



# DOCUMENT CHANGE NOTICE (DCN)

DOCUMENT No. (DOC-REV-GP. ID)	TITLE	NEW REV.
D960012-C-D	Sensor/Actuator Head	D
D960754-B-D	Sensor/Actuator Head	C

**CHANGE DESCRIPTION (FROM/TO):**

Note 5 FROM: MASK THE TWO #4-40 THREADED HOLES AND COAT ENTIRE HEAD WITH A THIN LAYER OF TITANIUM OR MOLYBDENUM TO PROVIDE UNIFORM RESISTIVITY OF .25 OHMS/SQUARE TO 25 OHMS/SQUARE.

TO: MASK THE TWO #4-40 THREADED HOLES AND COAT ENTIRE HEAD WITH A THIN LAYER OF CONDUCTIVE MATERIAL TO PROVIDE UNIFORM RESISTIVITY OF .25 OHMS/SQUARE TO 25 OHMS/SQUARE.

**REASON FOR CHANGE:** Titanium and molybdenum are not the only conductive materials that will work in this application. Zirconium nitride may also be used.

**ACTION:**  Incorporate change  Attach DCN to drawing(s)  Other action (specify):

**DISPOSITION OF HARDWARE (IDENTIFY SERIAL NUMBERS)**

**DCN DISTRIBUTION (X=incl. docs)**

- No hardware affected (record change only)
- List S/Ns which comply already:
- List S/Ns to be reworked or scrapped:
- List S/Ns to be built with this change:
- List S/Ns to be retested per this change:
- 
- Note: currently, all LHO 2k and LLO 4k heads are molybdenum coated.
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Coyne	Barish	Coles
Raab	Lazzarini	Lindquist
Stapfer	Sanders	Shoemaker
Whitcomb	Tyler	Weiss
	Zydowicz	
Barton		
Jones		
Heefner		
X Romie		
Fritschel		

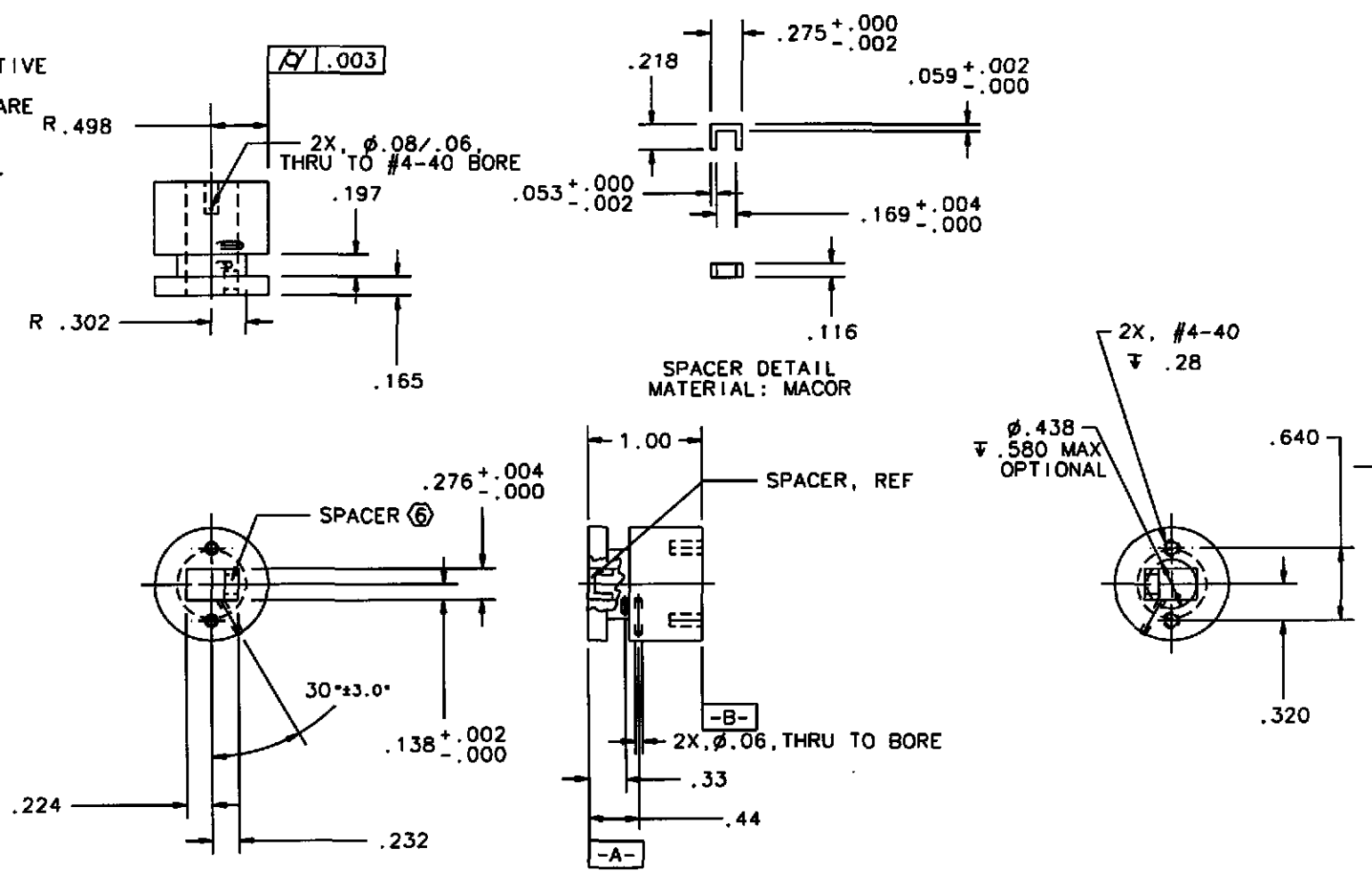
**SAFETY, COST, SCHEDULE, REQUIREMENTS IMPACT?**  No  Yes (If yes, enter Change Request number )

APPROVALS:	DATE	OTHER APPROVALS (specify)	DATE
ORIGINATOR: J. Romie	5-30-00		
TASK LEADER: J. Romie	5-30-00		
GROUP LEADER: <i>J. Coyne</i>	5/31/00		
DCC RELEASE: <i>R. Romie</i>	10.9.00		

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. FILLETS: R .015 MAX
2. BREAK ALL SHARP EDGES  
.02/.01 X 45°
3. MATERIAL: CORNING MACOR
4. T ± T DRAFT ALLOWED  
FOR SLOT. SLOT DIMENSIONS  
VALID AT DATUM -A-
5. MASK THE TWO #4-40 THREADED  
HOLES AND COAT ENTIRE HEAD  
WITH A THIN LAYER OF CONDUCTIVE  
MATERIAL TO PROVIDE UNIFORM  
RESISTIVITY OF .25 OHMS/SQUARE  
TO 25 OHMS/SQUARE.
6. GLUE SPACER INTO HEAD WITH  
PERKIN ELMER VAC-SEAL EPOXY.  
TOP OF SPACER TO BE FLUSH  
WITH DATUM -A-
7. COAT HEAD BEFORE INSTALLING  
THE SPACER.
8. MASK SLOT AND OPTIONAL  
ø.438, BEFORE COATING.  
MASK SURFACE DEFINED BY  
DATUM -B- BEFORE COATING.

REV	DATE	DRAWN BY	CHECKED	DCO	DCN/DESCRIPTION
A	7-26-97	J. Hazel			E970121/INITIAL RELEASE
B	7-18-98	J. Hazel			E980177/ADD SPACER AND OPTIONAL ø.438. CHANGE GOLD TO TITANIUM. DRAW TO SCALE
C	3-3-98	J. Hazel			E980060/ADD MASKING INFO.
D	8-28-00	J. Randle			E000267/CHANGE TO COND. COATING



QTY REQD	PSM NO	PART OR IDENTIFYING NO	ABBREVIATURE OR DESCRIPTION	MATERIAL SPECIFICATION	ITEM NO
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .001 ± .005 ± .5° DO NOT SCALE DRAWING			CONTRACT NO. <b>LIGO</b> CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
APPROVALS DESIGN J. HAZEL		DATE 7/95	TITLE SENSOR/ACTUATOR HEAD		REV D
FINISH ✓		DATE A3		Dwg NO. D960012	
FILE LOCATION /HOME/occl/occs/0960012.ppt		SCALE NONE		SHEET 1 OF 1	

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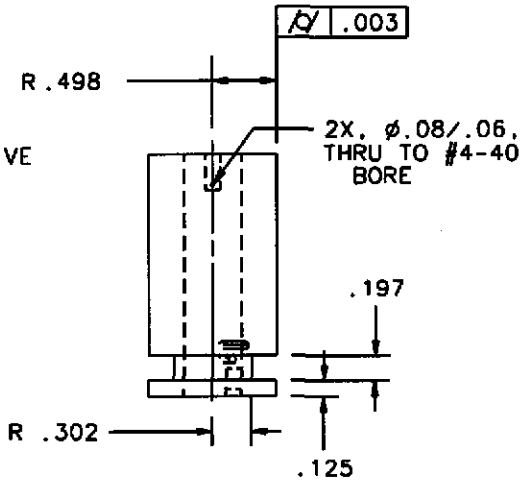
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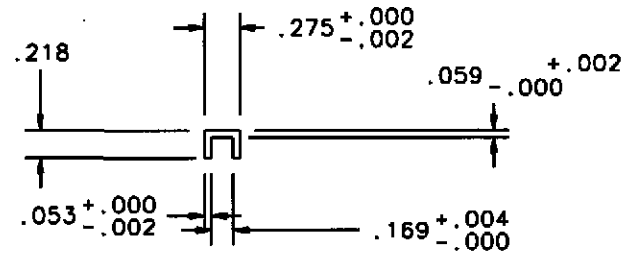
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NOTES: (UNLESS OTHERWISE SPECIFIED)

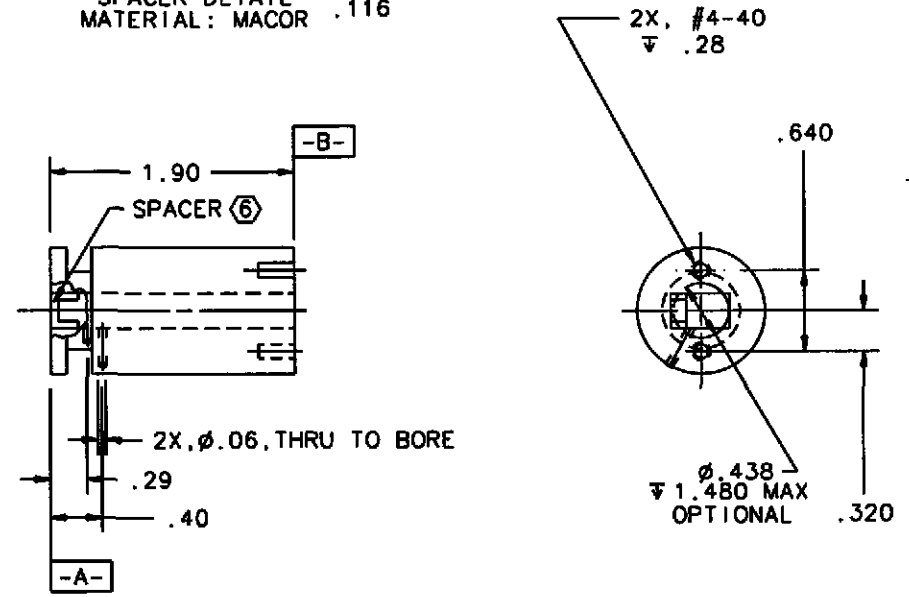
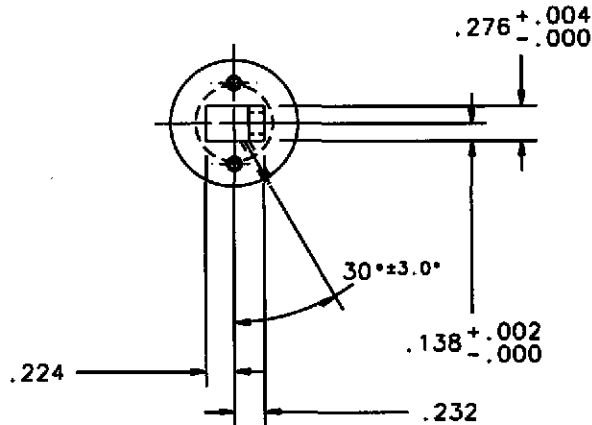
- 1. FILLETS: R .015 MAX
- 2. BREAK ALL SHARP EDGES  
.02/.01 X 45°
- 3. MATERIAL: CORNING MACOR
- 4. 1°±1° DRAFT ALLOWED FOR SLOT. SLOT DIMENSIONS VALID AT DATUM **-A-**
- 5. MASK THE TWO #4-40 THREADED HOLES AND COAT ENTIRE HEAD WITH A THIN LAYER OF CONDUCTIVE MATERIAL TO PROVIDE UNIFORM RESISTIVITY OF .25 OHMS/SQUARE TO 25 OHMS/SQUARE.
- 6. GLUE SPACER INTO HEAD WITH PERKIN ELMER VAC-SEAL EPOXY. TOP OF SPACER TO BE FLUSH WITH DATUM **-A-**
- 7. COAT HEAD BEFORE INSTALLING THE SPACER.
- 8. MASK SLOT AND OPTIONAL  $\phi$ .438, BEFORE COATING. MASK SURFACE DEFINED BY DATUM **-B-** BEFORE COATING.



REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
A	2-28-98	J. Hozel			E980017/INITIAL RELEASE
B	3-3-98	J. Hozel			E980060/ADD MASKING INFO.
C	5-30-00	J. Romie			E000267/CHANGE TO COND.COATING



SPACER DETAIL MATERIAL: MACOR



REV	DATE	DRAWN BY	CHECKED	DCC	DCN/DESCRIPTION
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS ANGLES 0.250-0.01 0.250-0.005 ANGLES-10.0°		APPROVALS	DATE	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY UNIVERSITY OF CALIFORNIA	
DRAWN J. HAZEL			5/96	TITLE	
CHECKED				SENSOR/ACTUATOR HEAD	
MATERIAL: MACOR				REV	
FINISH: $\nabla$				C	
SCALE: NONE		FILENAME: /home/301/0001/000754.dwg		DWT NO. D960754	
				SHEET 1 OF 1	

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