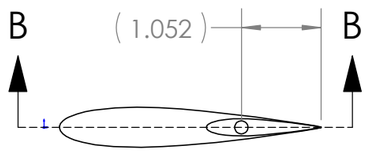
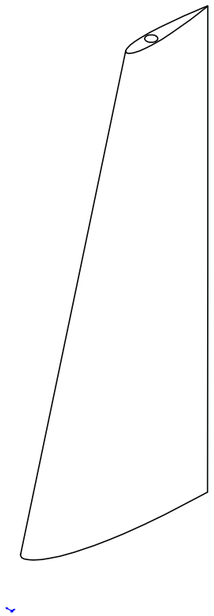
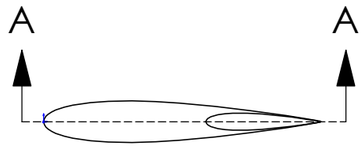
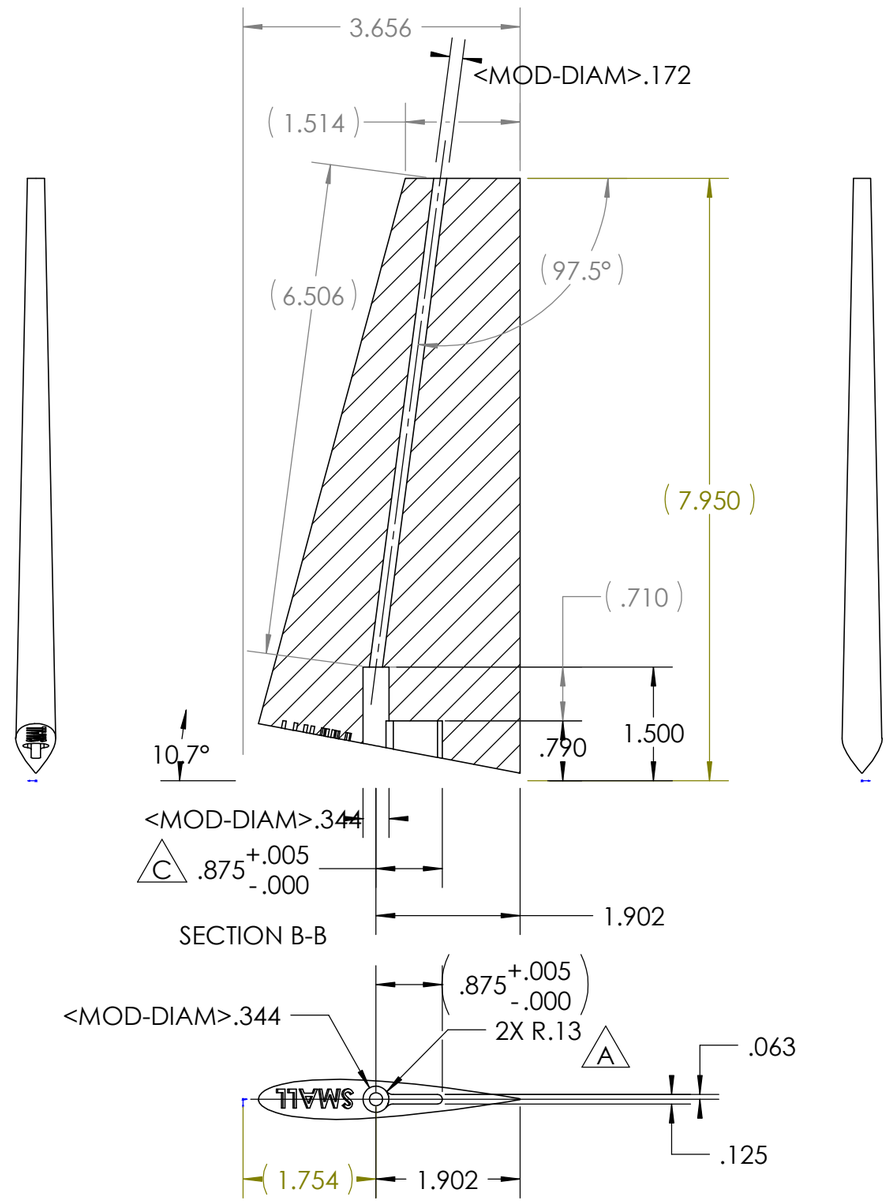
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ADDED RADIUS 2X	12/10/2008	J.E.
	B	CHG BEVEL CUT DIM frm 7.950 to 7.850 (SHEET 2 of 2)	9/5/2012	J.E.
B7	C	CHG DIM fm .813 to .875	3/10/2021	J.E.
	D	ADDED "SMALL" LABEL TO FIN BASE	9/2/2025	CDW

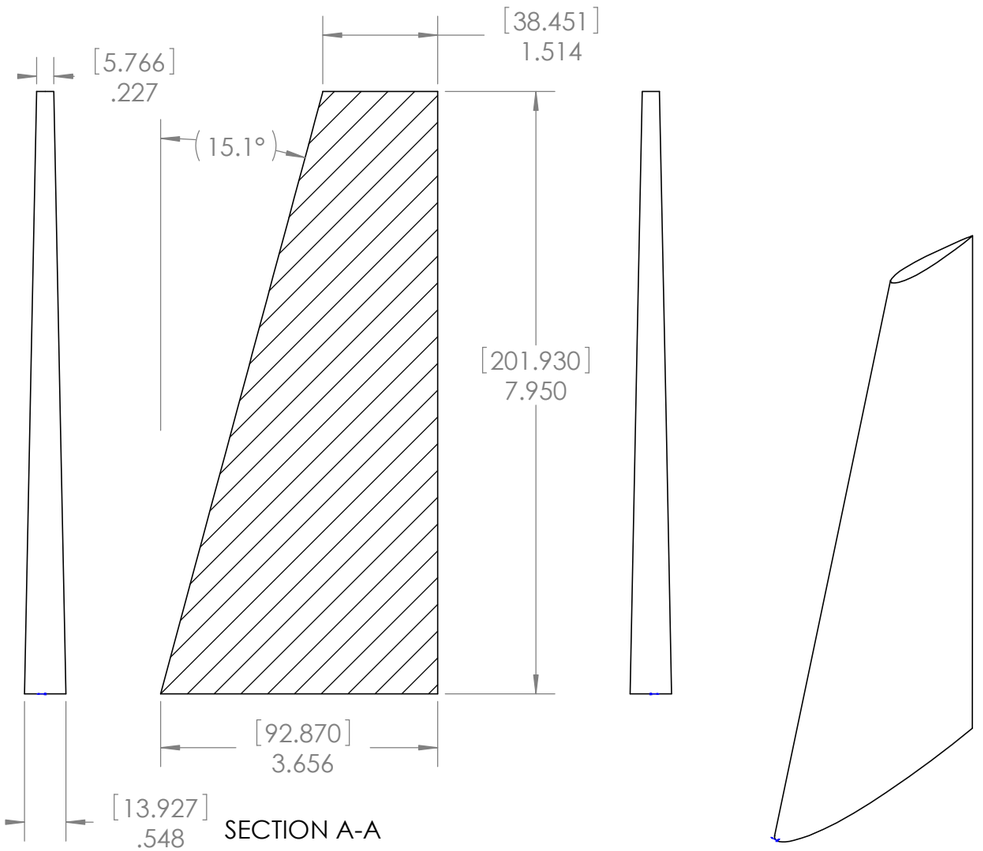








FIN "AS CAST"



PATTERN

1	1	P-200617-08	Control Fin_V5	MBARI	D90_Polyurethane
ITEM NO.	QTY.	Part_Number	DESCRIPTION	Vendor	MATERIAL

BILL OF MATERIALS

Shop / Q.C.		NEXT ASSY Description	NEXT ASSY Number
Inspector			
Shop Foreman			
Engineer			A-200618-08
Application			

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:

1 PLACE DIM 1/16	2 PLACE DIM .02	3 PLACE DIM .005	ANGLES 1

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.

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN J. ERICKSON	11/03/08
ENGINEER J. ERICKSON	11/03/08
CHECKED	
PROJECT NO.	900739
PROJECT	LRAUV
WEIGHT	0.184 lb.

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

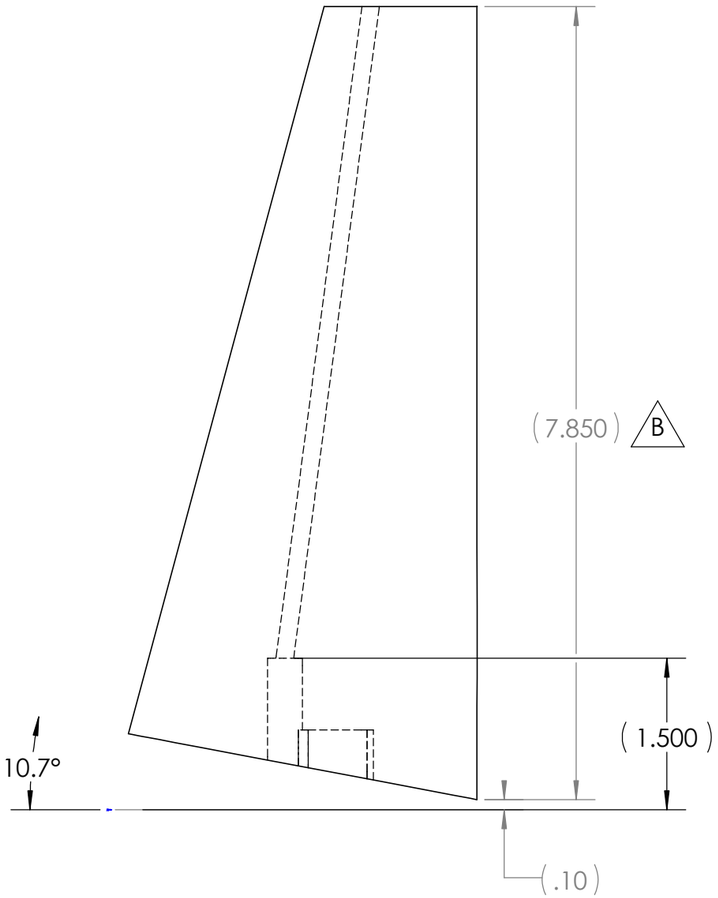
TETHYS - LRAUV
Control Fin_V5

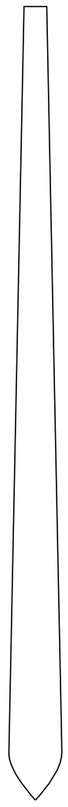
SIZE	DWG. NO.	REV.
B	P-200617-08.DWG	C
SCALE 1:2	CAD FILE: MECH ENG ON TORNADO	SHEET 1 OF 2

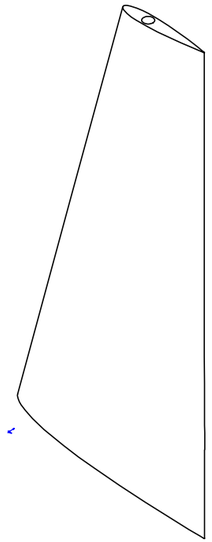
7. PROJECT LIBRARY:\900739.LRAUV\Project.Drawings\Project.ME.Dwgs\LRAUV\Tail section\ControlFins_V5

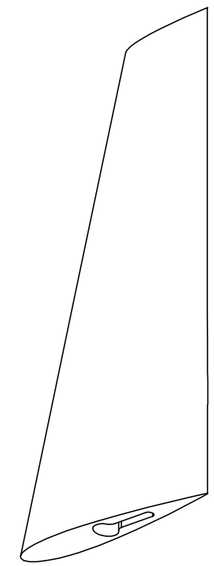
NOTES: (CONT. FROM TITLE BLOCK)

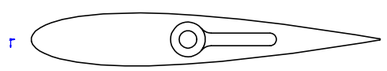
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE	X/XX/00	J.E.











Mass properties of P-200617-08_ControlFin_V5
Configuration: Cut
Coordinate system: -- default --

Density = 0.0011 grams per cubic millimeter

Mass = 83.6378 grams

Volume = 79411.4887 cubic millimeters

Surface area = 29519.6317 square millimeters

Center of mass: (millimeters)
X = 52.8434
Y = -0.0002
Z = 83.5392

Principal axes of inertia and principal moments of inertia: (grams * square millimeters)
Taken at the center of mass.
Ix = (0.1540, 0.0000, 0.9881) Px = 25344.7941
Iy = (0.9881, 0.0000, -0.1540) Py = 213224.2522
Iz = (0.0000, 1.0000, 0.0000) Pz = 237429.9922

Moments of inertia: (grams * square millimeters)
Taken at the center of mass and aligned with the output coordinate system.
Lxx = 208765.7145 Lxy = 0.6241 Lxz = 28597.0118
Lyx = 0.6241 Lyy = 237429.9922 Lyz = 0.7364
Lzx = 28597.0118 Lzy = 0.7364 Lzz = 29803.3318

Moments of inertia: (grams * square millimeters)
Taken at the output coordinate system.
Ixx = 792456.8755 Ixy = -0.2674 Ixz = 397815.8176
Iyx = -0.2674 Iyy = 1054673.6475 Iyz = -0.6729
Izx = 397815.8176 Izy = -0.6729 Izz = 263355.8262

CUT FIN

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 · 3 PLACE DIM .005 · ANGLES 1	DRAWN J. ERICKSON	11/03/08
Shop Foreman		1. DIMENSIONS ARE IN INCHES	ENGINEER J. ERICKSON	11/03/08
Engineer		2. DIMENSION LIMITS HELD AFTER PLATING.	CHECKED	
		3. REMOVE BURRS AND SHARP EDGES .015 MAX.	PROJECT NO.	900739
NEXT ASSY Description	NEXT ASSY Number	4. MACHINED FILLET RADII .0150-.030.	PROJECT	LRAUV
		5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .OO5		
Application		6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.	WEIGHT	0.184 lb.
		DO NOT SCALE DRAWING		

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

TETHYS - LRAUV
Control Fin_V5 CUT SHAPE

SIZE	DWG. NO.	REV.
B	P-200617-08.DWG	C
SCALE 1:2	CAD FILE: MECH ENG ON TORNADO	SHEET 2 OF 2

7. PROJECT LIBRARY:\900739.LRAUV\Project.Drawings\Project.ME.Dwgs\LRAUV\Tail section\ControlFins_V5

NOTES: (CONT. FROM TITLE BLOCK)