INTRALINK NAME: D040298--

| REV. | DATE | DCN # | DRAWING TREE # |
|---|---|---|---|
| A | 02/JUL/04 | E040312-01-K | . |
| B | 20/JUL/04 | E040345-00-K | . |

# FLAT BLADE PROFILE

ENGRAVE PART NO.
SEE NOTES

// | 0.0004 [0,0101] | B

0.1690 ±0.0004
[4,2926 ±0,0101]

3 HOLES 0.337 +0.001 -0.000 [8,560 +0,025 0] THRO'

⌖ | Ø0.002 [0,050]

3.740 ±0.002
[95,00 ±0,05]

1.053
[26,75]

0.354
[9,0]

1.870 ±0.002
[47.498 ±0.050]

0.984
[25,0]

(18.90 [480,01] REF)

18.78 [477,01]

SEE DETAIL A

DRILL 0.116 [2,946] THRO'
DRILL SIZE = 32

R MAX 0.125 [3.175]
2 PLACES

1.968 ±0.002
[49,987 ±0,050]

9.45 [240,0]

2 HOLES 0.503 +0.001 -0.000 [12,776 +0,025 0] THRO'

⌖ | Ø0.002 [0,050]

3.032 [77,013] = 2 X 1.516 [38,506]

1.634
[41,504]

18.898 [480,01]

0.263
[6,680]

0.197
[5,00]

0.197 ±0.002
[5,004 ±0,050]

0.394 ±0.002
[10,008 ±0,050]

2 HOLES 0.169 +0.001 -0.000 [4,293 +0,025 0] THRO'

⌖ | Ø0.002 [0,050]

0.300
[7,620]

DETAIL A
SCALE 2:1

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 [µm]) Ra = 32 [0.8]

| | NAME | DATE |
|---|---|---|
| DRAWN | J. WILMUT | 21/JUL/04 |
| CHECKED | --- | --/--/-- |
| 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 STAGE
PART NAME TOP STAGE BLADES
QUAD CONTROLS PROTOTYPE

TOL'S | SIZE D | DRG. NO. D040298 | REV B

SCALE 1:1 PROJECTION | SHEET 1 OF 2

INTRALINK NAME: D040298-

FOR INTERNAL USE ONLY:

E=186Gpa
ALPHA=1.35
TOTAL SUSP MASS = 61 KG
P MASS = 11 KG
PREDICTED:
F = 2.33Hz
1st INTERNAL MODE = 70.26Hz
σ MAX = 981Mpa
REF: COMMUNICATION WITH BLADE COMMITTEE)

# FORMED BLADE SPRING

1.97 +0.10 -0.00 [50,0 +2,5 0]

( 16.551 [420,386] REF)

( 10.069 [255,763] REF)

R 15.690 [398.526]

0.039 [0,990]

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FINISH: CLEAN AND DEGREASED
√ µin [µm] Ra : 32 [0.8]

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| DRAWN | T. WILMOT | 21/JUL/04 |
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SIZE D | DRG. NO. D040298 | REV B

SCALE 1:1 | PROJECTION | SHEET 2 OF 2