT Name ESP                 |                 |
|                       |      |                                                                                                                                                                                   |                      | WEIGHT                           |                 |
|                       |      |                                                                                                                                                                                   |                      | SIZE C                           |                 |
|                       |      |                                                                                                                                                                                   |                      | SCALE                            |                 |
|                       |      |                                                                                                                                                                                   |                      | CAD FILE: MECH ENG ON TORNADO    |                 |
|                       |      |                                                                                                                                                                                   |                      | SHEET 1 OF 1                     |                 |

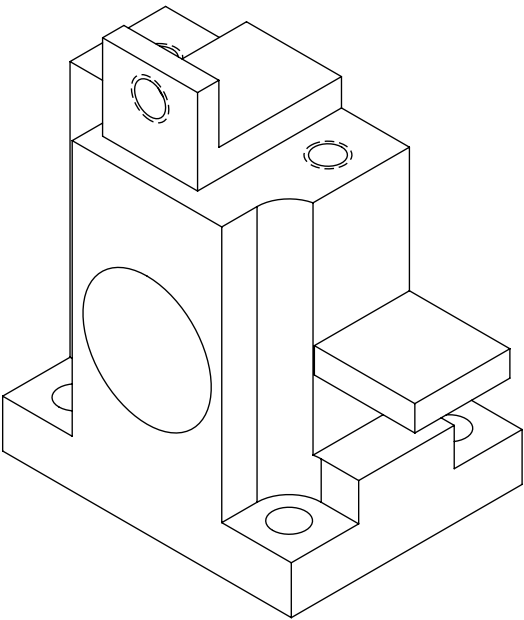


DEEP ESP  
1002258 (syringe\_assem)\_LINEAR TRACK  
1002258.DWG



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| REVISIONS |                 |         |          |
|-----------|-----------------|---------|----------|
| REV.      | DESCRIPTION     | DATE    | APPROVED |
|           | INITIAL RELEASE | X/XX/00 | J.E.     |



NOTES1(CONT. FROM TITLE BLOCK)

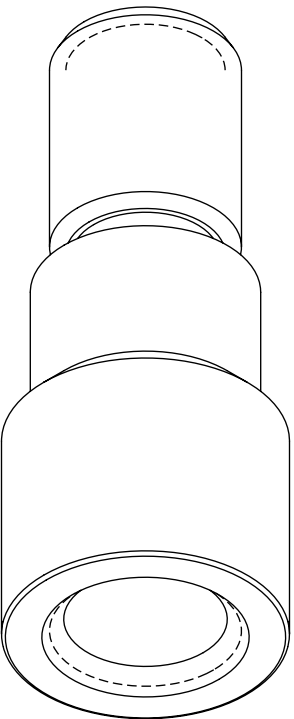
| ITEM NO.              | QTY. | PART NO.                                                                                                  | DESCRIPTION      | VENDOR      | MATERIAL SPECIFICATION |
|-----------------------|------|-----------------------------------------------------------------------------------------------------------|------------------|-------------|------------------------|
| BILL OF MATERIALS     |      |                                                                                                           |                  |             |                        |
| Shop / Q.C.           |      | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                |                  | APPROVALS   | DATE                   |
| Inspector             |      | 1 PLACE DIM ±1/16                                                                                         | 2 PLACE DIM ±.02 | DRAWN       | J. ERICKSON X/XX/00    |
| Shop Foreman          |      | 3 PLACE DIM ±.005                                                                                         | ANGLES ±1°       | ENGINEER    | J. ERICKSON X/XX/00    |
| Engineer              |      | 1. DIMENSIONS ARE IN INCHES                                                                               |                  | CHECKED     |                        |
| NEXT ASSY Description |      | 2. DIMENSION LIMITS HELD AFTER PLATING.                                                                   |                  | PROJECT NO. | XXX                    |
| NEXT ASSY Number      |      | 3. REMOVE BURRS AND SHARP EDGES .015 MAX.                                                                 |                  | PROJECT     | ZZZZZZZZ               |
| Application           |      | 4. MACHINED FILLET RADII .0150-.030.                                                                      |                  | WEIGHT      |                        |
|                       |      | 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005                                       |                  | SCALE       | 2:1                    |
|                       |      | 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE. |                  | CAD FILE:   | MECH ENG ON TORNADO    |
|                       |      | DO NOT SCALE DRAWING                                                                                      |                  | SHEET       | 9 OF 11                |

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

PROJECT NAME  
1002258 (syringe\_assem)

SIZE B DWG. NO. 100XXWDWG REV.

| REVISIONS |                 |         |          |
|-----------|-----------------|---------|----------|
| REV.      | DESCRIPTION     | DATE    | APPROVED |
|           | INITIAL RELEASE | X/XX/00 | J.E.     |



|          |      |             |                     |  |        |          |
|----------|------|-------------|---------------------|--|--------|----------|
|          | 1    | 1002258-010 | Kloehn 25ml adaptor |  |        | PEEK     |
| ITEM NO. | QTY. | Part Number | DESCRIPTION         |  | VENDOR | MATERIAL |

| 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.                     |                     |                      |                |                                                                                                                                                                                                                                                      |
| Engineer              |                  |                                                                                                                                                                                 |                     |                      |                |                                                                                                                                                                                                                                                      |
| NEXT ASSY Description | NEXT ASSY Number | 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.                                                                                                                                                                     |                     | 703506               |                | <b>DEEP ESP_SYRINGE ASSEMBLY</b><br><b>1002258-010 25ml Syringe Adaptor</b>                                                                                                                                                                          |
|                       |                  | PROJECT                                                                                                                                                                         |                     | ESP                  |                |                                                                                                                                                                                                                                                      |
|                       |                  | WEIGHT                                                                                                                                                                          |                     |                      |                |                                                                                                                                                                                                                                                      |
| Application           |                  | DO NOT SCALE DRAWING                                                                                                                                                            |                     | SCALE 4:1            |                | DWG. NO. <b>1002258.DWG</b><br>CAD FILE: MECH ENG ON TORNADO<br>SHEET 10 OF 11                                                                                                                                                                       |

NOTES (CONT. FROM TITLE BLOCK)

