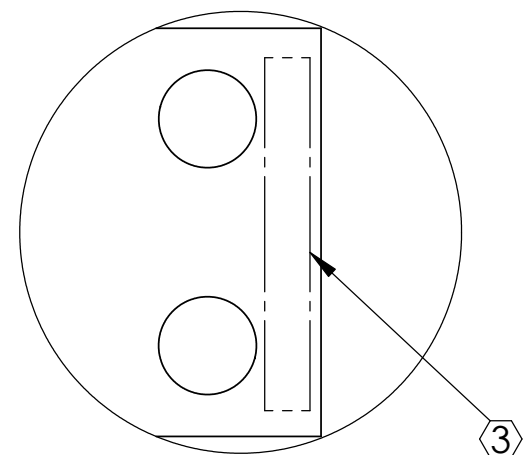
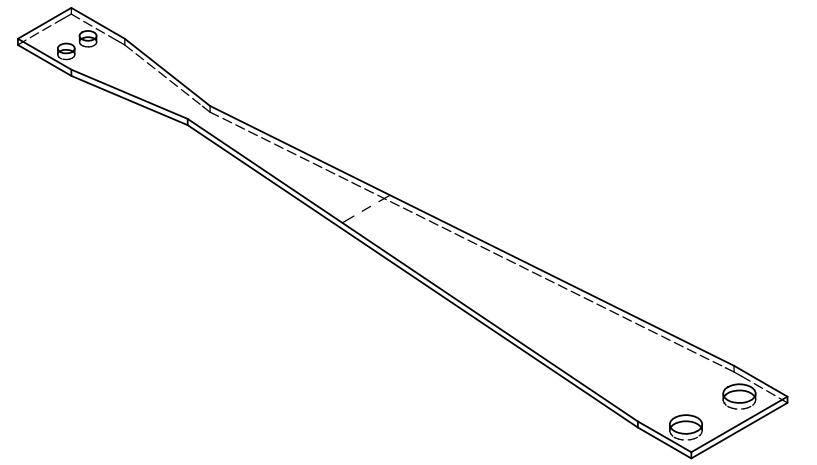
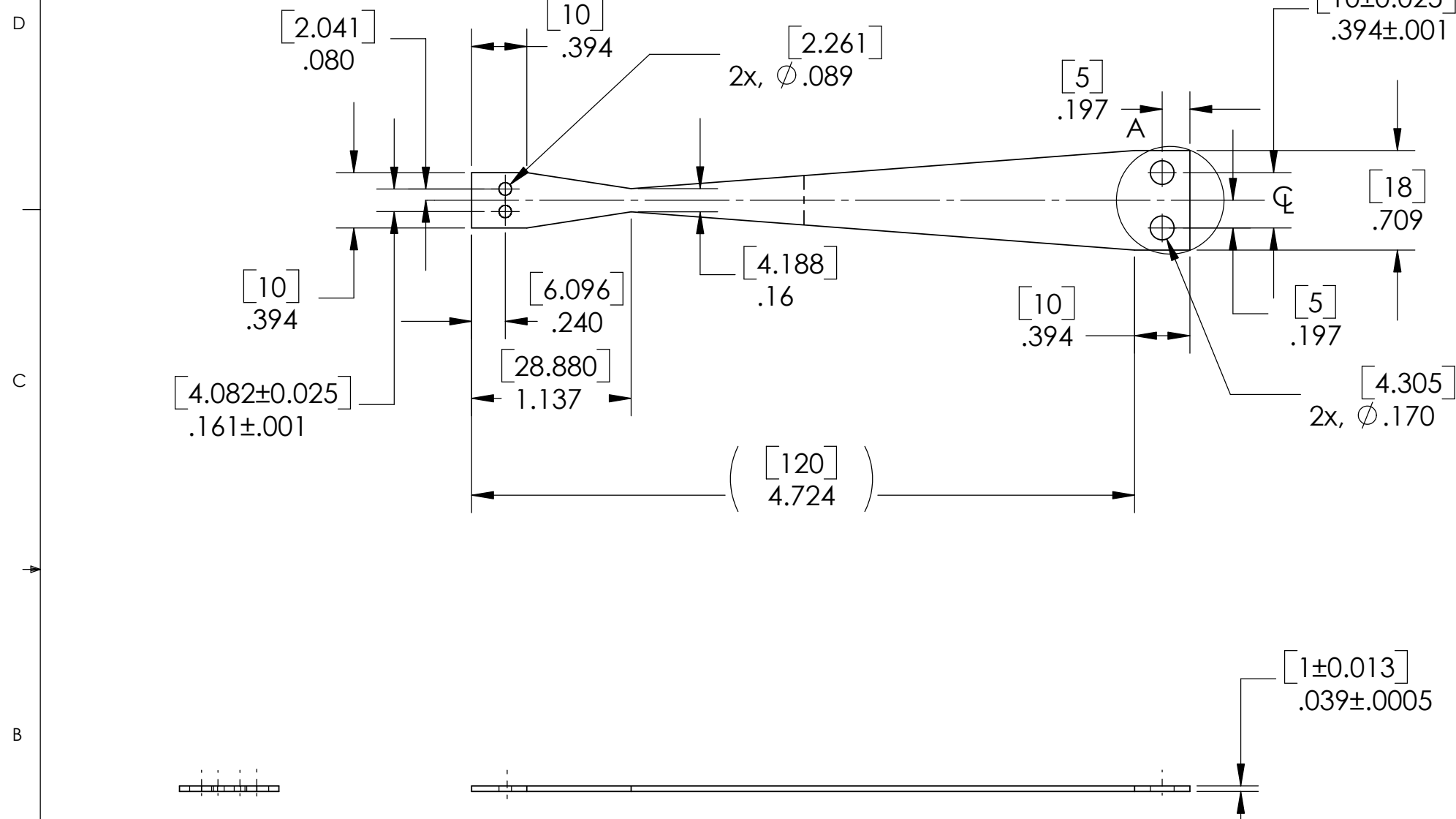


REV.	DATE	DCN #	DRAWING TREE #
01	01 JUL02	TOLERANCE REDUCED ON HOLES; ADDED DIMENSION - NARROW WIDTH OF BLADE; ADDED DIMENSION - FLAT WIDTH.	
02	MAY02 02 29MAY03	USED FOR ORDER WITH SUPERIOR JIG AND LOBART. DUAL DIMENSIONS ADDED;	
03	07 JULY03	SHEET FORMATTED AND NEW NOTES ADDED. PART REVISED BY MVP AS A RESULT OF EXPERIMENT, CARRIED OUT ON SET REV 02.	



DETAIL A
SCALE 3 : 1

UPDATED MC DRAWINGS WITH INFO FROM MV and MPL

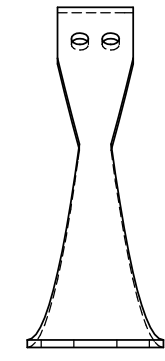
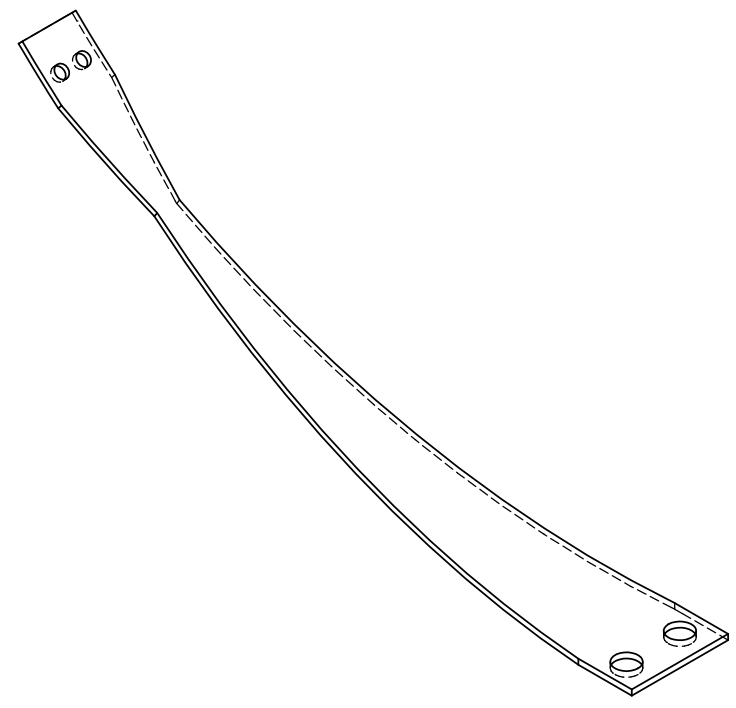
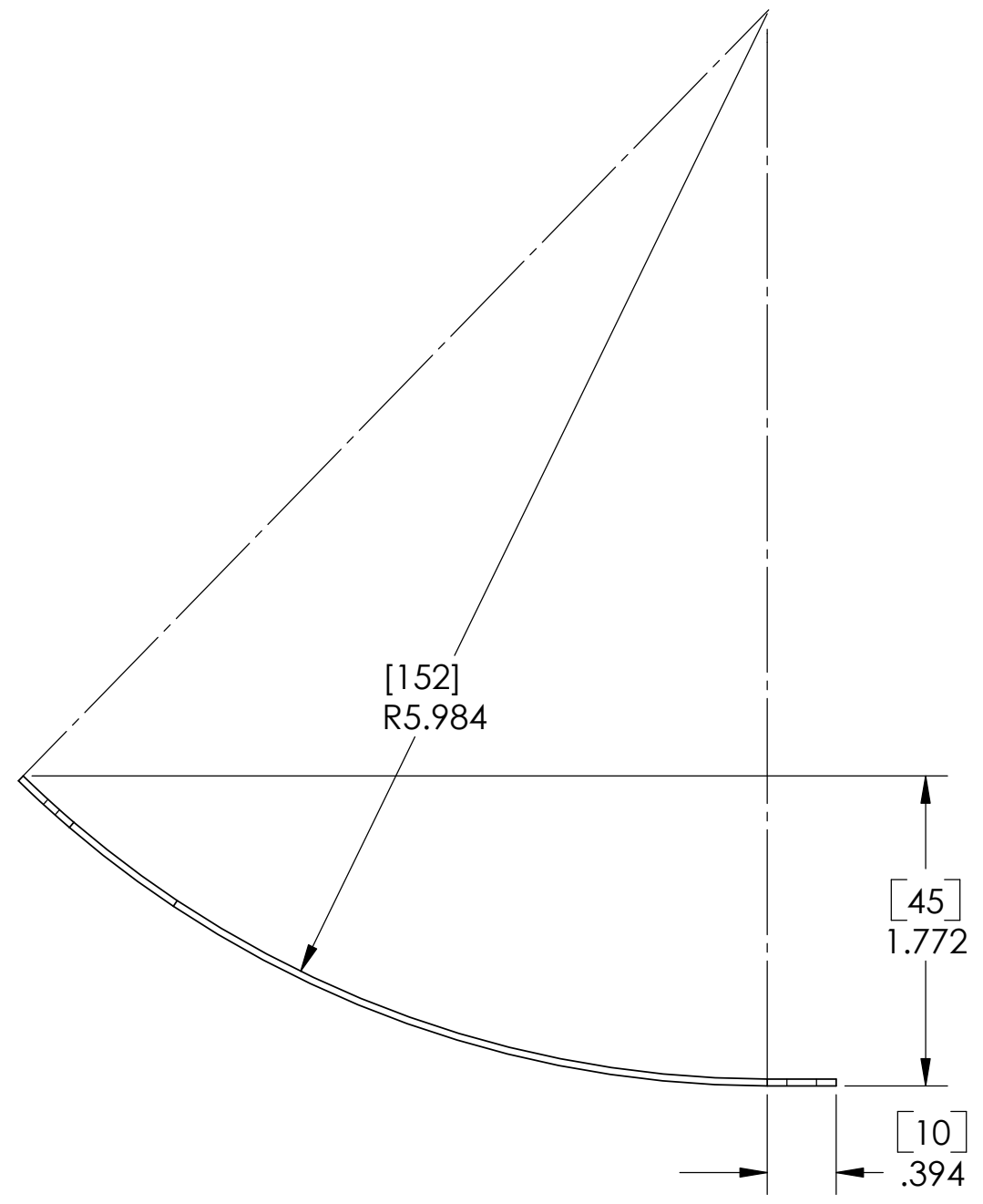
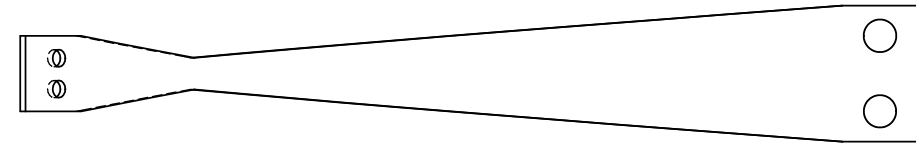


D020201_LowerBlade.sat

PARTS LIST															
NOTES: (UNLESS OTHERWISE SPECIFIED) 1. REMOVE ALL SHARP EDGES, R.02 MIN. 2. ALL MACHINING FLUIDS SHALL BE WATER SOLUBLE AND FREE OF SULFUR, CHLORINE AND SILICONE, SUCH AS CINCINNATI MILACRON'S CIMTECH 410 (STAINLESS STEEL) 3. ENGRAVE OR STAMP DRAWING PART NUMBER ON NOTED SURFACE OF PART AND A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST PART AND PROCEED CONSECUTIVELY. USE .07" HIGH CHARACTERS. EXAMPLE: D020188- 001. A VIBRATORY TOOL MAY BE USED. 4. VIEWS PRIOR TO FORMING 5. AFTER FORMING THE BLADES ARE ANNEALED AT 490°C FOR 4 HOURS AND AIR COOLED BACK TO ROOM TEMPERATURE															
DUAL DIMENSIONS [mm] TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± 0.5 °		CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY IGR, GLASGOW UNIVERSITY GEO 600 GROUP													
MATERIAL MARAGING STEEL C250		SYSTEM ADVANCED LIGO													
FINISH		SUB-SYSTEM SUS													
<table border="1"> <thead> <tr> <th></th> <th>NAME</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>DRAWN</td> <td>CIT</td> <td>MAY02</td> </tr> <tr> <td>CHECKED</td> <td>MPL</td> <td>07 JUL03</td> </tr> <tr> <td>APPROVED</td> <td></td> <td></td> </tr> </tbody> </table>			NAME	DATE	DRAWN	CIT	MAY02	CHECKED	MPL	07 JUL03	APPROVED			NEXT ASSY MC: UPPER MASS	
	NAME	DATE													
DRAWN	CIT	MAY02													
CHECKED	MPL	07 JUL03													
APPROVED															
		PART NAME LOWER BLADE													
SIZE B		DWG. NO. D020201													
		REV. 03													
SCALE: NTS		PROJECTION:													

8 7 6 5 4 3 2 1

REV.	DATE	DCN #	DRAWING TREE #



NOTES: (UNLESS OTHERWISE SPECIFIED)		PARTS LIST									
<p>1. MANUFACTURE NOTES</p> <p>1.1 VIEWS SHOWN ARE THOSE AFTER FORMING AND ANNEALING.</p> <p>1.2 AS SHOWN, THE RADIUS OF CURVATURE IS THE INTERNAL RADIUS.</p> <p>1.3 AS SHOWN, THE OVERALL DEFLECTION IS MEASURED FROM THE BOTTOM OF THE BASE POINT TO THE HIGHEST POINT ON THE TIP OF THE BLADE.</p> <p>2. OTHER NOTES (FOR INTERNAL USE)</p> <p>2.1 SHAPE FACTOR FOR LOWER BLADE = 1.54</p> <p>2.2 LOAD ON LOWER BLADE (FLAT) = 1.5kg</p> <p>2.3 PREDICTED UNCOUPLED FREQUENCY = 3.4Hz</p> <p>2.4 PREDICTED FIRST INTERNAL MODE = 260Hz.</p> <p>(These were extrapolated from an earlier blade design using Equations highlighted in MVP blade paper)</p> <p>2.5 MAXIMUM STRESS = 580MPa</p> <p>2.6 SOLIDWORKS RADIUS VALUE OVER WRITTEN, WITH VALUE CALCULATED BY MVP.</p> <p>2.7 IN SW PART, BLADE MUST BE DRAWN WITH SHEET METAL AND EXTRUDED VERTICALLY DOWNWARDS.</p> <p>2.8 IN SW PART RADIUS SHOULD BE ADJUSTED TO ATTAIN DESIRED LENGTH ON DRAWING SHEET.</p>		<p>DUAL DIMENSIONS [mm] INCHES</p> <p>TOLERANCES:</p> <p>.XX ± .01</p> <p>.XXX ± .005</p> <p>ANGULAR ± 0.5 °</p> <p>MATERIAL</p> <p>FINISH</p> <table border="1"> <thead> <tr> <th>NAME</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> <p>DRAWN</p> <p>CHECKED</p> <p>APPROVED</p>		NAME	DATE						
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<p>CALIFORNIA INSTITUTE OF TECHNOLOGY LIGO MASSACHUSETTS INSTITUTE OF TECHNOLOGY IGR, GLASGOW UNIVERSITY GEO 600 GROUP</p>		<p>SYSTEM: ADVANCED LIGO</p> <p>SUB-SYSTEM: SUS</p> <p>NEXT ASSY: MC: UPPER MASS</p> <p>PART NAME: LOWER BLADE</p>									
<p>SCALE: NTS PROJECTION: </p>		<p>SIZE: B</p>	<p>DWG. NO.: D020201</p> <p>REV.: 03</p>								
<p>SHEET 2 OF 2</p>		<p>FILE NAME/LOCATION:</p>									

7 6 5 4 3 2 1