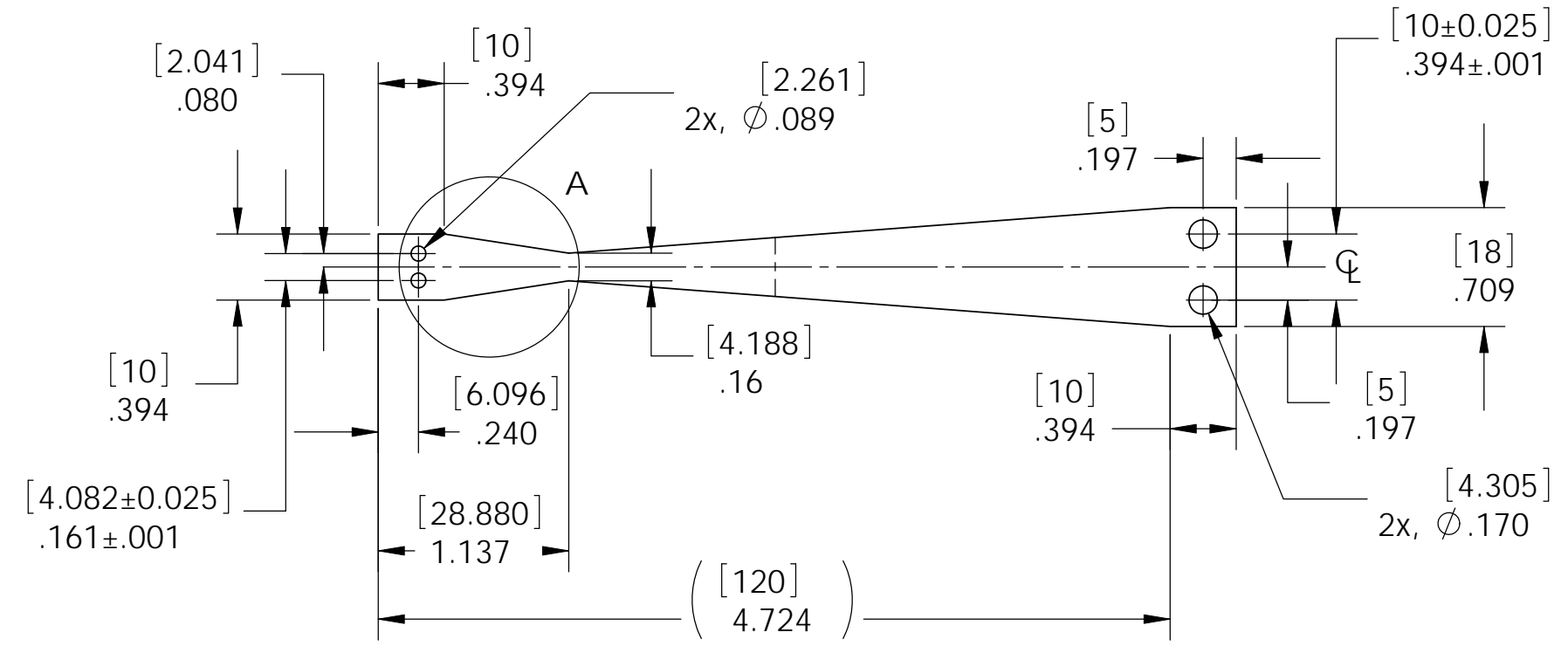
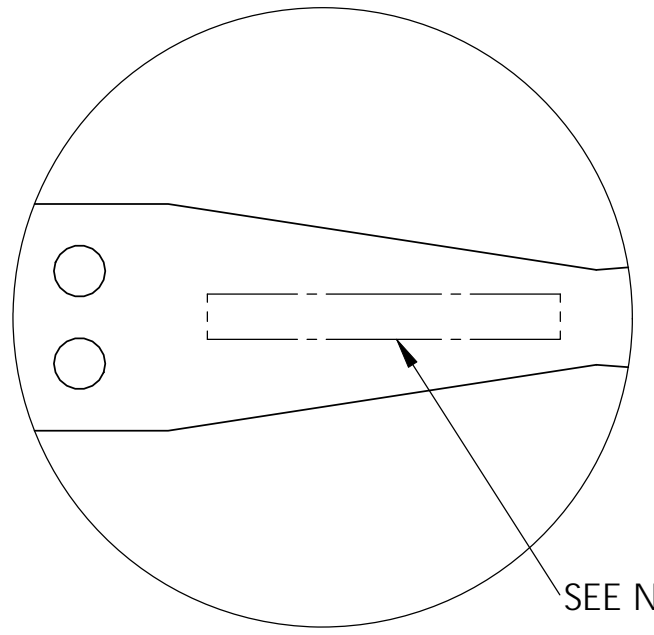
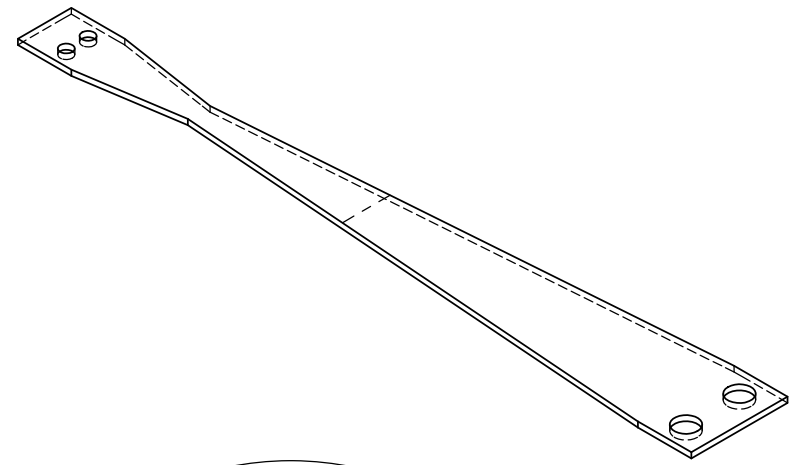


REV.	DATE	DCN #	DRAWING TREE #
A	24 JUNE 04	E040303-00	
B	18 OCT 07	E070244-00-D	
v1	01 APR 09	E0900101-v1	



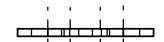
← MATERIAL GRAIN DIRECTION →



SEE NOTE 1.2

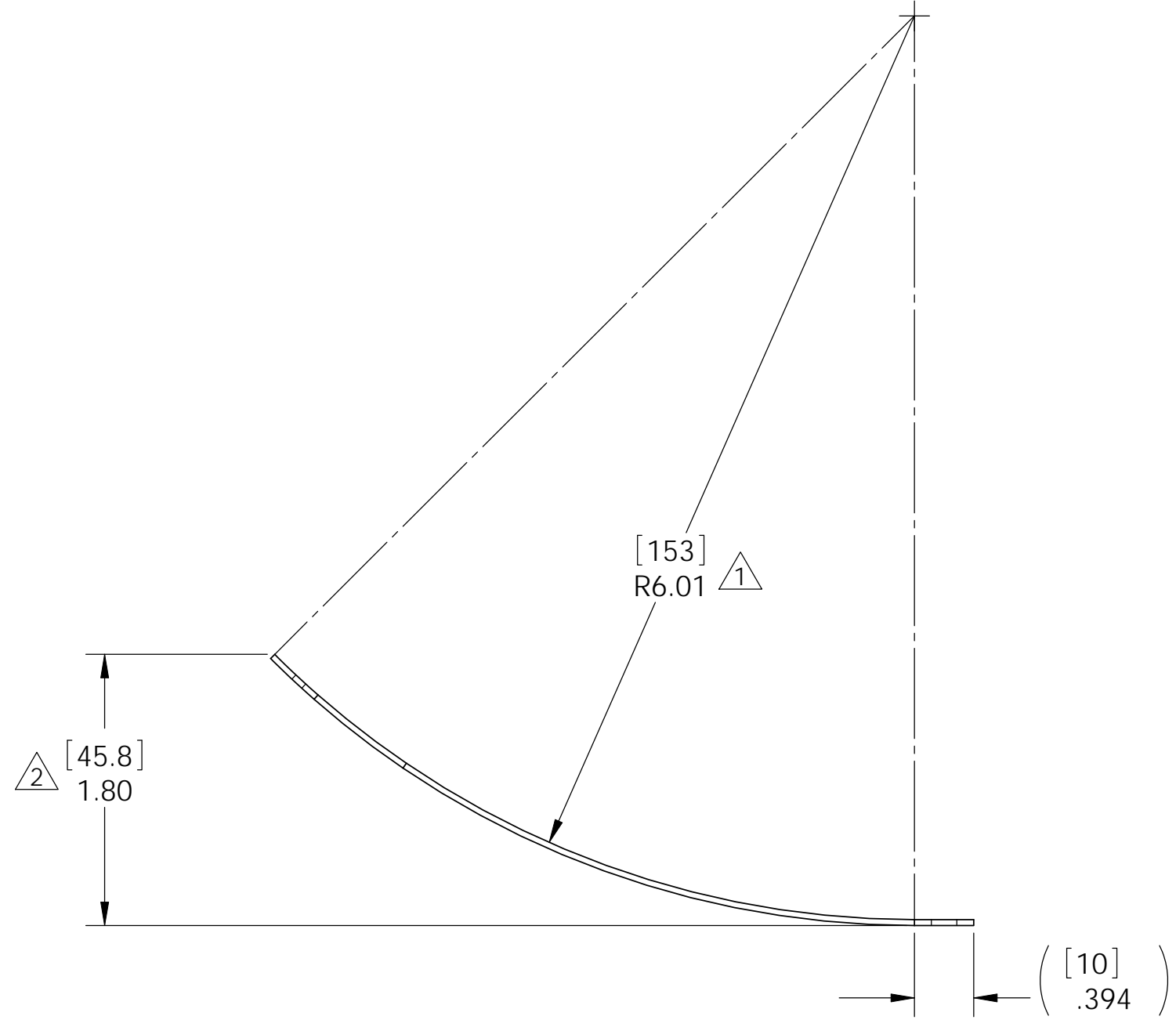
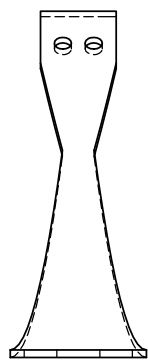
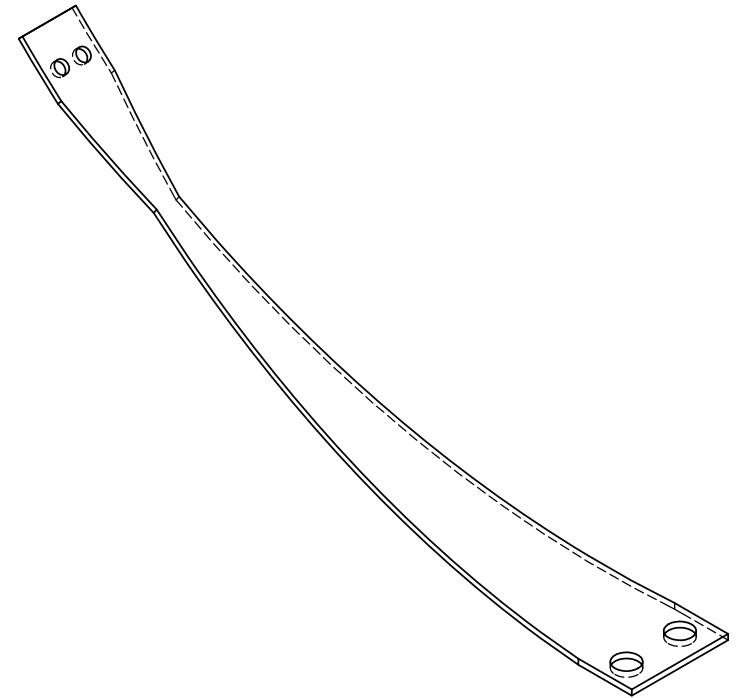
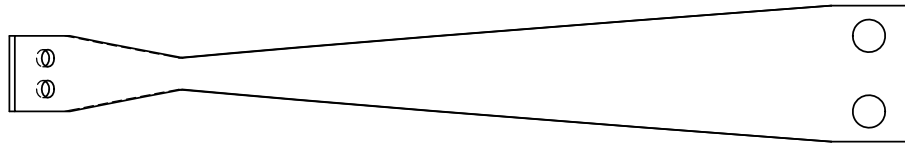
DETAIL A
SCALE 3 : 1

VIEWS PRIOR TO FORMING



MANUFACTURING NOTES: (UNLESS OTHERWISE SPECIFIED)		OTHER NOTES (FOR INTERNAL USE)		DUAL DIMENSIONS [mm] INCHES		CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY																
1.1 FABRICATE PER BLADE PROCESS SPECIFICATION, LIGO-E0900023-v4 1.2 ENGRAVE OR MECHANICALLY STAMP (NO DYES OR INKS) DRAWING PART NUMBER AND REVISION IN NOTED LOCATION FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.07" HIGH CHARACTERS. EXAMPLE: D020201-v1 SN 001 A VIBRATORY TOOL MAY BE USED. 1.3 REMOVE ALL SHARP EDGES, R.02 MIN.		2.1 SHAPE FACTOR FOR LOWER BLADE = 1.54 AND YOUNGS MODULUS USED IS 1.86e11 Pa. 2.2 LOAD ON LOWER BLADE (FLAT) = 1.435 KG AND UNCOUPLED LOAD = 0.7175 kg. 2.3 PREDICTED UNCOUPLED SUSPENSION FREQUENCY = 3.33 Hz 2.4 PREDICTED FIRST BLADE INTERNAL FREQUENCY = 261 Hz 2.5 MAXIMUM STRESS = 563 MPa 2.6 MID TO MID DEFLECTION = 44.8 mm 2.7 LENGTH IS 120mm (130mm INCLUDING CLAMPING LENGTH), THICKNESS IS 1mm AND WIDTH IS 18mm. 2.8 RADIUS IS 152.6mm CALCULATED USING BLADE EQUATIONS. 2.9 IN THE CURVED SKETCH IN SW PART ADD MID TO MID DEFLECTION AND ADJUST RADIUS UNTIL ATTAIN DESIRED LENGTH. 2.10 IN SW PART, BLADE IS DRAWN WITH SHEET METAL AND EXTRUDED VERTICALLY DOWNWARDS. 2.11 ON SW DRAWING, SOLIDWORKS RADIUS VALUE IS THE VALUE MEASURED DIRECT FROM SW USING THE DIMENSION TOOL.		TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± 0.5 °		LIGO SYSTEM ADVANCED LIGO SUB-SYSTEM SUS NEXT ASSY HSTS PART NAME LOWER BLADE																
				MATERIAL MARAGING STEEL C250		SIZE DWG. NO. D020201 REV. v1																
				FINISH <table border="1"> <thead> <tr> <th></th> <th>NAME</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>DRAWN</td> <td>CJT</td> <td>MAY02</td> </tr> <tr> <td>CHECKED</td> <td>MPL</td> <td>07 JUL 2003</td> </tr> <tr> <td>UPDATED</td> <td>B. MOORE</td> <td>20 MAR 2009</td> </tr> <tr> <td>CHECKED</td> <td>P. COOPER</td> <td>30 MAR 2009</td> </tr> </tbody> </table>			NAME	DATE	DRAWN	CJT	MAY02	CHECKED	MPL	07 JUL 2003	UPDATED	B. MOORE	20 MAR 2009	CHECKED	P. COOPER	30 MAR 2009	SCALE: NTS PROJECTION: SHEET 1 OF 2	
	NAME	DATE																				
DRAWN	CJT	MAY02																				
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UPDATED	B. MOORE	20 MAR 2009																				
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REV.	DATE	DCN #	DRAWING TREE #
v1		SEE SHEET 1	



VIEWS AFTER FORMING AND HEAT TREATMENT

- ① THE RADIUS OF CURVATURE IS THE INSIDE RADIUS.
- ② THE OVERALL DEFLECTION IS MEASURED FROM THE BOTTOM OF THE BASE POINT TO THE HIGHEST POINT ON THE TIP OF THE BLADE.

PARTS LIST					
NOTES: (UNLESS OTHERWISE SPECIFIED)					
DUAL DIMENSIONS [mm] INCHES		CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY			
TOLERANCES: .XX ± .01 .XXX ± .005					
ANGULAR ± 0.5 °					
MATERIAL MARAGING STEEL C250					
FINISH		SYSTEM ADVANCED LIGO			
		SUB-SYSTEM SUS			
		NEXT ASSY HSTS			
		PART NAME LOWER BLADE			
	NAME	DATE	SIZE B	DWG. NO. D020201	REV. v1
DRAWN	CIT	MAY02			
CHECKED	MPL	07 JUL 2003			
UPDATED	B. MOORE	20 MAR 2009			
CHECKED	N. ROBERTSON D. SCORSE P. TORRE	30 MAR 2009			
SCALE: NTS			PROJECTION:	SHEET 2 OF 2	