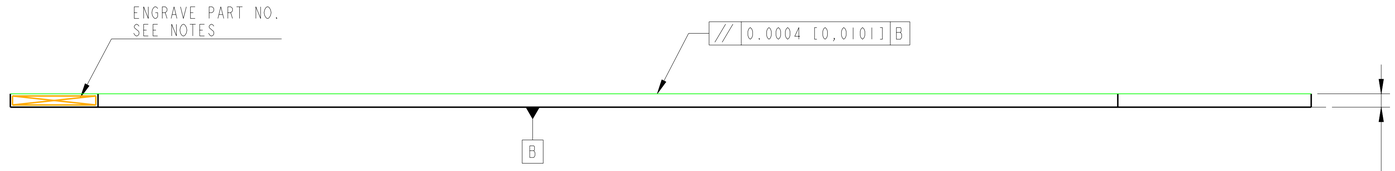
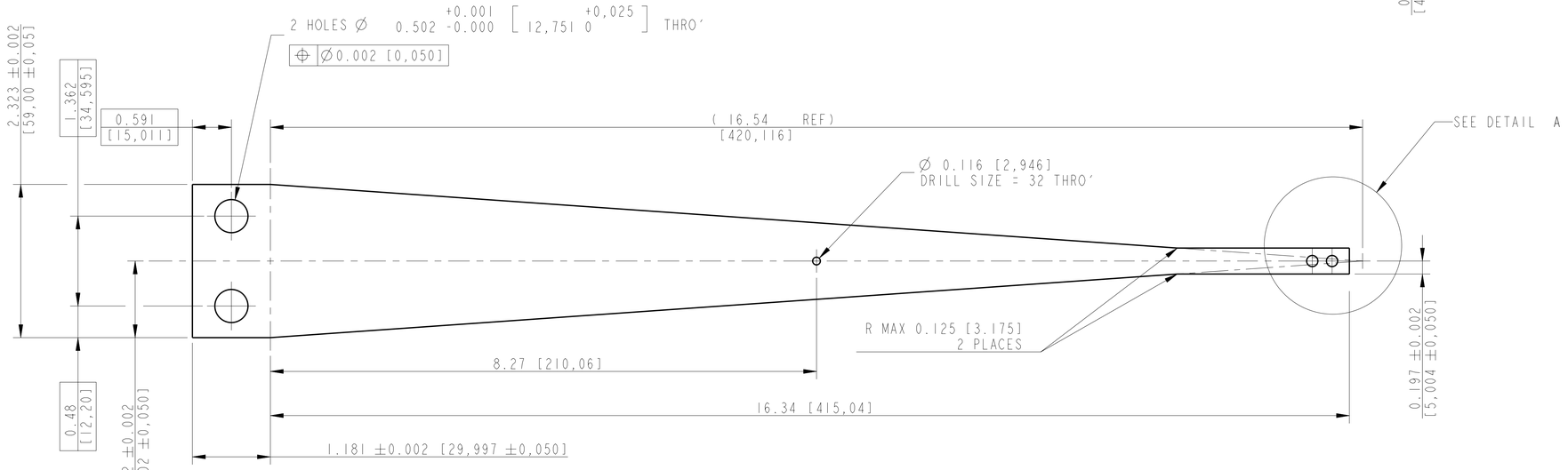
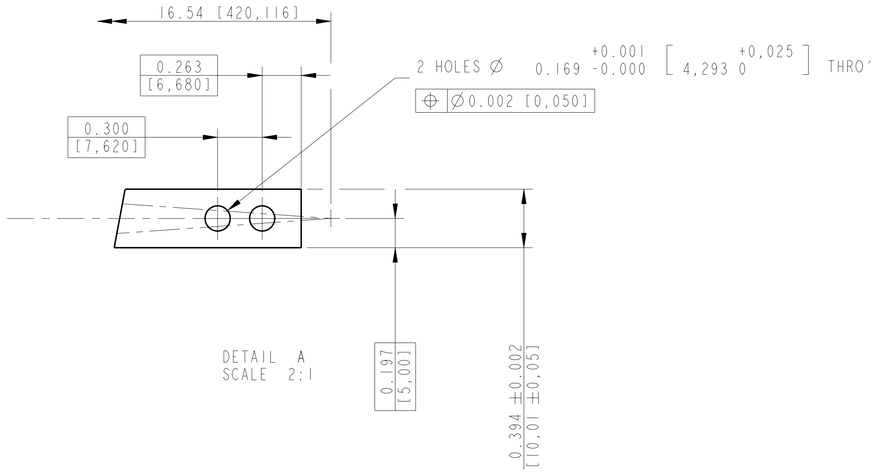
INTRALINK NAME: D040297--

REV.	DATE	DCN #	DRAWING TREE #
A	02/JUL/04	E040312-01-K	.
B	20/JUL/04	E040345-01-K	.
C	26/JUL/04	E040355-01-K	.

FLAT PROFILE







NOTES: (UNLESS OTHERWISE SPECIFIED)

1. DO NOT SCALE FROM DRAWING.
2. INTERPRET DIMENSIONS PER: ANSI Y14.5 1982
3. ALL MACHINING FLUIDS SHALL BE WATER SOLUBLE AND FREE OF SULFUR, CHLORINE AND SILICONE, SUCH AS CINCINNATI MILACRON'S CINTECH 410 (STAINLESS STEEL).
4. FABRICATE FROM SHEET MATERIAL; FORM RADIUS BY ROLLING.
5. REMOVE ALL SHARP EDGES, 0.02 MIN.
6. SCRIBE, 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.
7. AFTER PARTS ARE ROLLED TO RADIUS, HARDEN FOR HEAT TREATMENT AT 435 DEG C FOR 100 HOURS AND AIR COOL. PARTS MUST BE SUPPORTED WITH TOOLING DURING HEAT TREATMENT TO AVOID RADIUS CHANGE DUE TO SELF WEIGHT. TOOLING FOR HEAT TREATMENT MAY BE A "BIKE RACK" TYPE OF TOOL THAT WILL ALLOW THE PARTS TO BE MOUNTED ON THEIR SIDES. PARTS MAY BE ROLLED AGAIN AFTER HEAT TREATMENT TO ADJUST RADIUS TO SPECIFICATION.

DIMENSIONS ARE IN INCHES [mm]
TOLERANCES:
X.XX ±0.01 [0.250 mm]
X.XXX ±0.005
ANGULAR ±0.250 °

MATERIAL: MARAGING STEEL 250

FINISH: CLEAN AND DEGREASED
√ (µin [um]) Ra : 32 [0.8]

	NAME	DATE
DRAWN	Y WEIMUT	26/JUL/04
CHECKED	R.RI	27/JUL/04
APPROVED	---	--/--/--

CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
IGR, GLASGOW UNIVERSITY GEO 600 GROUP
RUTHERFORD APPLETON LABORATORIES

SYSTEM: ADVANCED LIGO
SUB-SYSTEM: SUS
NEXT ASSY: TOP MASS
PART NAME: MIDDLE BLADE SPRING
QUAD CONTROLS PROTOTYPE

TYP | DRG. NO. D040297 | TYP C

SCALE 1:1 | PROJECTION | SHEET 1 OF 2

INTRALINK NAME: D040297-

FOR INTERNAL USE ONLY:

E=186Mpa
ALPHA=1.35
TOTAL SUSP MASS = 50 KG
UI MASS = 11 KG
PREDICTED:
F = 2.48Hz
1st INTERNAL MODE = 98.17Hz
MAX = 990Mpa
REF: COMMUNICATION WITH BLADE COMMITTEE

FORMED BLADE SPRING

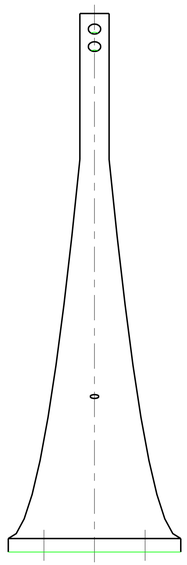
1.18 +0.10 -0.00
[30,00 +2,54 0]

(15.344 REF)
[389,746]

R 11.430
[442,722]

(7.252 REF)
[184,203]

0.039 [0,990]



NOTES: (UNLESS OTHERWISE SPECIFIED)

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DIMENSIONS ARE IN INCHES [mm]
TOLERANCES:
X.XX ±0.01 [0,250 mm]
X.XXX ±0.005
ANGULAR ±0.250 °

MATERIAL: MARAGING STEEL 250

FINISH: CLEAN AND DEGREASED
√ (µin (µm)) Ra : 32 (0.8)

	NAME	DATE
DRAWN	Y WILMUT	23/JUL/04
CHECKED	R.G.	23/JUL/04
APPROVED	---	--/--/--

CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
IGR, GLASGOW UNIVERSITY GEO 600 GROUP
RUTHERFORD APPLETON LABORATORIES

SYSTEM: ADVANCED LIGO
SUB-SYSTEM: SUS
NEXT ASSY: TOP MASS
PART NAME: MIDDLE BLADE SPRING
QUAD CONTROLS PROTOTYPE

SIZE: D
DRG. NO.: D040297
REV: C

SCALE 1:1 PROJECTION: SHEET 2 OF 2