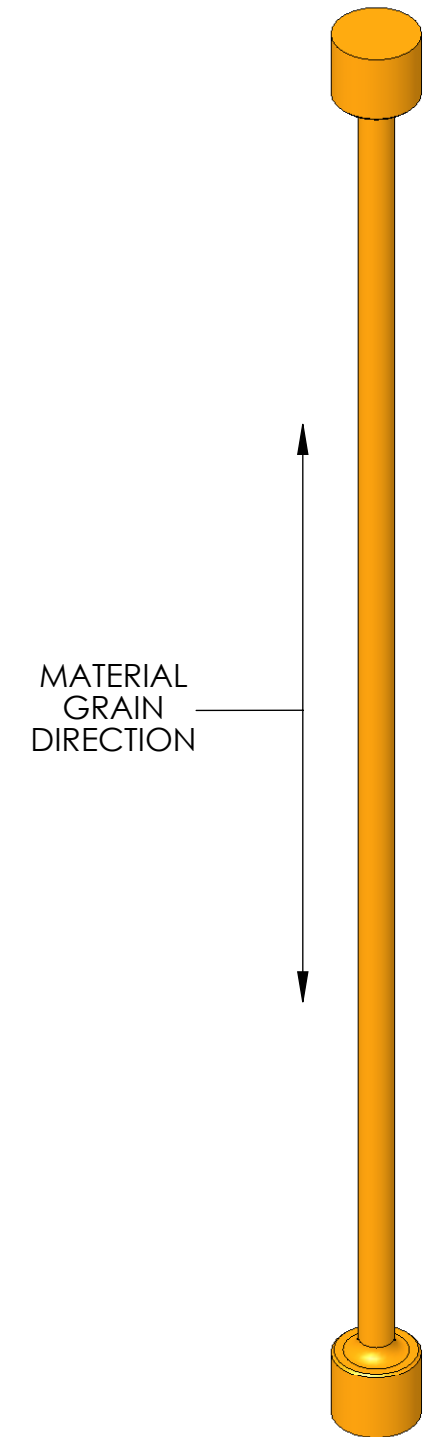
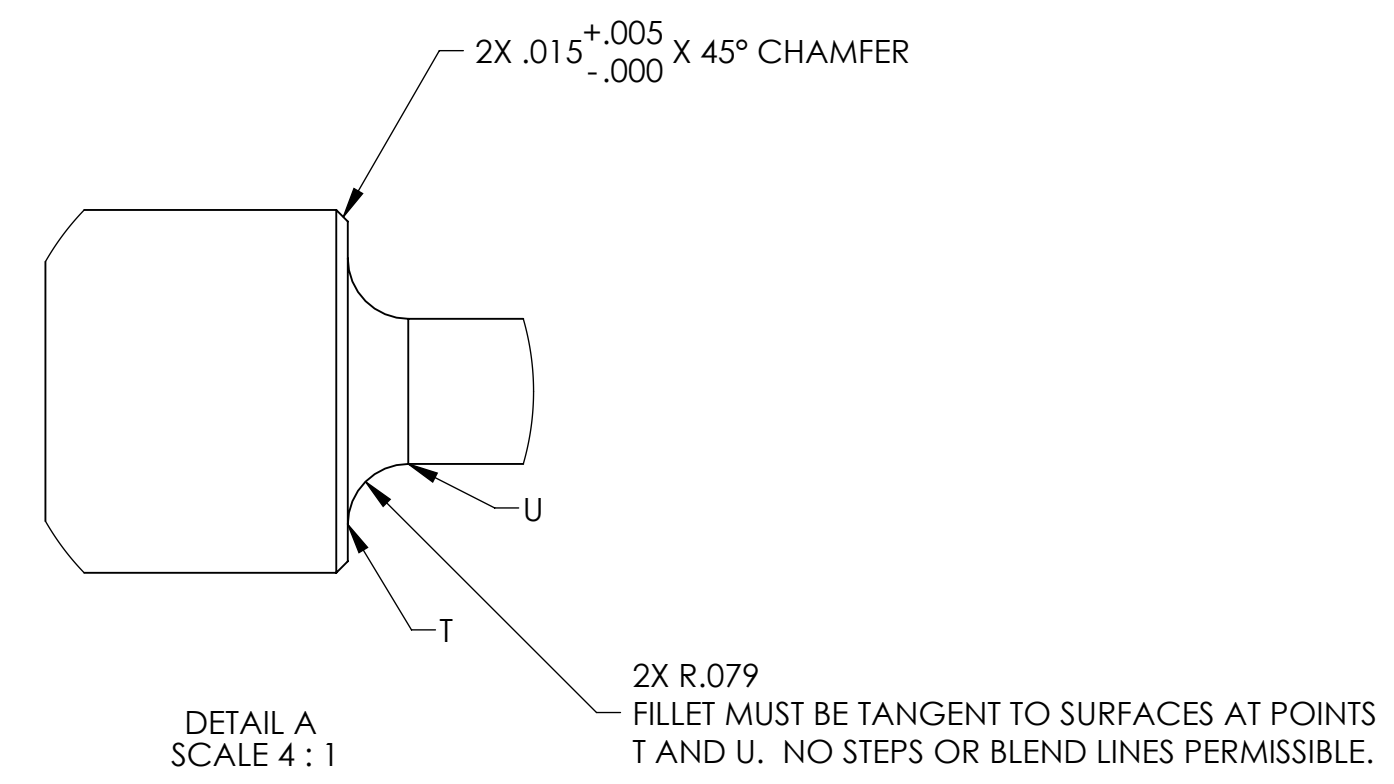
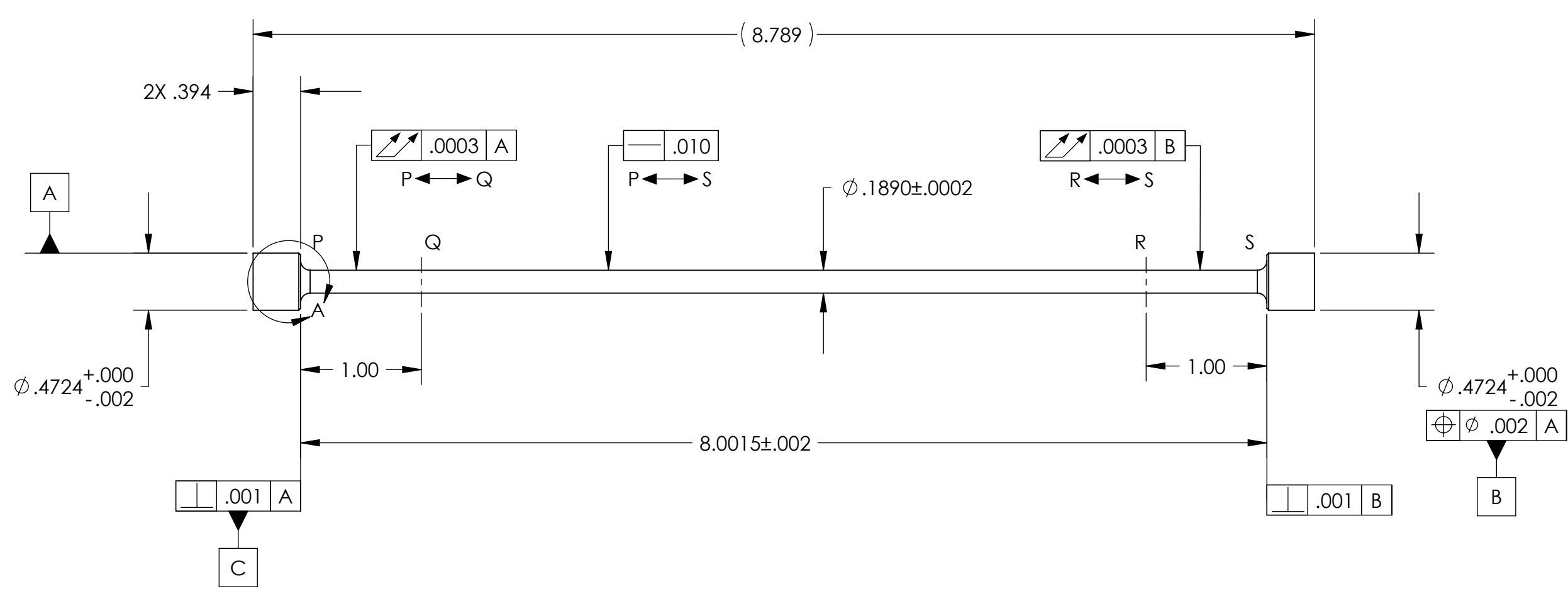


REVISION HISTORY				
REV	DATE	ECO	APPROVAL	DESCRIPTION
V1 / C	26 Jun 2007	1066	J. Waterman	Release for Enhanced LIGO.
V2	20 Mar 2009		A. Stein	Release for Advanced LIGO. No change to geometry. Notes updated.



- MACHINING NOTES:**
- MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH. ABRASIVE REMOVAL TECHNIQUES (OTHER THAN DRESSED BLANCHARD GRINDING) ARE NOT ACCEPTABLE.
  - ALL MACHINING FLUIDS MUST BE WATER SOLUBLE AND FREE OF SULFUR, CHLORINE, AND SILICONE, SUCH AS CINCINNATI MILACRON CIMTECH 410.
  - THOROUGHLY CLEAN PART TO REMOVE ALL OIL, GREASE, DIRT, AND CHIPS.
  - MATERIAL GRAIN DIRECTION MUST BE ORIENTED AS SHOWN.
  - ALL FLEXURES FOR 1 HAM ISI (3 FLEXURES PER SYSTEM) MUST BE MACHINED FROM ONE BLOCK OF MARAGING 300 (MIL-S-46850D). BEGIN WITH MATERIAL IN SOLUTION ANNEALED STATE. INTERMEDIATE MACHINING AND STRAIN RELIEF STEPS ARE ACCEPTABLE.
  - ROUGH MACHINE, THEN HEAT TREAT AS FOLLOWS (INERT ATMOSPHERE REQUIRED):
    - HEAT TO 480 °C. SOAK FOR 40 MINUTES
    - AGE FOR 4-6 HOURS
    - AIR COOL TO ROOM TEMP
 FINAL HARDNESS: 50-55 HRC.
  - MACHINE TO FINAL DIMENSIONS.
  - APPLY ELECTRO-LESS NICKEL PLATING, PER STATEMENT OF WORK (SOW).
- POST-MACHINING NOTES:**
- CLEAN TO LIGO STANDARDS, CLASS A. BAKING PROCESSES MUST NOT ALTER MECHANICAL PROPERTIES.

APPROVALS		DATE	<b>UNLESS OTHERWISE SPECIFIED:</b> DIMENSIONS ARE IN INCHES DECIMAL TOLERANCES: .XX ±.015 .XXX ±.005 ANG TOL: ± 1" SURFACE ROUGHNESS: 4.3 REMOVE ALL SHARP EDGES. LEAVE .005 X 45° MIN CHAMFER, OR .005 MIN RADIUS. THIS PRINT & THE EMBEDDED CAD MODEL ARE THE DOCUMENTATION OF RECORD, UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS IN THE MODEL ARE BASIC, WITH TOLERANCES GIVEN BY: 	ORIGINAL DESIGN BY: <b>High Precision Devices</b>	MODIFIED BY: 
ENGINEERING (HPD): <b>J. Waterman</b>		6/15/2007		DESCRIPTION: <b>Flexure</b>	1468 Valtec Lane, Suite C, Boulder, Colorado 80301 Phone: (303) 447-2558 Fax: (303) 447-2548 Web Site: www.hpd-online.com
QUALITY (HPD): <b>C. Danaher</b>		6/15/2007	MATERIAL: <b>See Notes</b>	P/N: <b>D071102</b>	CONFIG: -
FINISH: <b>See Notes</b>			MATERIAL: <b>See Notes</b>	CAD FILE NAME: D071102_Flexure	
MASS: <b>0.1 lbs</b>				PROJECT: HAM ISI, Advanced LIGO	
				SIZE: <b>C</b>	SCALE: <b>1:1</b>
				DRAWN BY: <b>Jonas Waterman (HPD)</b>	
				REV: <b>V2</b>	
				SHEET 1 OF 1	
				DATE PRINTED: <b>3/20/2009</b>	