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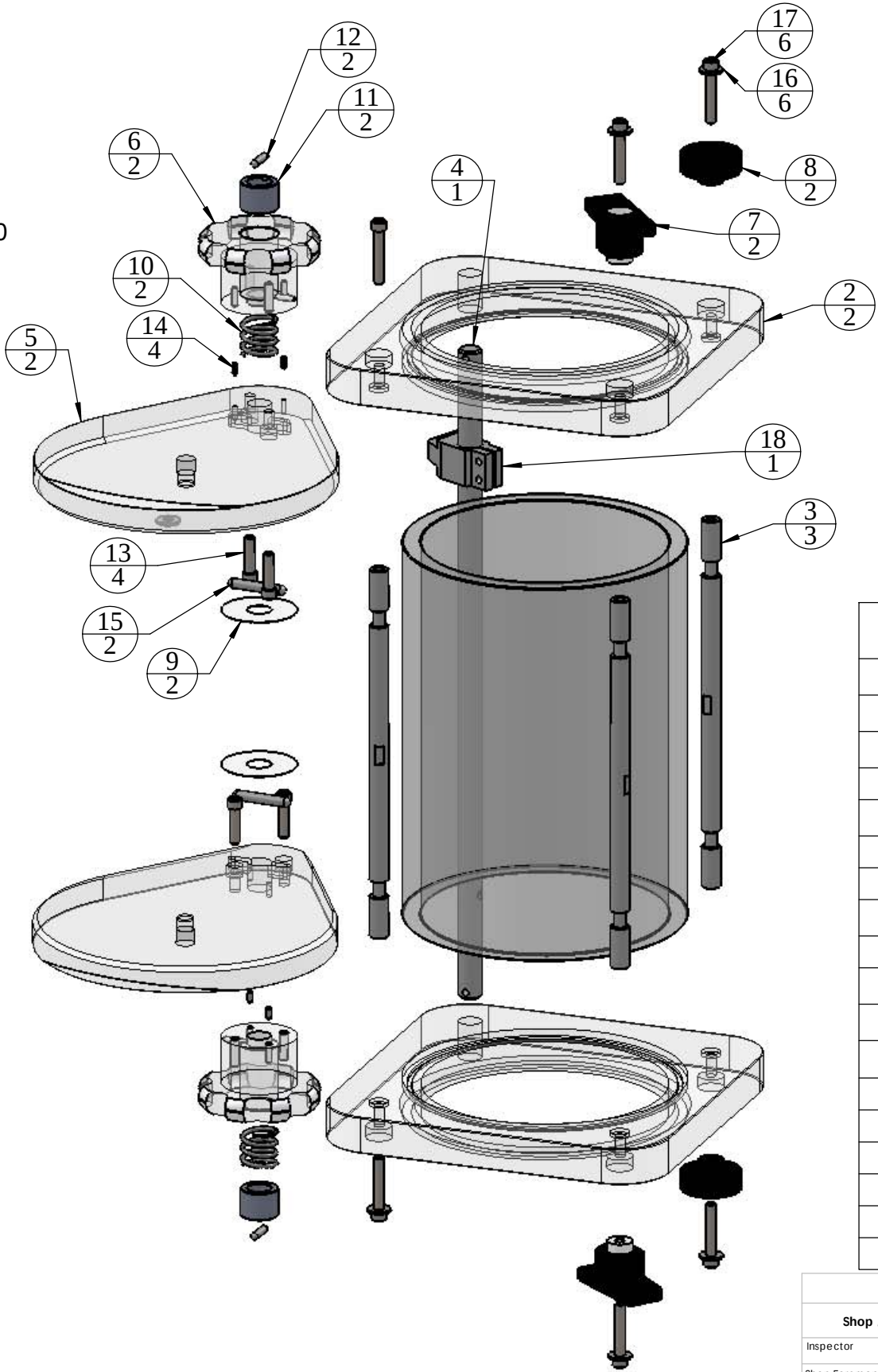
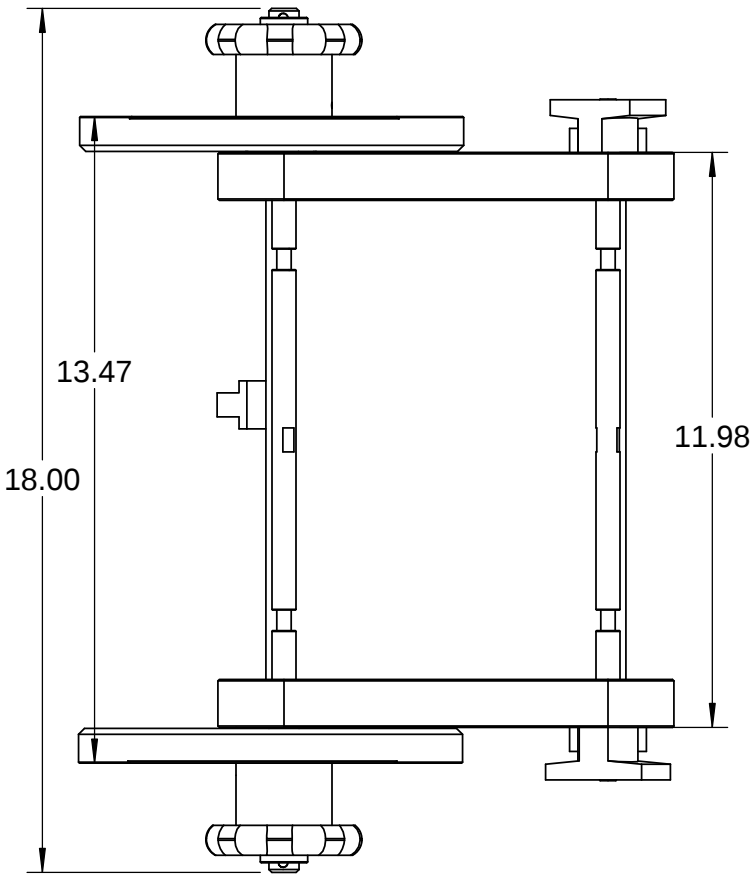
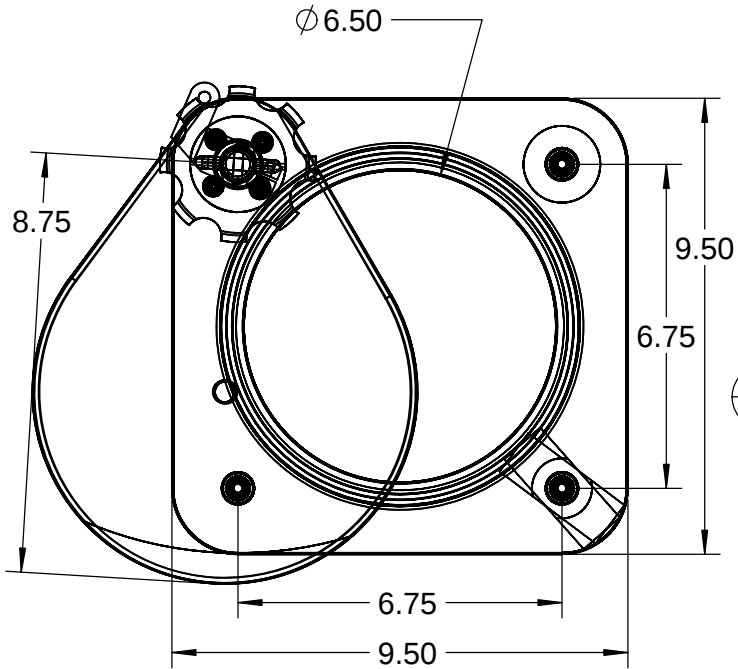
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	3/13/2013	

D

C

B

A



D

C

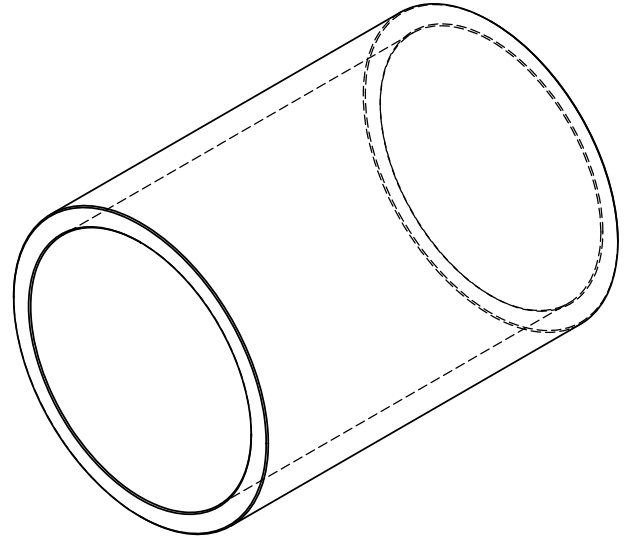
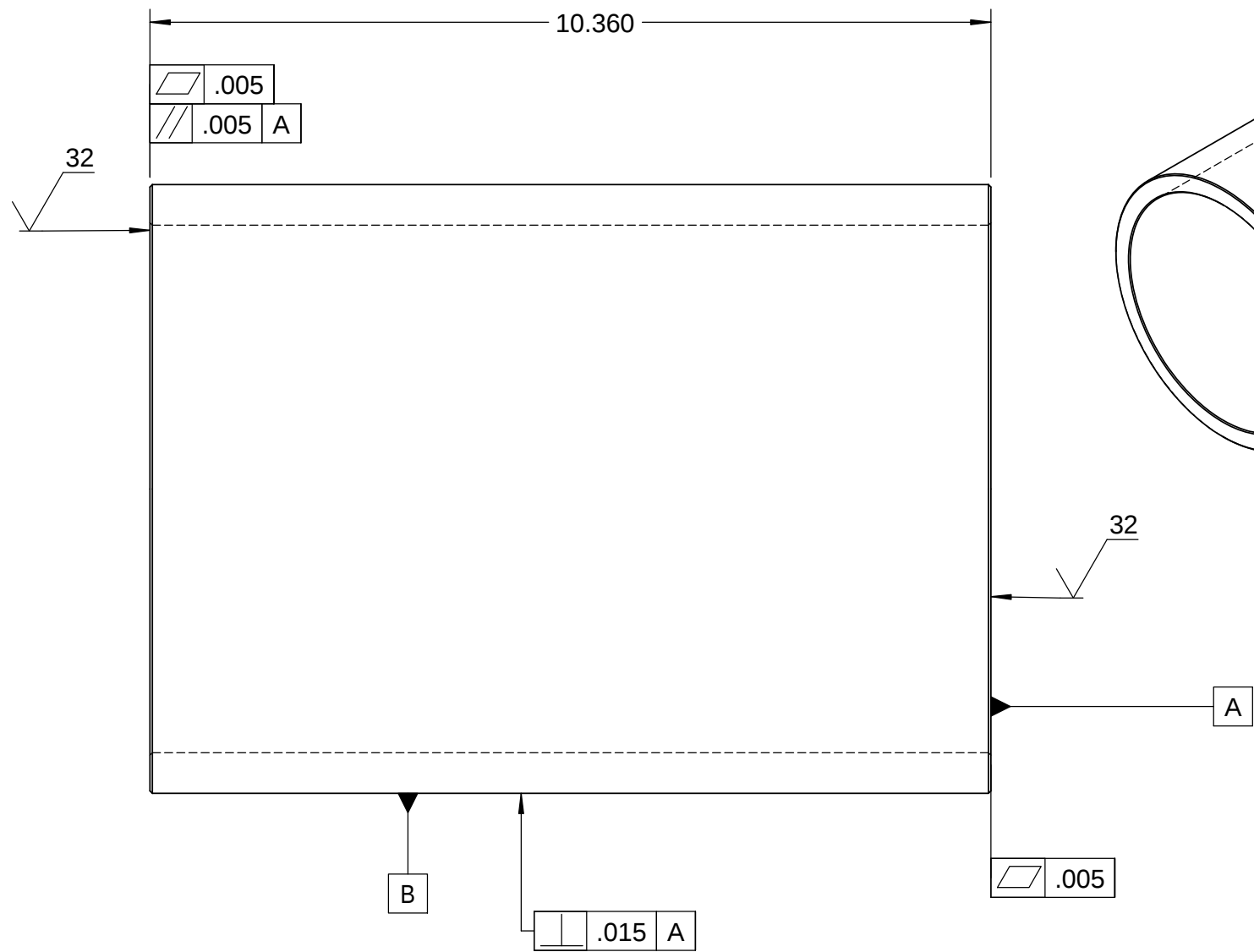
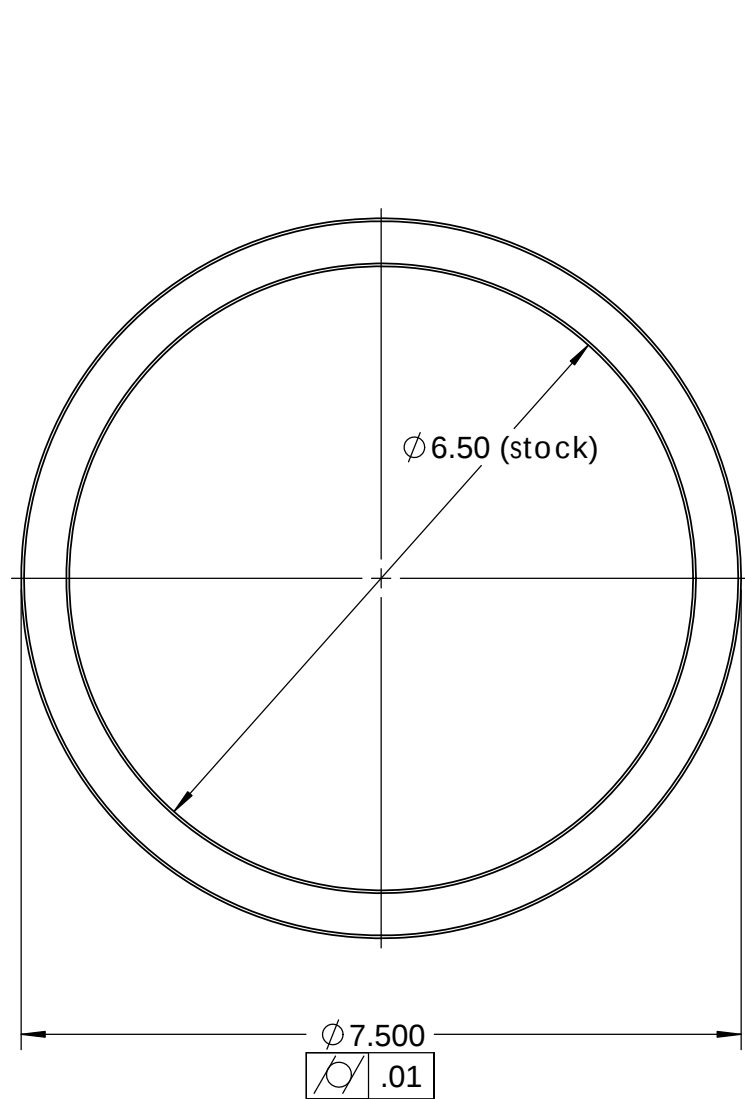
B

A

ITEM NO.	PART NUMBER	DRAWING NUMBER	QTY.
1	D sampler tube	10020950.DWG	1
2	end plate	10020955.DWG	2
3	assembly rod	10020461.DWG	3
4	handle rod	10020856.DWG	1
5	d sampler door	10020949.DWG	2
6	PEEK door Knob	10020953.DWG	2
7	t lid lock	10020959.DWG	2
8	door stop	10020954.DWG	2
9	knob thrust washer	10020957.DWG	2
10	Spring		2
11	spring retainer	10020958.DWG	2
12	Spring.Rtnr.Pin	10020462.DWG	2
13	HX-SHCS 0.25-20x1x1-N		4
14	SPS 0.125x0.313		4
15	Padl.Pin	10020462.DWG	2
16	Preferred Narrow FW 0.25		6
17	HX-SHCS 0.25-20x1.5x1-N		6
18	door bell crank	10020952.DWG	1

BILL OF MATERIALS			
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	APPROVALS DATE
Inspector		1 PLACE DIM ±.1/16 2 PLACE DIM ±.02 3 PLACE DIM ±.005 ANGLES ±1°	DRAWN C OKUDA 3/13/1013
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 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.	ENGINEER C OKUDA 3/13/2013
Engineer			CHECKED
NEXT ASSY Description	NEXT ASSY Number		PROJECT NO. 300062
			PROJECT doc rickets
Application	DO NOT SCALE DRAWING	WEIGHT	
			Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700
			MBARI Detritus Sampler
		SIZE B DWG. NO. 10020951DWG	REV.
		SCALE 1:8 CAD FILE: MECH ENG ON TORNADO	SHEET 1 OF 1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	3/5/2013	



BILL OF MATERIALS															
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		Monterey Bay Aquarium Research Institute					
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	C OKUDA	3/5/2013							
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADIi .0150-.030.				ENGINEER	C OKUDA	3/5/2013	MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700						
Engineer						CHECKED									
NEXT ASSY Description	NEXT ASSY Number					5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005				PROJECT NO.		300062			
		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.				PROJECT		DOC RICKETS							
Application		DO NOT SCALE DRAWING				WEIGHT									
						SIZE B		DWG. NO.		REV.					
								10020950DWG							
						SCALE 1:1		CAD FILE: MECH ENG ON TORNADO		SHEET 1 OF 1					

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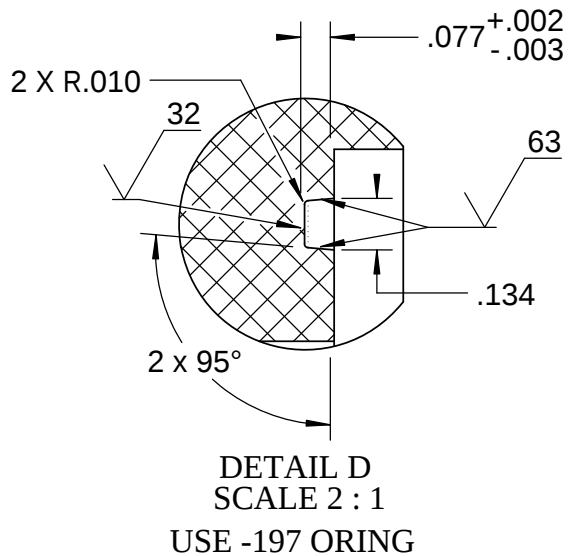
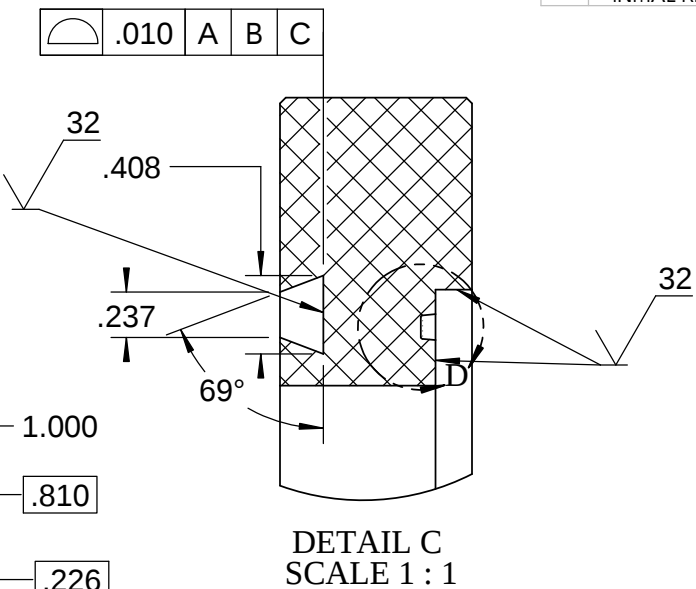
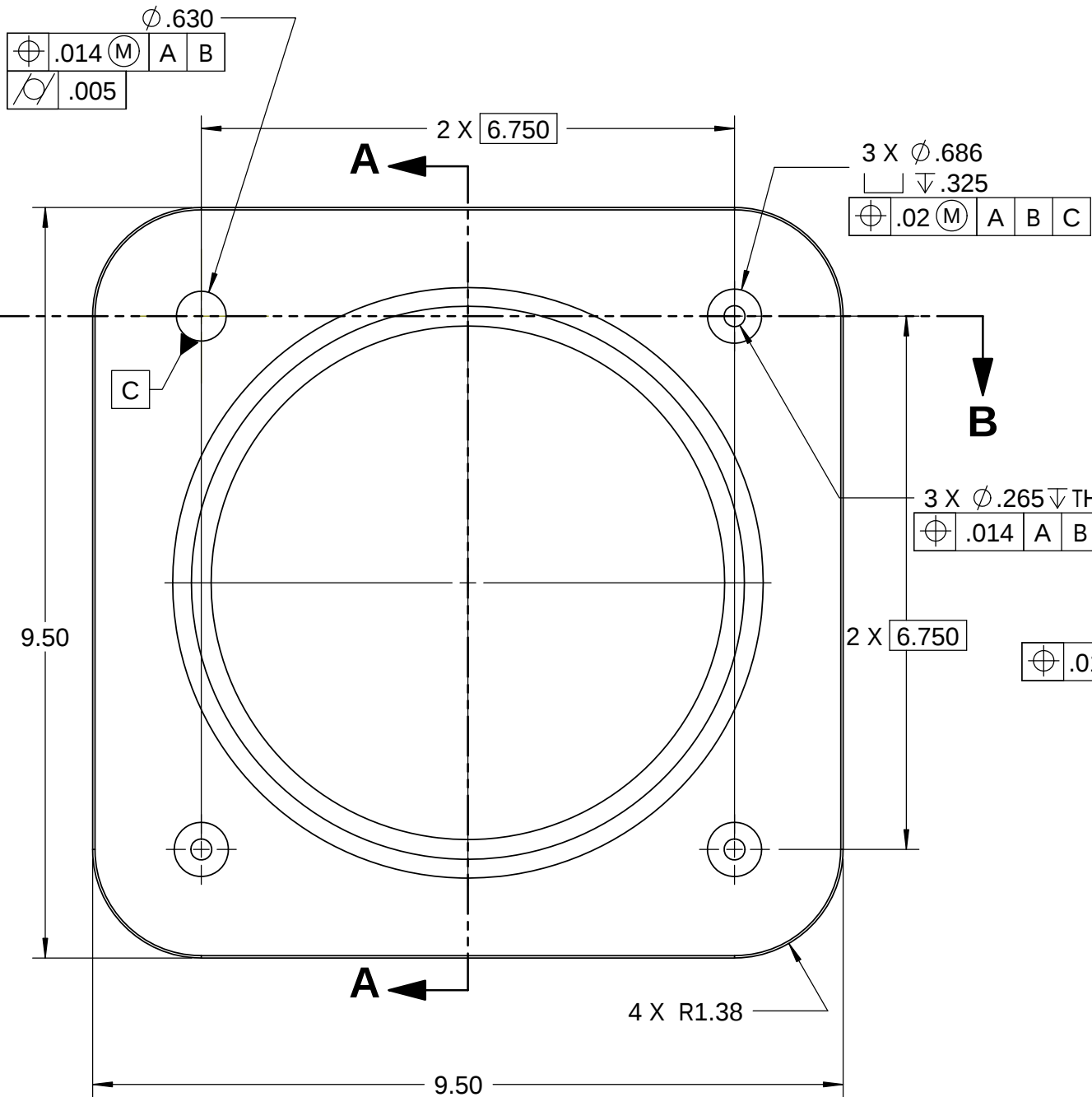
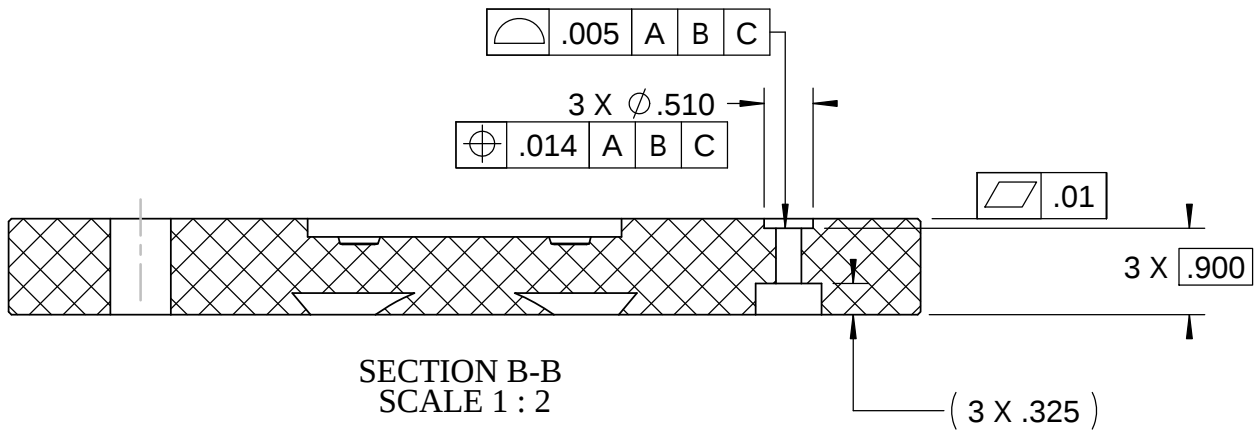
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	3/6/2013	

D

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B

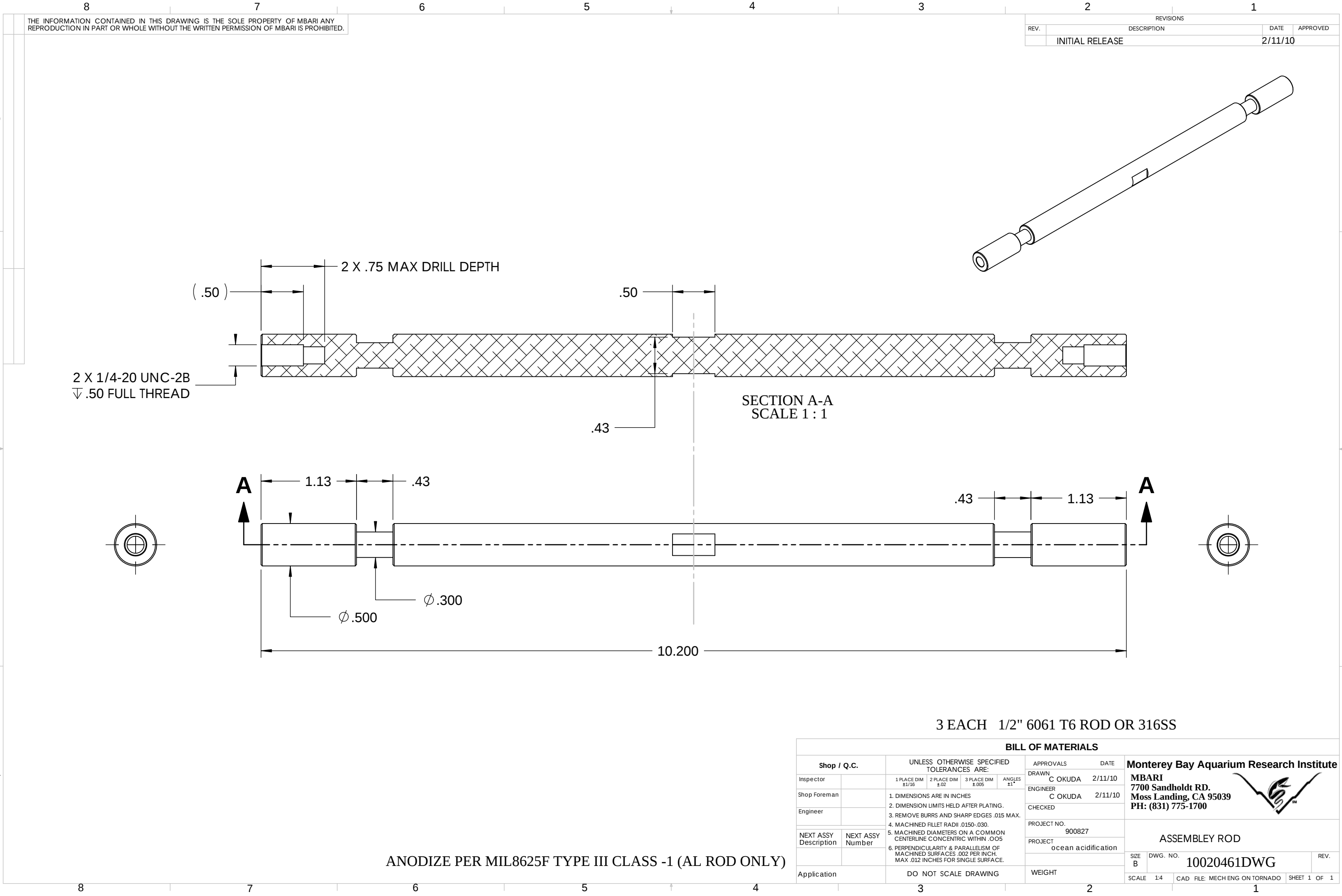
A



16 EACH ACRYLIC, CLEAR

SECTION A-A
SCALE 1 : 2

BILL OF MATERIALS			
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	
Inspector		1 PLACE DIM $\pm 1/16$	2 PLACE DIM $\pm .02$
Shop Foreman		3 PLACE DIM $\pm .005$	ANGLES $\pm 1^\circ$
Engineer		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 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.	
NEXT ASSY Description	NEXT ASSY Number	APPROVALS DATE	
Application	DO NOT SCALE DRAWING	DRAWN C OKUDA ENGINEER C OKUDA CHECKED	3/6/2013 3/6/2013
		PROJECT NO. 300062	
		PROJECT DOC RICKETS	
		WEIGHT	
		Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700	
		D SAMPLER END PLATE	
		SIZE B	DWG. NO. 10020955DWG
		SCALE 1:4	REV. 1
		CAD FILE: MECH ENG ON TORNADO	SHEET 1 OF 1



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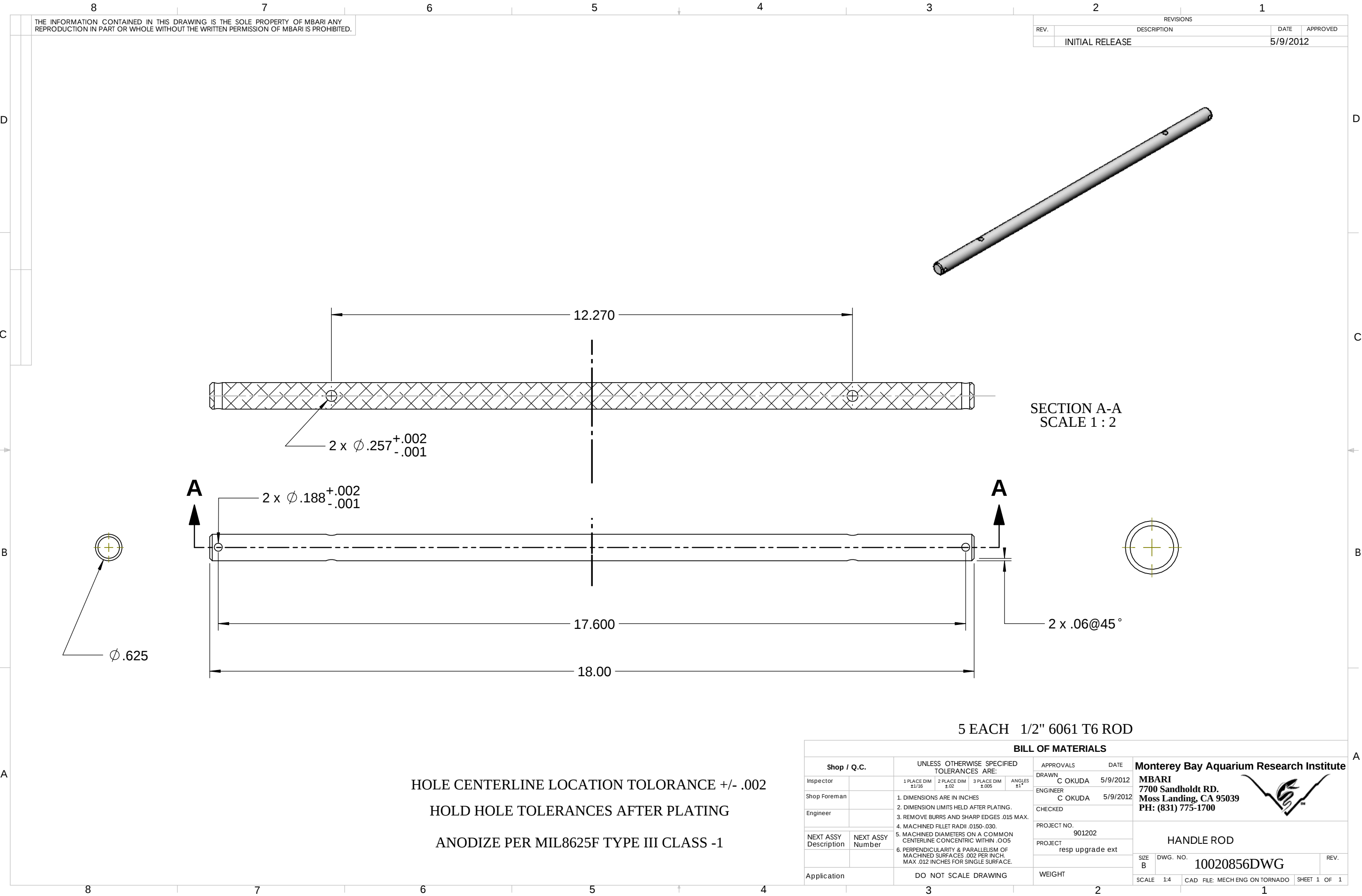
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	2/11/10	

3 EACH 1/2" 6061 T6 ROD OR 316SS

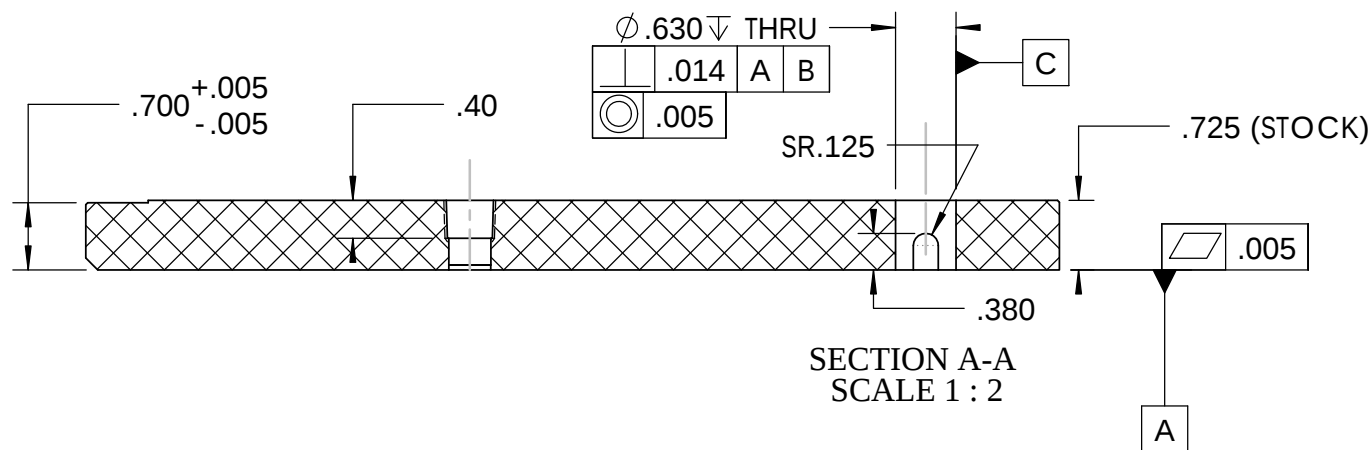
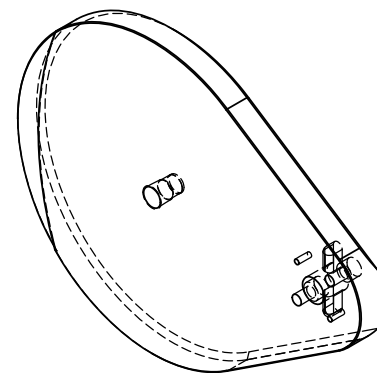
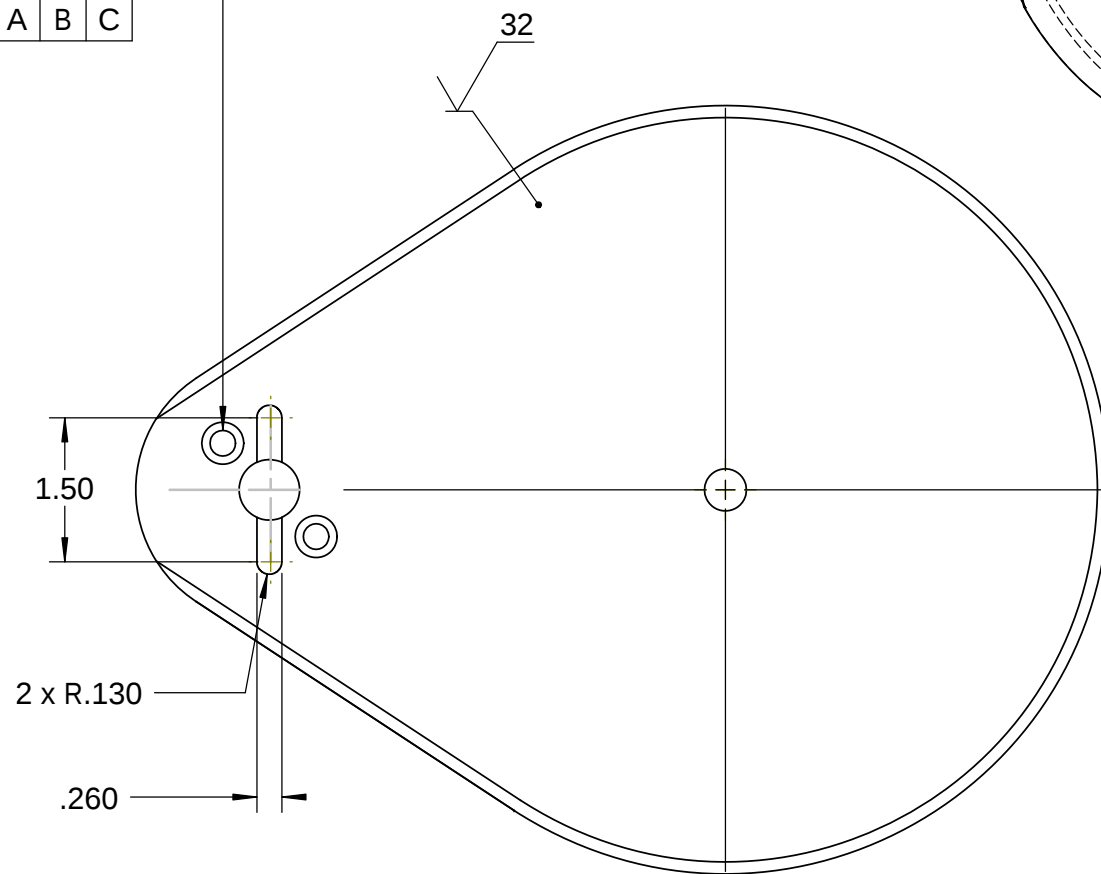
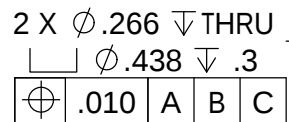
BILL OF MATERIALS			
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02
Shop Foreman		3 PLACE DIM ±.005	ANGLES ±1°
Engineer		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 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.	
NEXT ASSY Description	NEXT ASSY Number	APPROVALS DATE	
		DRAWN C OKUDA	2/11/10
		ENGINEER C OKUDA	2/11/10
		CHECKED	
		PROJECT NO. 900827	
		PROJECT ocean acidification	
		WEIGHT	
Application		DO NOT SCALE DRAWING	

Monterey Bay Aquarium Research Institute			
MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700			
ASSEMBLY ROD			
SIZE B	DWG. NO. 10020461DWG	REV.	
SCALE 1:4	CAD FILE: MECH ENG ON TORNADO	SHEET 1	OF 1

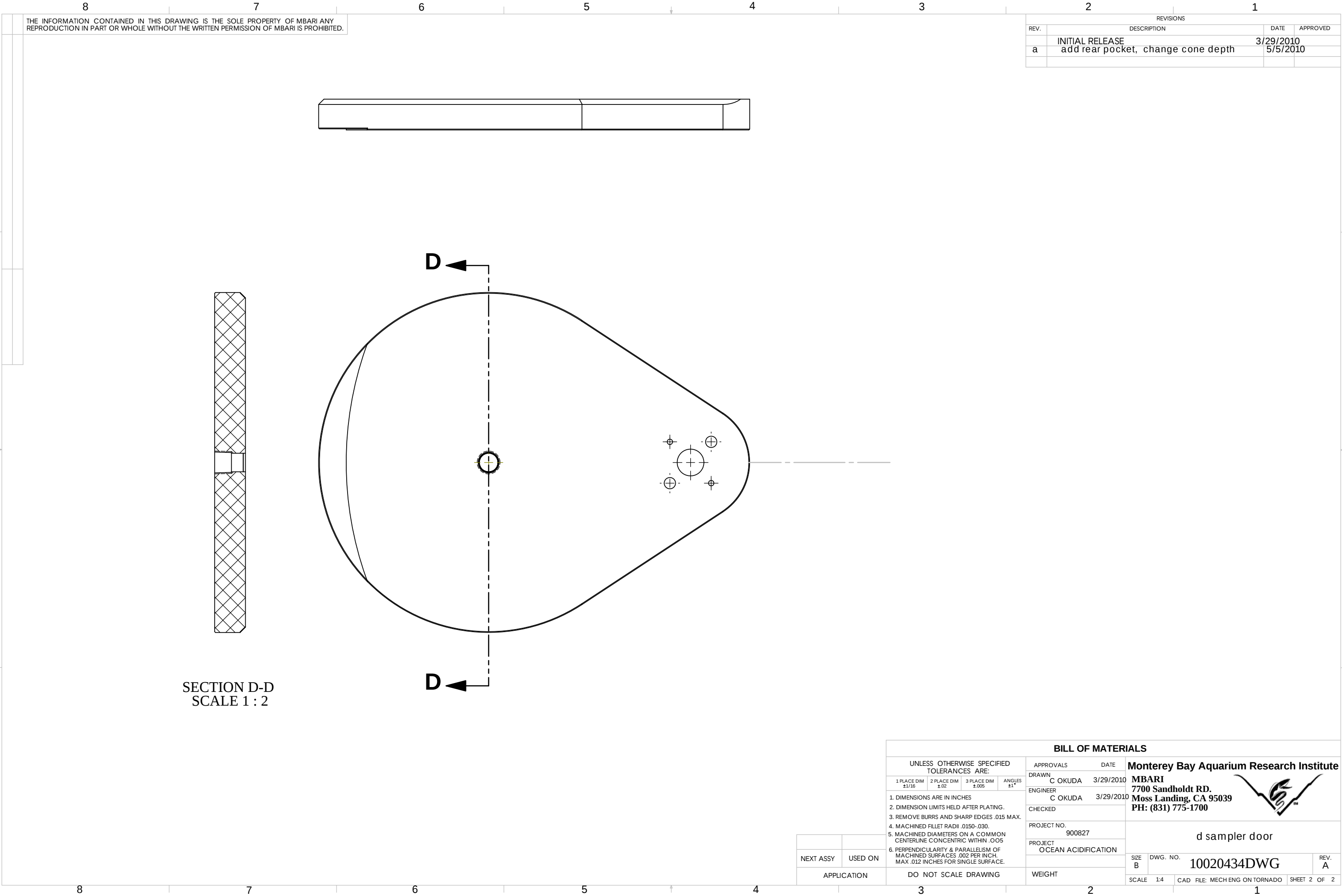
ANODIZE PER MIL8625F TYPE III CLASS -1 (AL ROD ONLY)



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	1/27/10	
A	add rear pocket, change cone depth	5/5/2010	

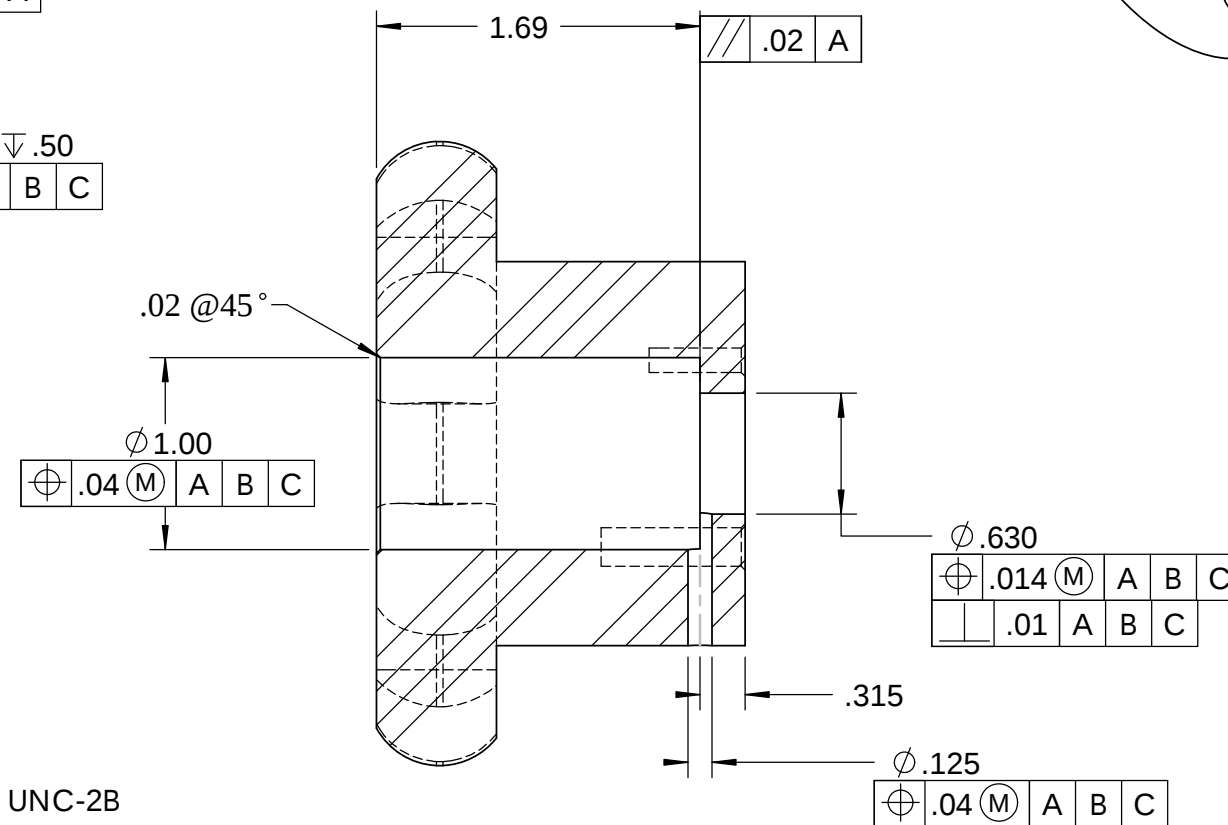
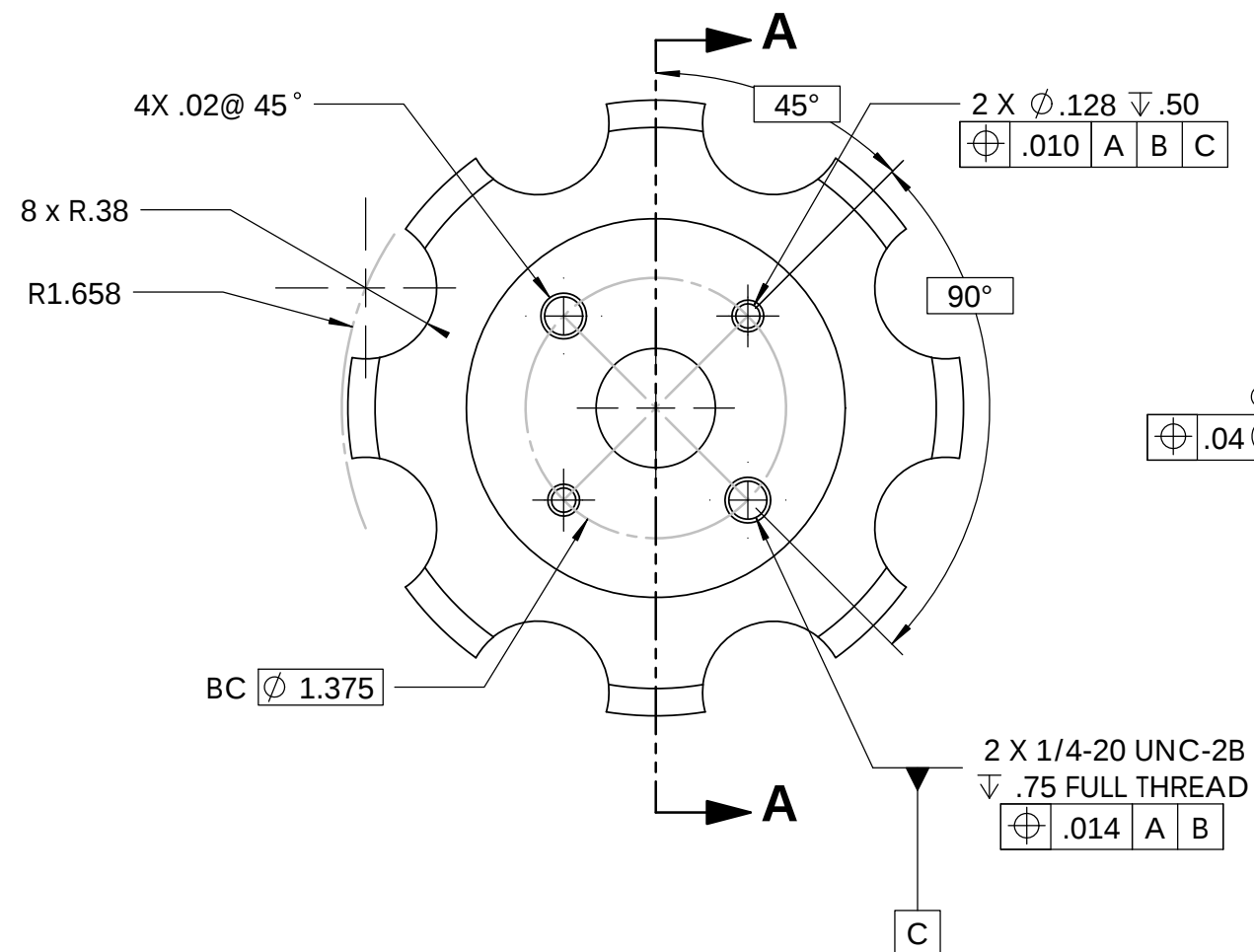
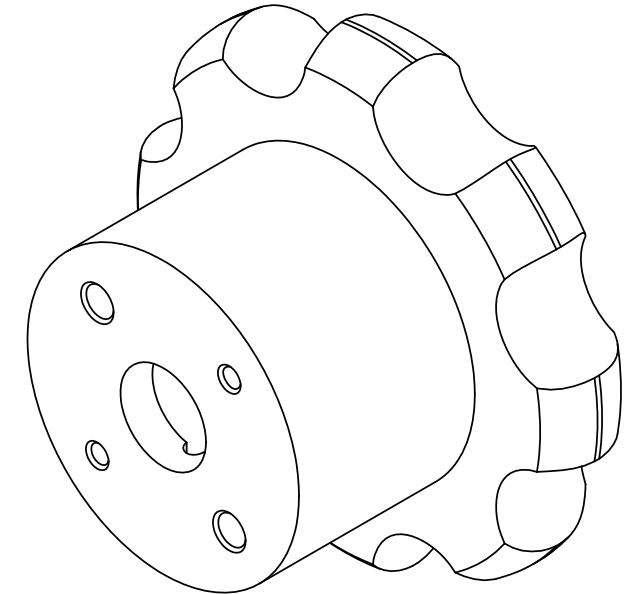
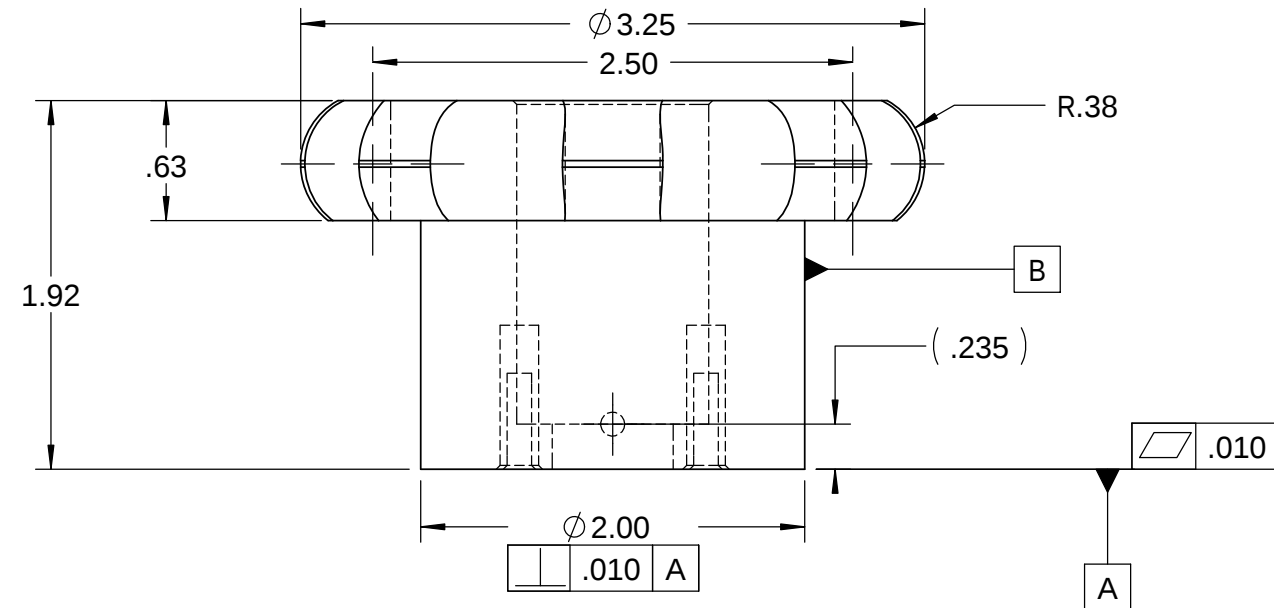


BILL OF MATERIALS									
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			APPROVALS	DATE	Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700		
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN C OKUDA 1/27/10			
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .032 INCHES FOR SINGLE SURFACE.				ENGINEER C OKUDA 1/27/10			
Engineer						CHECKED			
NEXT ASSY Description						NEXT ASSY Number		PROJECT NO. 900827	
				PROJECT ocean acidification					
Application		DO NOT SCALE DRAWING			WEIGHT		SIZE B	DWG. NO. 10020434DWG	REV. A
							SCALE 1:4	CAD FILE: MECH ENG ON TORNADO	SHEET 1 OF 2



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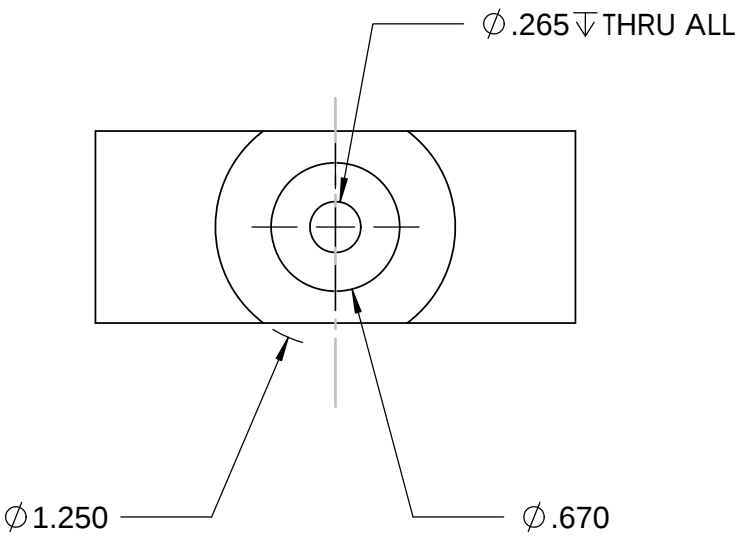
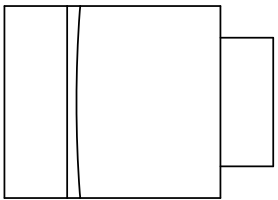
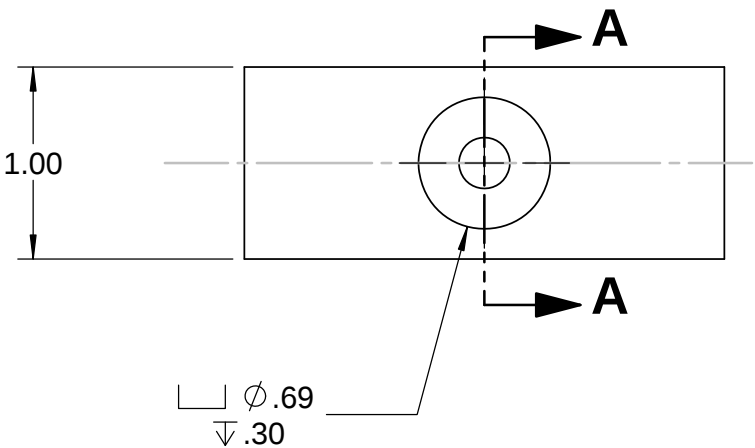
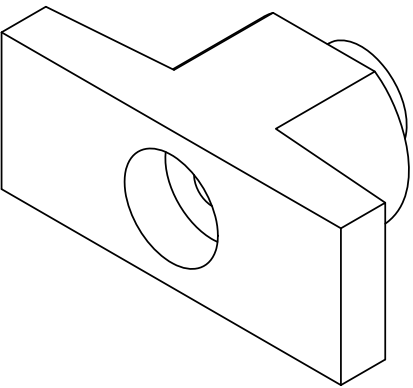
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	1/14/10	



SECTION A-A

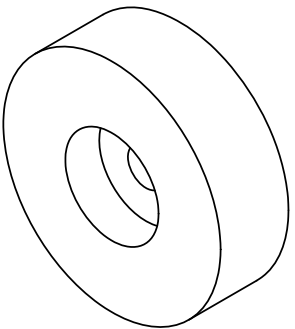
8 EACH ACRYLIC, CLEAR

BILL OF MATERIALS											
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			APPROVALS		DATE		Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 		
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	C OKUDA	1/14/10			
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030.				ENGINEER	C OKUDA	1/14/10			
Engineer						CHECKED					
NEXT ASSY Description	NEXT ASSY Number	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.				PROJECT NO.		900827			
						PROJECT		ocean acidification			
Application		DO NOT SCALE DRAWING			WEIGHT		SIZE B		DWG. NO. 10020435DWG		REV.
							SCALE 1:1		CAD FILE: MECH ENG ON TORNADO		SHEET 1 OF 1



16 EACH delrin, black

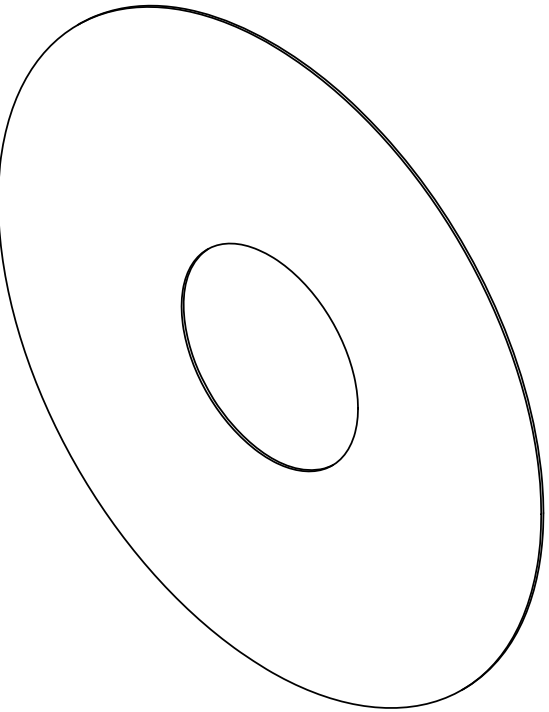
BILL OF MATERIALS										
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	C OKUDA	2/11/10		
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 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.				ENGINEER	C OKUDA	2/11/10		
Engineer						CHECKED				
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO.	900827			
		PROJECT	ocean acidification		T LID LOCK					
Application		DO NOT SCALE DRAWING				WEIGHT		SIZE B	DWG. NO. 10020463DWG	REV.
						SCALE 2:1		CAD FILE: MECH ENG ON TORNADO		SHEET 1 OF 1



SECTION A-A

8 EACH DELRIN

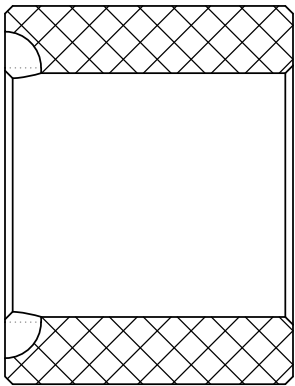
BILL OF MATERIALS										
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	C OKUDA	3/5/2013		
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 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.				ENGINEER	C OKUDA	3/5/2013		
Engineer						CHECKED				
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO.	300062			
		PROJECT	DOC RICKETS		D-SAMPLER DOOR STOP					
Application		DO NOT SCALE DRAWING				WEIGHT		SIZE B	DWG. NO. 10020954DWG	REV.
						SCALE 1:1		CAD FILE: MECH ENG ON TORNADO		SHEET 1 OF 1



8 EACH, WHITE DELRIN

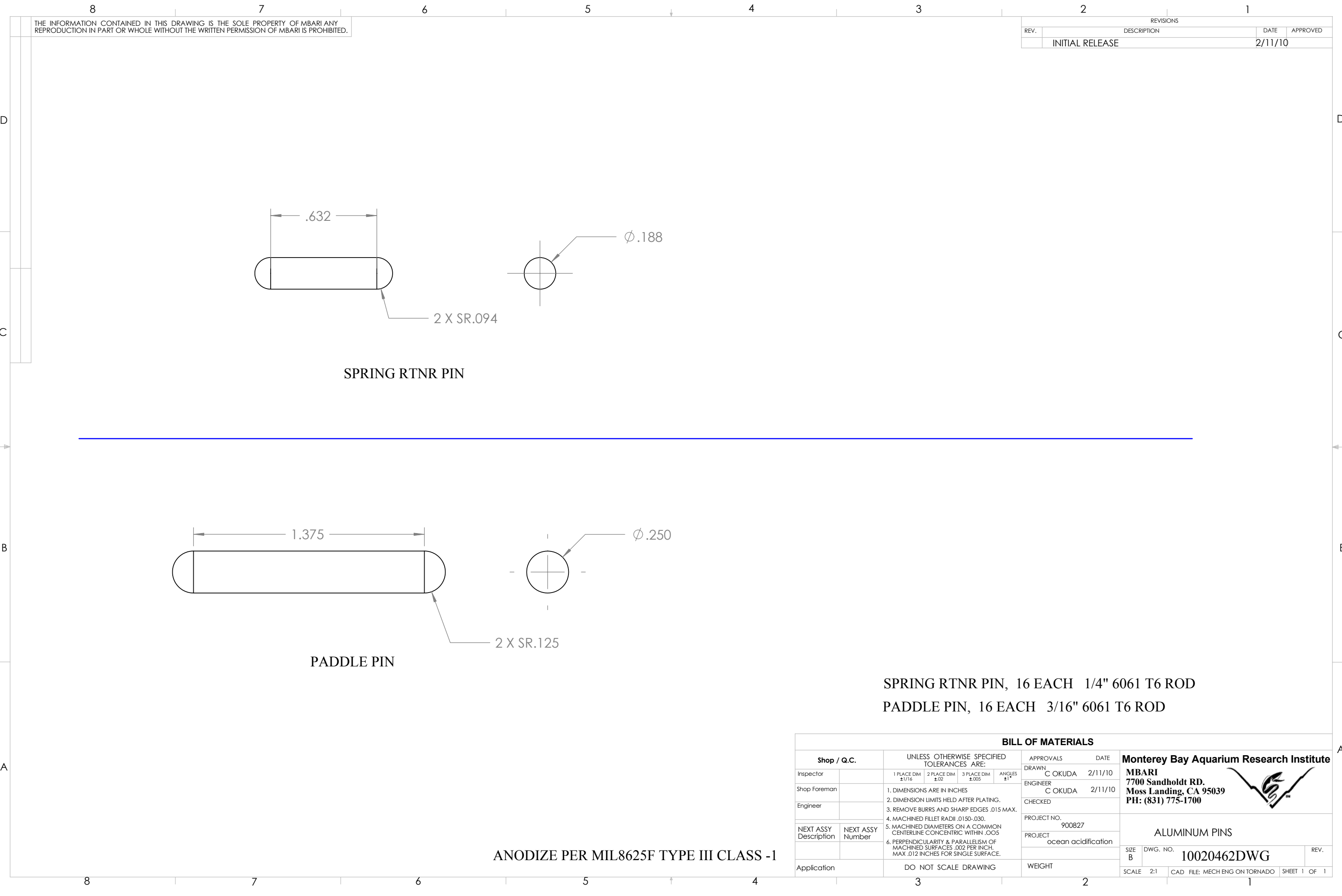
BILL OF MATERIALS											
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 	
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	C OKUDA	3/6/2013			
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 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.				ENGINEER	C OKUDA	3/6/2013			
Engineer						CHECKED					
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO.	300062				
		PROJECT	DOC RICKETS								
Application		DO NOT SCALE DRAWING				WEIGHT		SIZE B		DWG. NO. 10020957DWG	REV.
						SCALE 2:1		CAD FILE: MECH ENG ON TORNADO		SHEET 1 OF 1	

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	3/6/2013	



8 EACH, WHITE DELRIN ROD

BILL OF MATERIALS										
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS		DATE		
Inspector		1 PLACE DIM ±1/32	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	C OKUDA	3/6/2013	Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 	
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILET RADII .0150-.030. 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.				ENGINEER	C OKUDA	3/6/2013		
Engineer						CHECKED				
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO.		300062		
		PROJECT		DOC RICKTES		D SAMPLER SPRING RETAINER				
Application		DO NOT SCALE DRAWING				WEIGHT		SIZE B	DWG. NO. 10020958DWG	REV.
						SCALE 2:1		CAD FILE: MECH ENG ON TORNADO	SHEET 1 OF 1	



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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	2/11/10	

SPRING RTNR PIN

PADDLE PIN

SPRING RTNR PIN, 16 EACH 1/4" 6061 T6 ROD

PADDLE PIN, 16 EACH 3/16" 6061 T6 ROD

ANODIZE PER MIL8625F TYPE III CLASS -1

BILL OF MATERIALS									
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS	DATE	Monterey Bay Aquarium Research Institute MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700 	
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN	C OKUDA 2/11/10		
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 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.				ENGINEER	C OKUDA 2/11/10		
Engineer						CHECKED			
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO.	900827	ALUMINUM PINS	
						PROJECT	ocean acidification		
Application		DO NOT SCALE DRAWING				WEIGHT		SIZE B	DWG. NO. 10020462DWG
						SCALE 2:1		CAD FILE: MECH ENG ON TORNADO	SHEET 1 OF 1

