HAM Structure Lift Assembly parts and quantities:

	Part Number	Description	Rev.	Quantity
1	D1001769	GUIDE SHAFT SUPPORT, HAM STRUCTURE LIFT	v1	4
2	D1001770	BOTTOM BEARING SUPPORT, HAM STRUCTURE LIFT	v1	1
3	D1001771	TOP BEARING SUPPORT, HAM STRUCTURE LIFT	v1	1
4	D1001772	BELLOWS SUPPORT, HAM STRUCTURE LIFT	v1	3
5	D1001773	YOKE, HAM STRUCTURE LIFT	v1	1
6	D1001774	YOKE ARM, HAM STRUCTURE LIFT	v1	2
7	D1001776	WORM SHAFT, HAM STRUCTURE LIFT	v1	1
8	D1001777	WORM SHAFT BEARING SUPPORT, HAM STRUCTURE	v1	2
9	D1001778	GEAR COVER SUPPORT, HAM STRUCTURE LIFT	v1	2
10	D1001779	GEAR COVER, HAM STRUCTURE LIFT	v1	1
11				
12				
13				
14				
15	D1001792	OMC LIFTING BRACKET	v1	2
16	D1001793	OMC LIFTING BRACKET CLAMP	v1	2

NOTES CONTINUED:

(5) SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO DYES OR INKS) A UNIQUE THREE DIGIT SERIAL NUMBER & REVISION NUMBER ON EACH PART. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. BAG AND TAG PARTS WITH THEIR DRAWING PART NUMBER, REVISION, VARIANT OR "TYPE" (IF APPLICABLE), AND QUANTITY. IF PARTS ARE TOO SMALL TO SCRIBE, BAGGING AND TAGGING ALONE IS SUFFICIENT.
EXAMPLE (PART): 001-v1
EXAMPLE (TAG): DXXXXXXX-VY, TYPE-XX, QTY: TBD

(6) HELICOIL INSTALLATION:

MACHINE SHOP:

A) DRILL PILOT HOLE FOR INSERT SPECIFIED ON THE DRAWING, REFERENCE HELICOIL
PRODUCT CATALOGUE, HC 2000
B) COUNTERSINK HOLE TO 120O±5O, REFERENCE HELICOIL PRODUCT CATALOGUE,
HC 2000, FOR DIAMETER
C) TAP HOLE FOR INSERT SPECIFIED ON THE DRAWING, REFERENCE HELICOIL PRODUCT CATALOGUE, HC 2000
D) REMOVE ALL CHIPS
E) GAGE THREADS WITH GAGE TOOL FOR INSERT SPECIFIED IN DRAWING, REFERENCE
HELICOIL PRODUCT CATALOGUE, HC 2000 AND AS PER AGREED INSPECTION

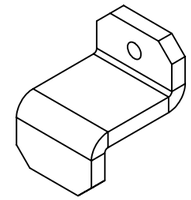
LIGO:

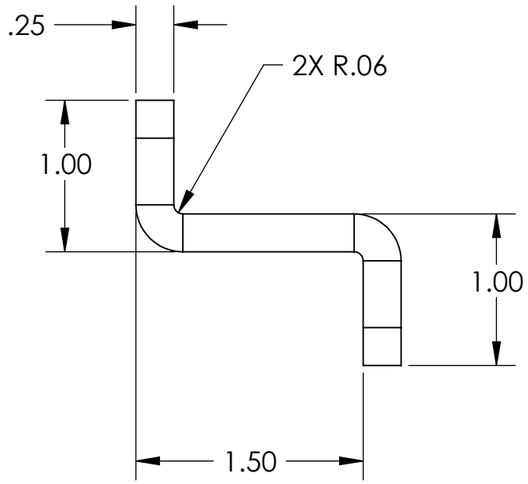
F) CLEAN ALL OF THE PARTS (TOOLS, METAL PARTS, HELICOILS, INTSERT TOOL ETC ...) AS PER LIGO
VACUUM COMPATIBILITY, CLEANING METHODS AND QUALIFICATION PROCEDURES E960022
G) HANDLE PARTS AS PER LIGO VACUUM COMPATIBILITY, CLEANING METHODS AND QUALIFICATION PROCEDURES E960022
H) GAGE THREADS WITH GAGE TOOL FOR INSERT SPECIFIED IN DRAWING, REFERENCE
HELICOIL PRODUCT CATALOGUE, HC 2000 AS PER AN AGREED INSPECTION
I) INSERT THE HELICOIL WITH TOOL TO ¾ TO 1½ PITCH BELOW SURFACE
J) TEST WITH APPROPRIATE SCREW
K) BREAK OFF AND REMOVE TANG

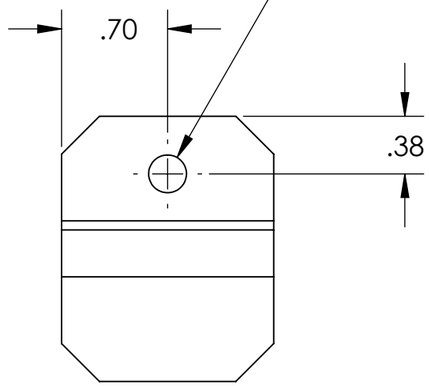
7. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

(8) PART MAY BE MACHINED FROM BLOCK.

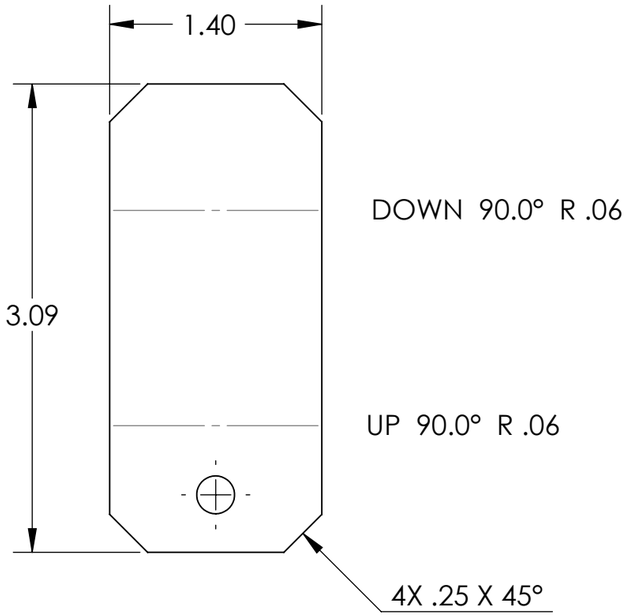
REV.	DATE	DCN #	DRAWING TREE #
V1	23 JUL 2010	E1000270	







(6)
DRILL AND TAP FOR 1/4-20 HELICOIL
INSERT #1185-4EN250



FLAT PATTERN

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)									
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± 0.5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.			LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME: OMC BRACKET CLAMP, HAM STRUCTURE LIFT			
	MATERIAL: 304 SSTL (8)	FINISH: 32 µinch		SYSTEM: ADVANCED LIGO	SUB-SYSTEM: SUS	DESIGNER: K. BUCKLAND 1 JUN 2010 DRAFTER: K. BUCKLAND 23 JUL 2010 CHECKER: APPROVAL:	SIZE: B	DWG. NO.: D1001793	REV.: v1
				NEXT ASSY: D1001664			SCALE: 1:1	PROJECTION:	SHEET 1 OF 1

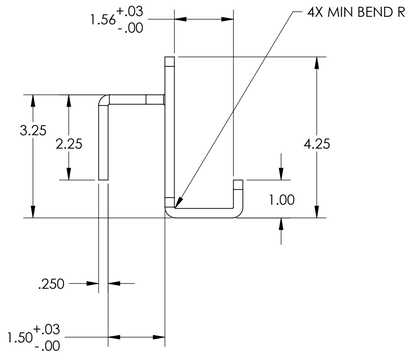
D1001793 OMC BRACKET CLAMP, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-002, DRAWING PDM REV: X-003

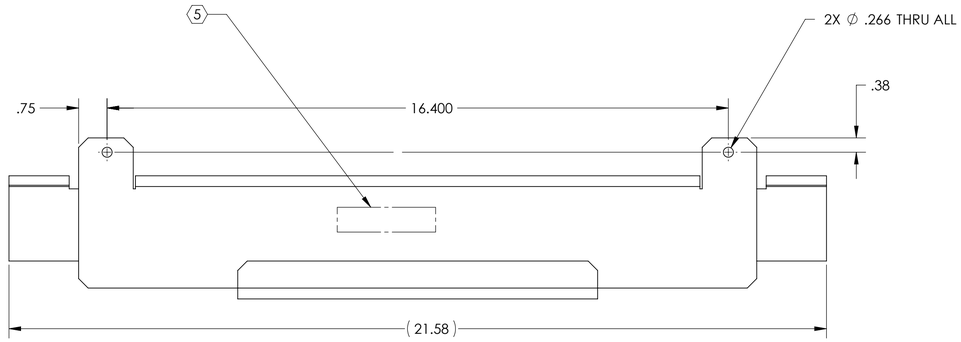
NOTES CONTINUED:

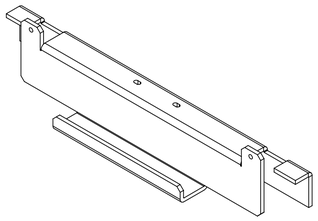
Ⓢ SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

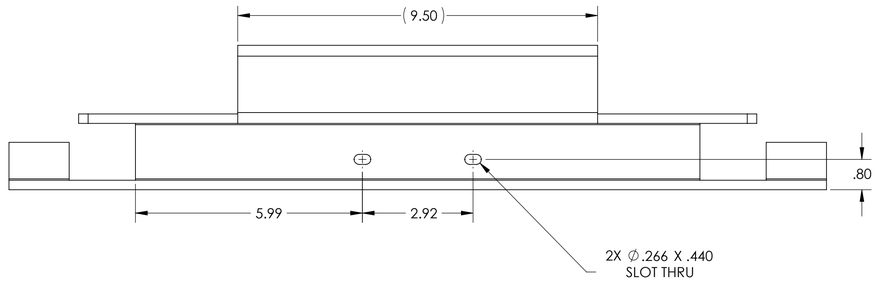
6. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

REV.	DATE	DCN #	DRAWING TREE #
V1	26 JUL 2010	E1000270	





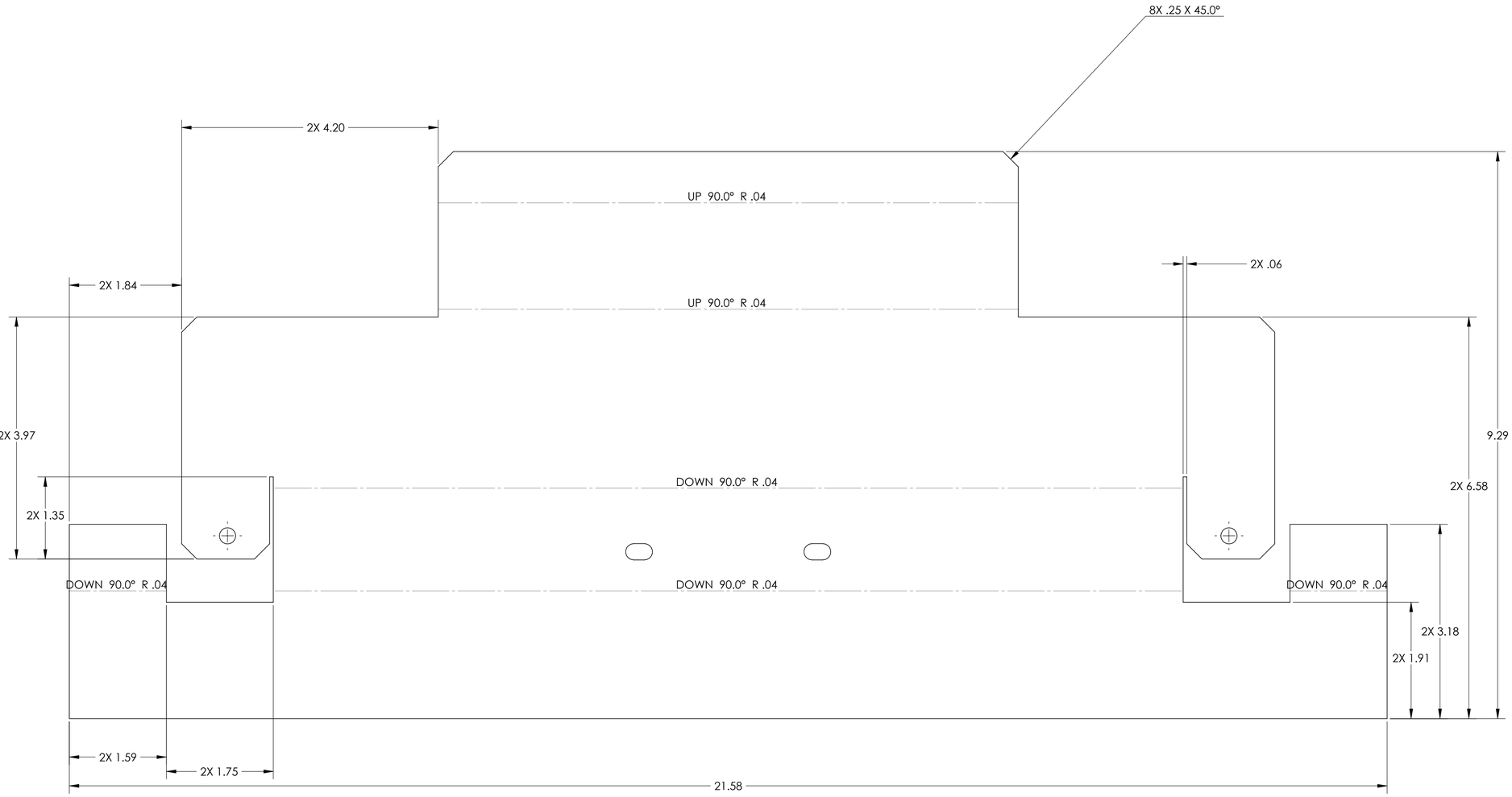




SEE SHEET 2 FOR FLAT PATTERN

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)									
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .03 .XXX ± .010 ANGULAR ± 0.5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME: OMC BRACKET, HAM STRUCTURE LIFT				
	MATERIAL: 304 SSTL	FINISH: 32 µinch	SYSTEM: ADVANCED LIGO	SUB-SYSTEM: SUS	DESIGNER: K. BUCKLAND	1 JUN 2010	SIZE: D	DWG. NO.: D1001792	REV.: v1
			NEXT ASSY: D1001664		DRAFTER: K. BUCKLAND	26 JUL 2010			
					CHECKER				
					APPROVAL		SCALE: 1:2	PROJECTION:	SHEET 1 OF 2

D1001792 OMC BRACKET, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM, REV= X-X04, DRAWING PDM, REV= X-X02



FLAT PATTERN

D1001792 OMC BRACKET, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV= X-004, DRAWING PDM REV= X-002

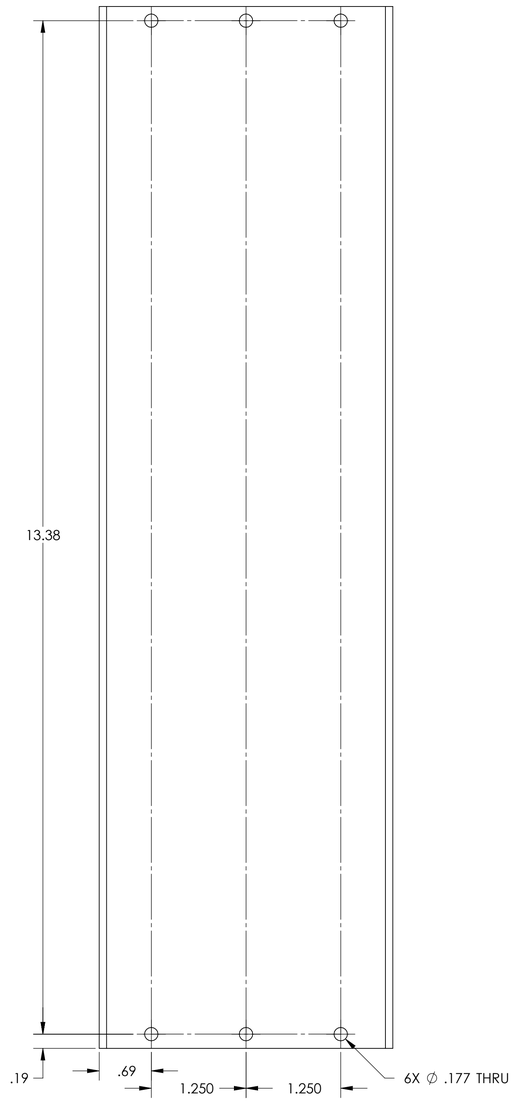
LIGO	CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		
SIZE D	DWG. NO. D1001792		REV. v1
SCALE: 1:2	PROJECTION:		SHEET 2 OF 2

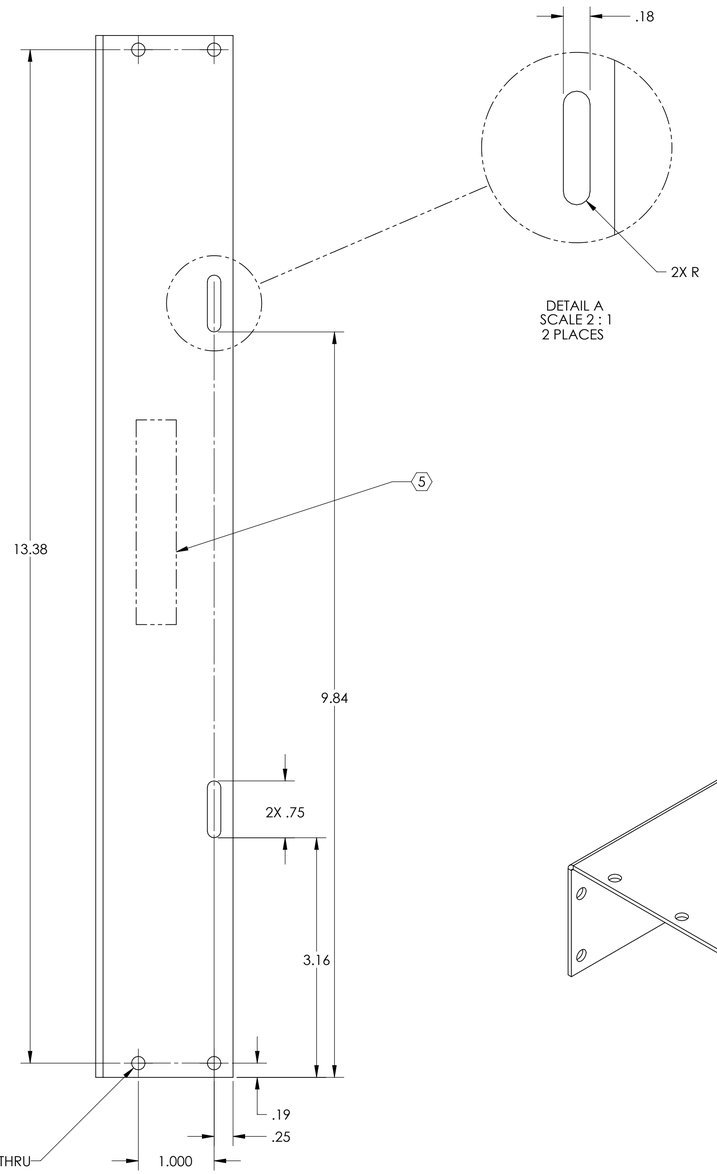
NOTES CONTINUED:

(5) SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART 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 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

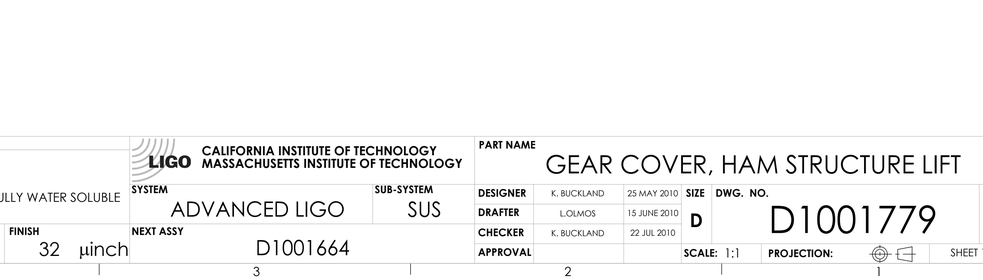
(6) ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

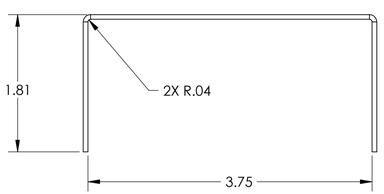
REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-





BOTH SIDES





NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

DIMENSIONS ARE IN INCHES

TOLERANCES:
.XX ± .01
.XXX ± .005

ANGULAR ± 0.5°

1. INTERPRET DRAWING PER ASME Y14.5-1994.
2. REMOVE ALL SHARP EDGES, R.02 MIN.
3. DO NOT SCALE FROM DRAWING.
4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

MATERIAL: 5052-H32

FINISH: 32 µinch

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM: ADVANCED LIGO

SUB-SYSTEM: SUS

NEXT ASSY: D1001664

PART NAME: GEAR COVER, HAM STRUCTURE LIFT

DESIGNER	K. BUCKLAND	25 MAY 2010	
DRAFTER	L.OLMOS	15 JUNE 2010	
CHECKER	K. BUCKLAND	22 JUL 2010	
APPROVAL			

SIZE: D

DWG. NO.: D1001779

REV.: v1

SCALE: 1:1

PROJECTION:

SHEET 1 OF 1

D1001779 GEAR COVER, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-005, DRAWING PDM REV: X-005

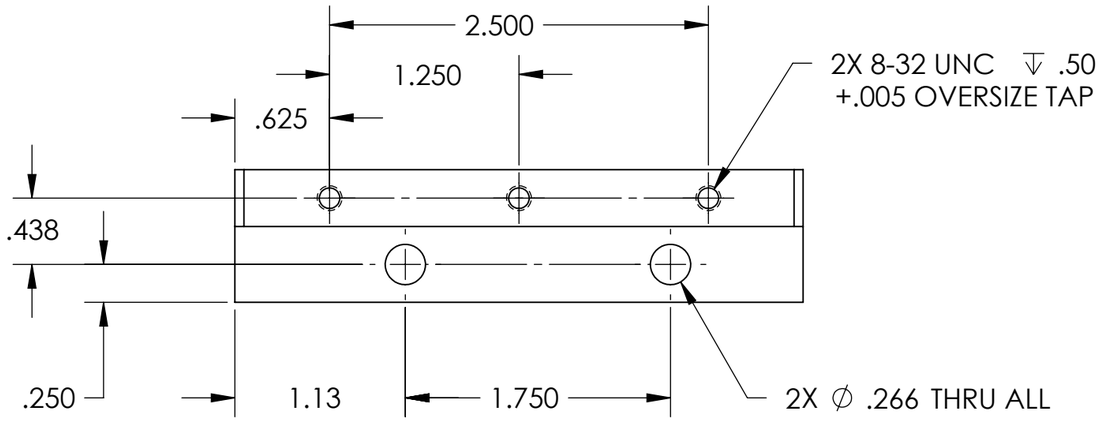
NOTES CONTINUED:

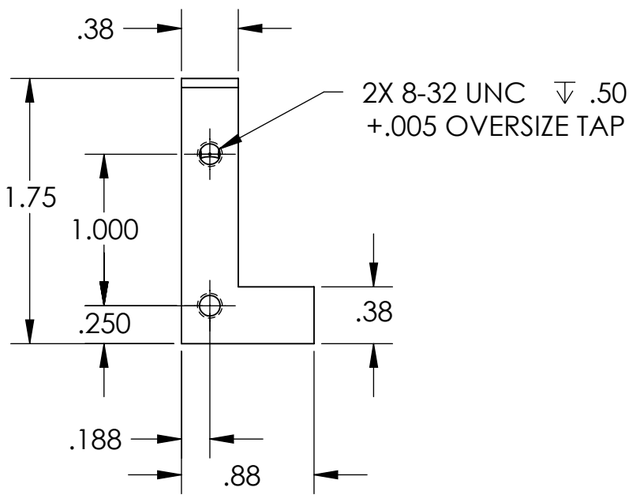
5. SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

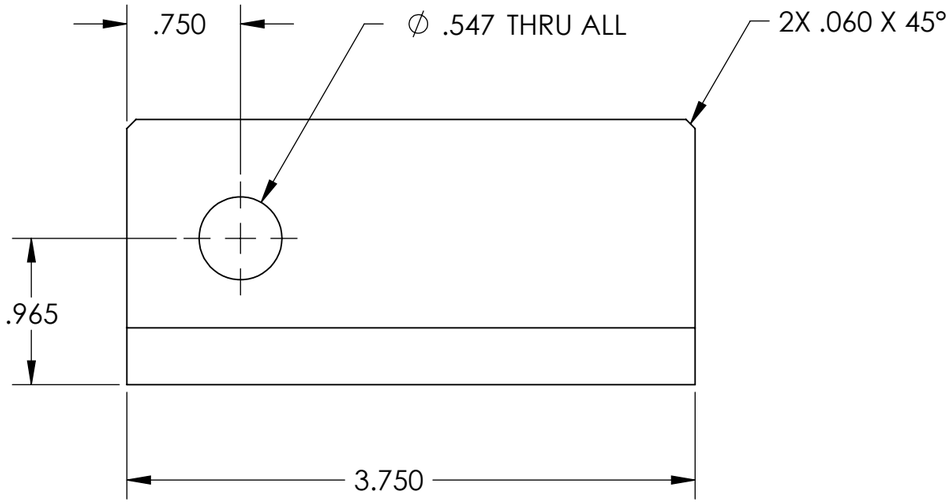
7. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

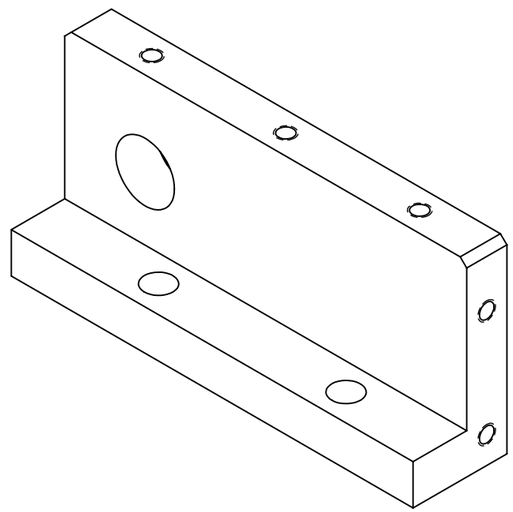
REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-





BOTH ENDS





NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)							
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± 0.5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME: GEAR COVER SUPPORT, HAM STRUCTURE LIFT		
	MATERIAL: 6061-T6 Al	FINISH: 32 µinch	SYSTEM: ADVANCED LIGO	SUB-SYSTEM: SUS	DESIGNER: K. BUCKLAND 25 M1Y 2010 DRAFTER: L. OLMOS 7 JUNE 2010 CHECKER: K. BUCKLAND 22 JUL 2010 APPROVAL:	SIZE: B	DWG. NO.: D1001778 REV.
			NEXT ASSY: D1001664			SCALE: 1:1	PROJECTION: SHEET 1 OF 1

D1001778 GEAR COVER SUPPORT, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-007, DRAWING PDM REV: X-002

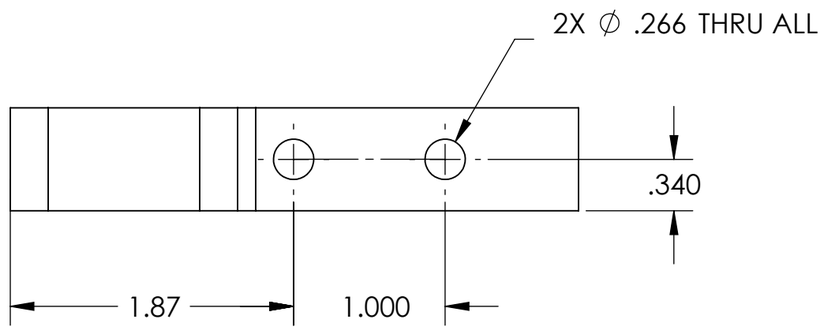
NOTES CONTINUED:

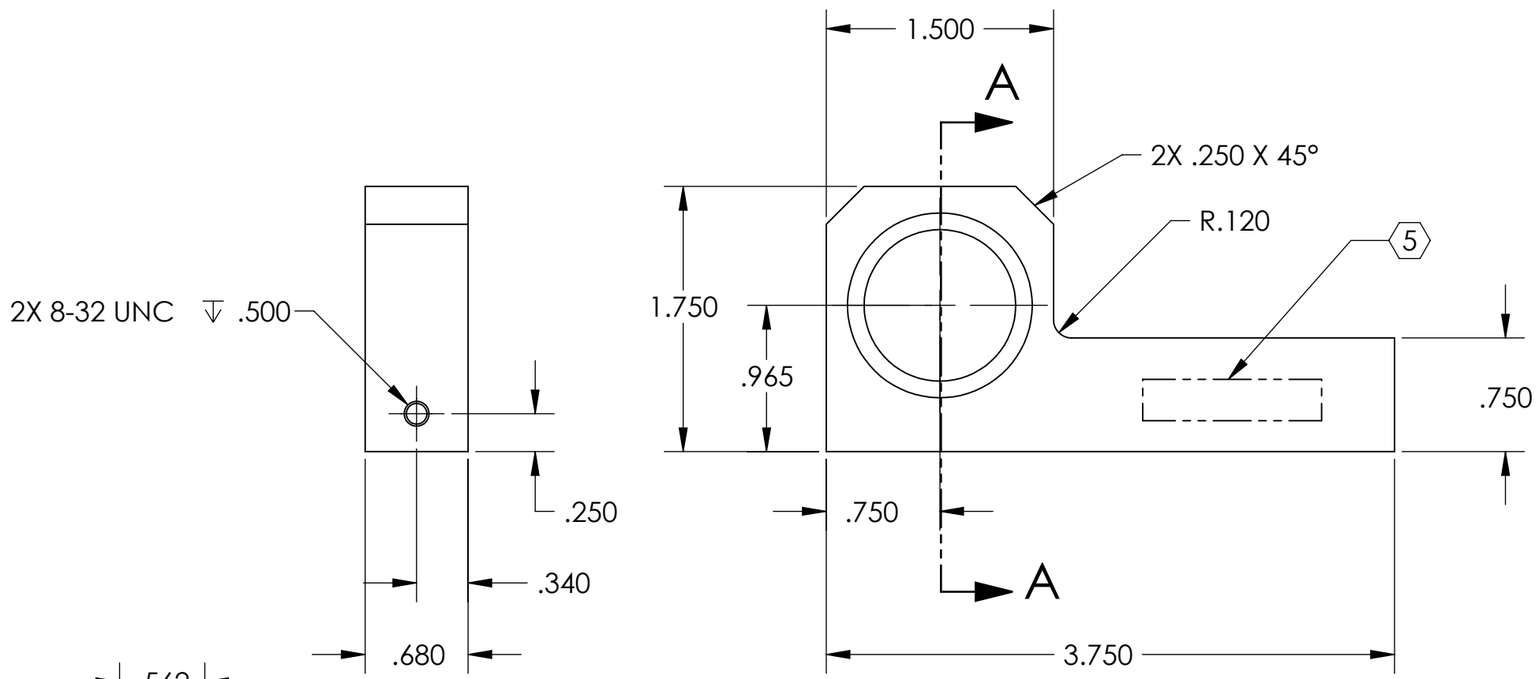
5. SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

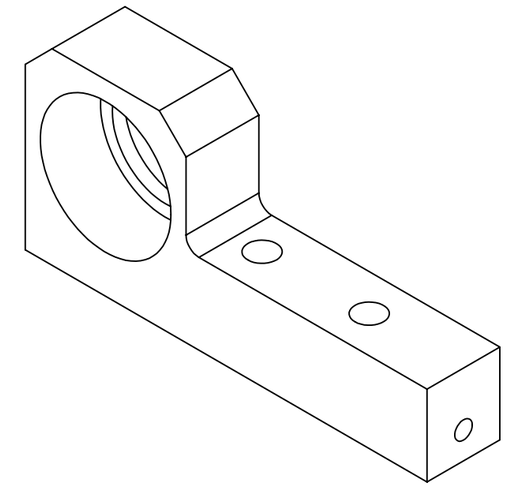
6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

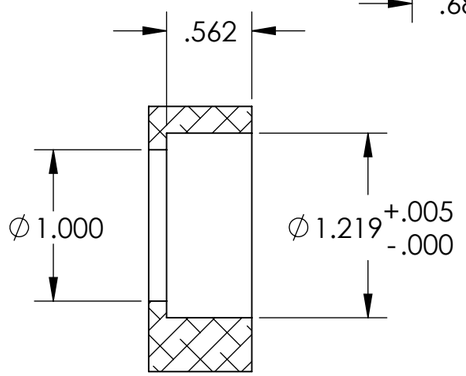
7. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-









SECTION A-A
SCALE 1 : 1

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

DIMENSIONS ARE IN INCHES

TOLERANCES:
.XX ± .01
.XXX ± .005

ANGULAR ± 0.5°

1. INTERPRET DRAWING PER ASME Y14.5-1994.
2. REMOVE ALL SHARP EDGES, R.02 MIN.
3. DO NOT SCALE FROM DRAWING.
4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

MATERIAL: 6061-T6 Al
FINISH: 32 µinch

LIGO — CALIFORNIA INSTITUTE OF TECHNOLOGY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM: ADVANCED LIGO
SUB-SYSTEM: SUS
NEXT ASSY: D1001664

PART NAME: WORM SHAFT BEARING SUPPORT, HAM STRUCTURE LIFT

DESIGNER	K. BUCKLAND	24 MAY 2010
DRAFTER	L.OLMOS	15 JUNE 2010
CHECKER	K. BUCKLAND	22 JUL 2010
APPROVAL		

SIZE: B — DWG. NO.: D1001777 — REV.: v1

SCALE: 1:1 — PROJECTION: — SHEET 1 OF 1

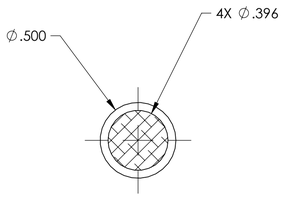
D1001777 WORM SHAFT BEARING SUPPORT, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-003 ASSY PDM REV: X-005, DRAWING PDM REV: X-003

NOTES CONTINUED:

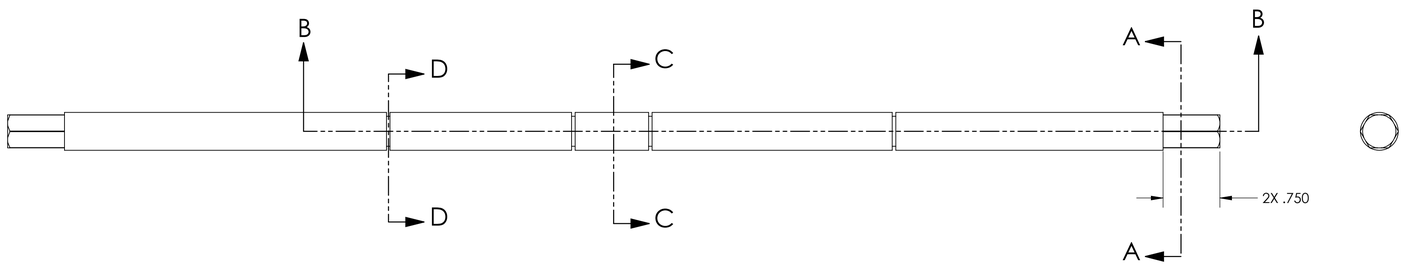
Ⓢ BAG ALL ITEMS AND MARK OR TAG EACH BAG WITH DRAWING NUMBER, REVISION, AND QUANTITY. EXAMPLE: DXXXXXXX-VY, QTY: TBD.

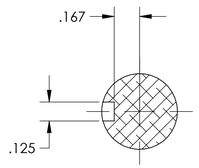
6. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-

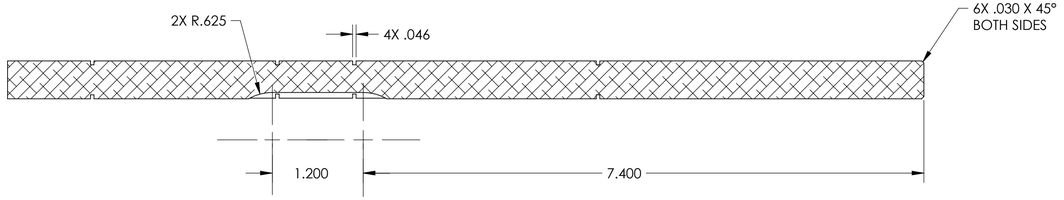


SECTION D-D
SCALE 2 : 1

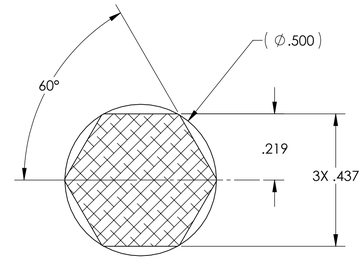




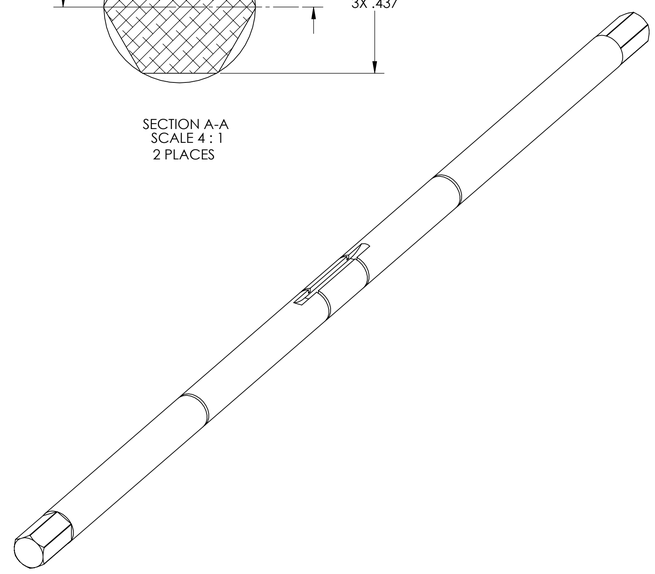
SECTION C-C
SCALE 2 : 1



SECTION B-B



SECTION A-A
SCALE 4 : 1
2 PLACES



D1001776 WORM SHAFT, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-003, DRAWING PDM REV: X-002

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)										
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± 0.5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES. R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME: WORM SHAFT, HAM STRUCTURE LIFT					
	MATERIAL: 304 SSTL	FINISH: 32 µinch	SYSTEM: ADVANCED LIGO	SUB-SYSTEM: SUS	DESIGNER	K.BUCKLAN	16 JUNE 2010	SIZE: D	DWG. NO.: D1001776	REV.: v1
			NEXT ASSY: D1001664		DRAFTER	L.OLMOS	16 JUNE 2010			
					CHECKER	K. BUCKLAND	22 JUL 2010			
					APPROVAL			SCALE: 1:1	PROJECTION:	SHEET 1 OF 1

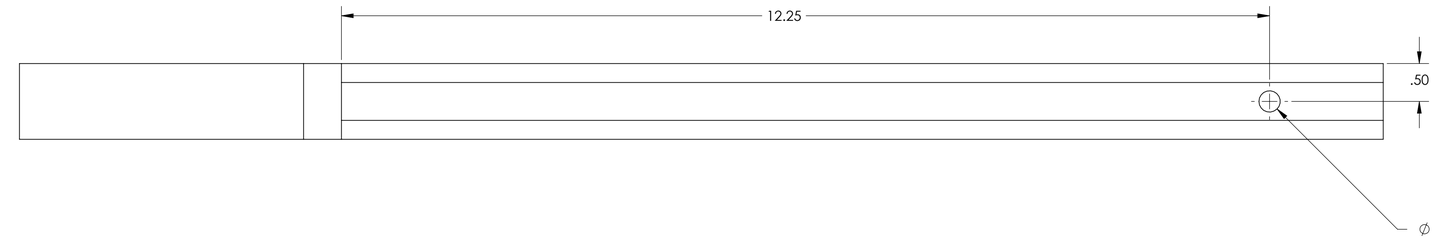
NOTES CONTINUED:

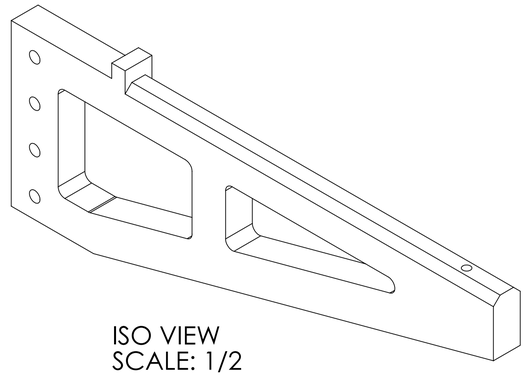
Ⓢ SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

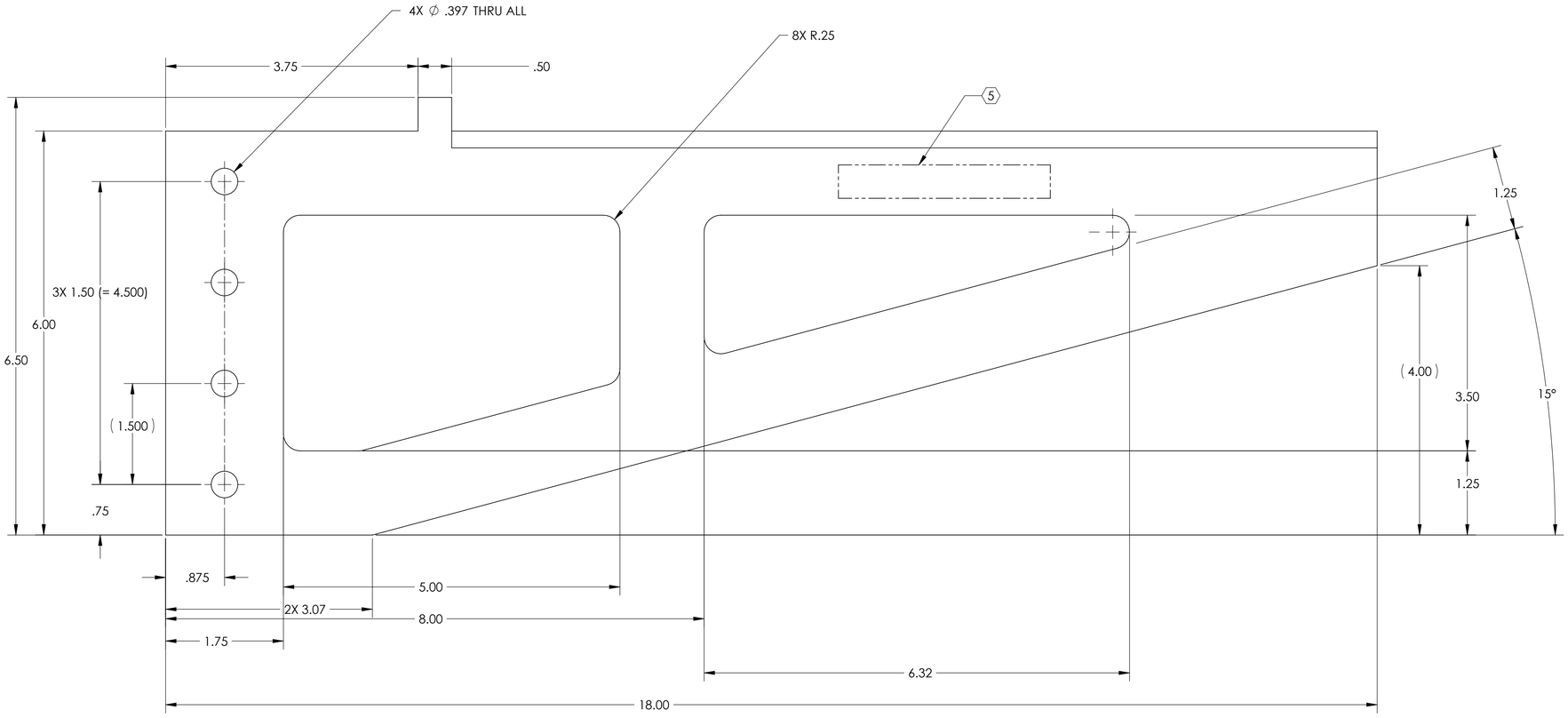
Ⓣ ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

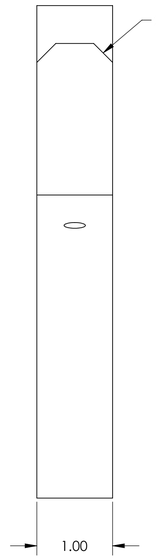
REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-





ISO VIEW
SCALE: 1/2





	NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)	
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± .5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.	
	MATERIAL: 6061-T6 Al	FINISH: 32µinch

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM	ADVANCED LIGO
SUB-SYSTEM	SUS
NEXT ASSY	D1001664

PART NAME: YOKE ARM, HAM STRUCTURE LIFT

DESIGNER	K. BUCKLAND	12 APR 2010
DRAFTER	L.OLMOS	21/5/2010
CHECKER	K. BUCKLAND	22 JUL 2010
APPROVAL		

SIZE: D | DWG. NO.: D1001774 | REV.: v1
SCALE: 1:1 | PROJECTION: | SHEET 1 OF 1

D1001774 YOKE ARM, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-010, DRAWING PDM REV: X-012

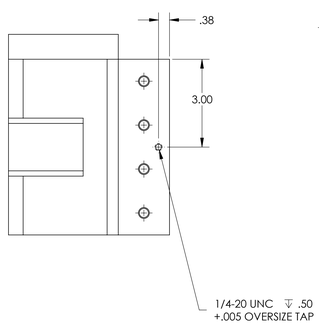
NOTES CONTINUED:

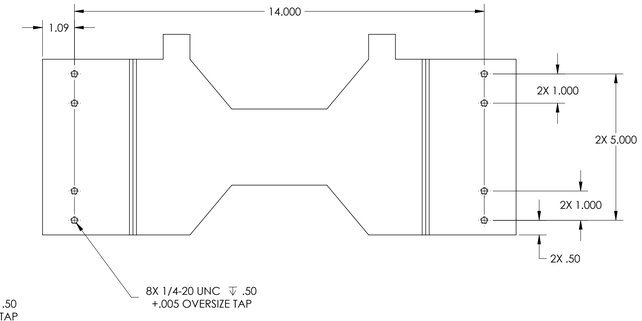
5. SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX.

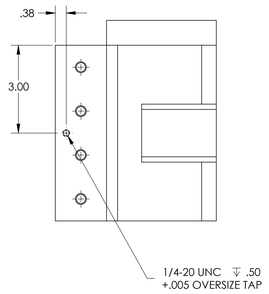
6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH. USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

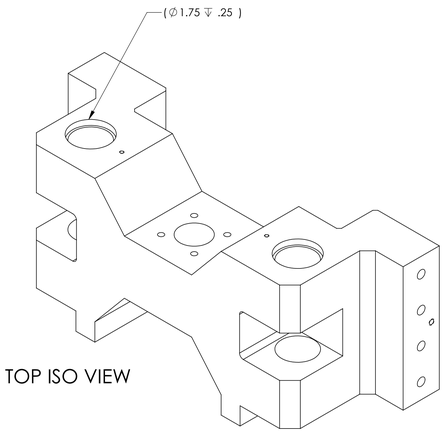
7. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	

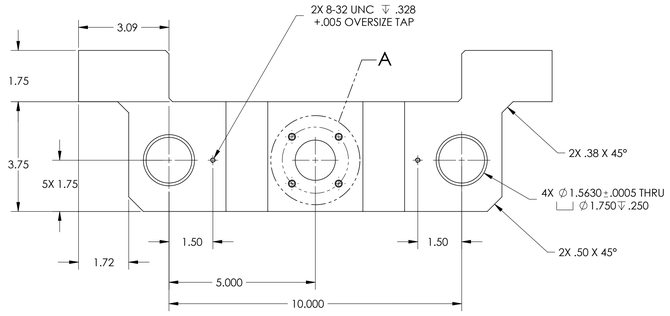


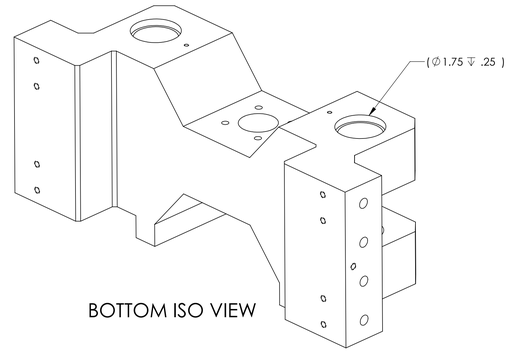




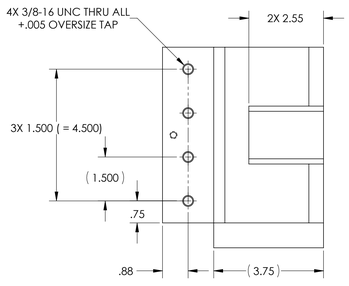


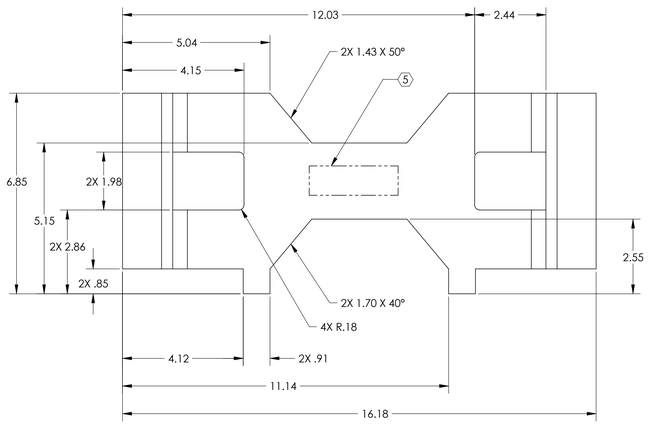
TOP ISO VIEW

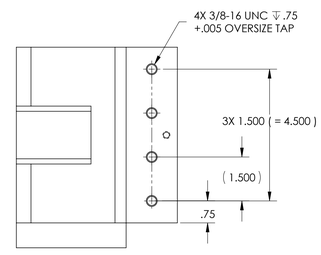


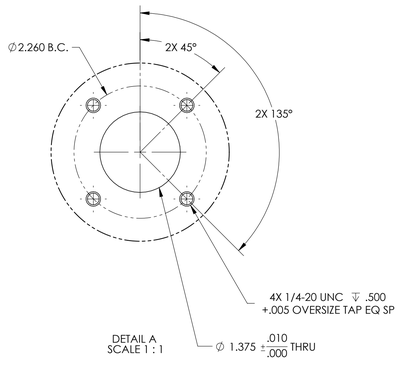


BOTTOM ISO VIEW









2 PLACES

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

DIMENSIONS ARE IN INCHES

TOLERANCES:
.XX ± .01
.XXX ± .005
ANGULAR ± .5°

1. INTERPRET DRAWING PER ASME Y14.5-1994.
2. REMOVE ALL SHARP EDGES, R.02 MIN.
3. DO NOT SCALE FROM DRAWING.
4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

MATERIAL: 6061-T6 Al
FINISH: 32 µinch

LIGO — CALIFORNIA INSTITUTE OF TECHNOLOGY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM: ADVANCED LIGO
SUB-SYSTEM: SUS
NEXT ASSY: D1001664

PART NAME: YOKE, HAM STRUCTURE LIFT

DESIGNER	K. BUCKLAND	12 APR 2010	
DRAFTER	L.OLMOS	21/5/2010	
CHECKER	K. BUCKLAND	22 JUL 2010	
APPROVAL			

SIZE: E
DWG. NO.: D1001773
REV.: v1
SCALE: 1:2
PROJECTION:
SHEET 1 OF 1

D1001773 YOKE, HAM STRUCTURE LIFT, LIGO, SUS, PART PDM REV X.014, DRAWING PDM REV X.006

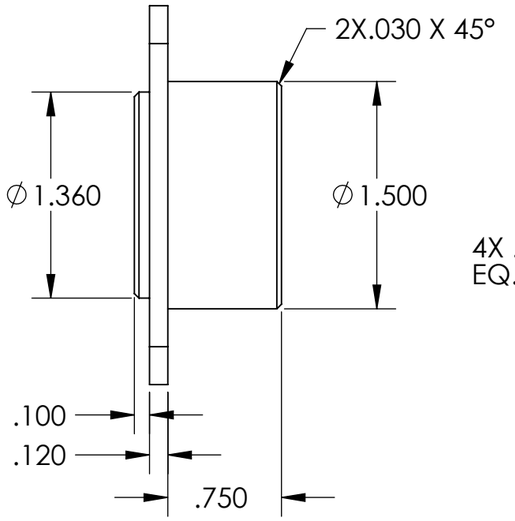
NOTES CONTINUED:

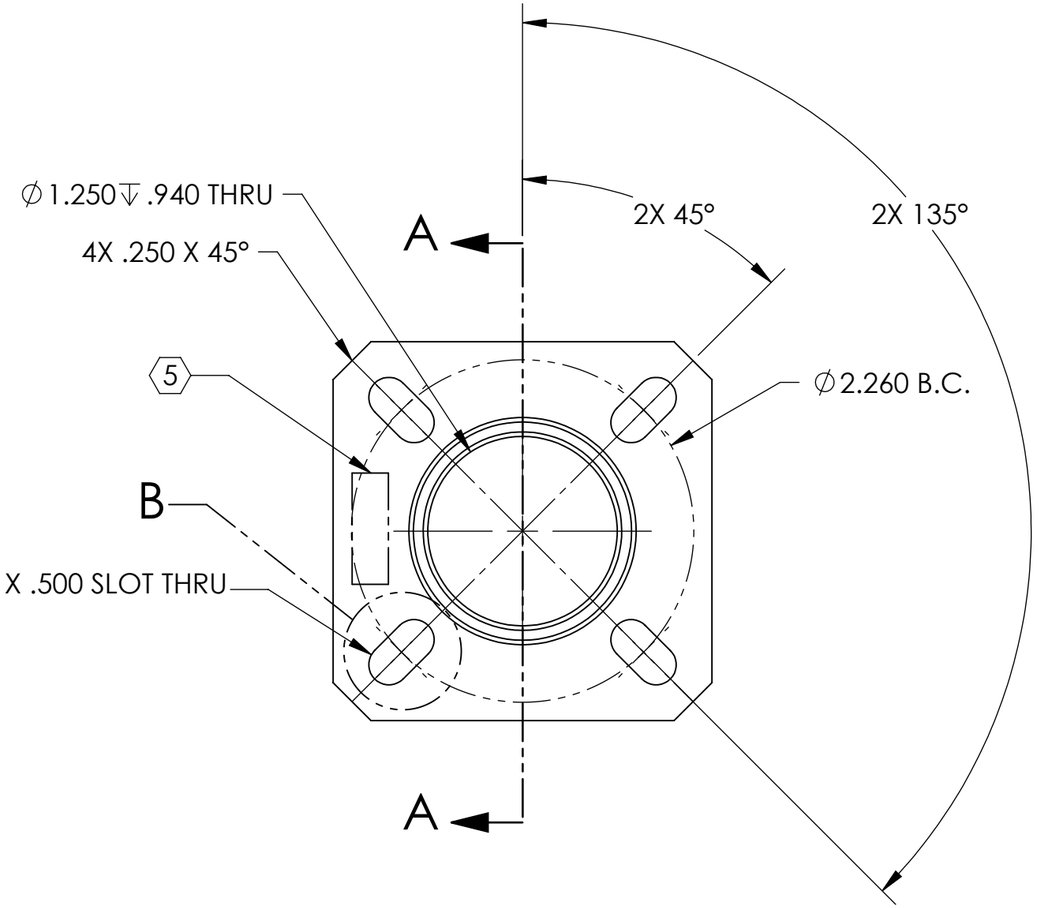
5. SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

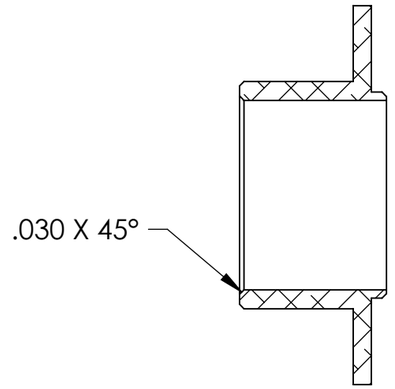
6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

7. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

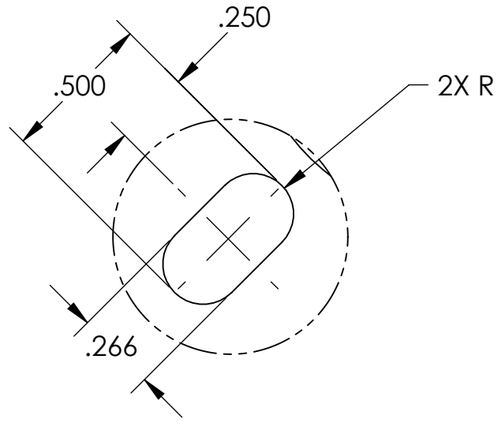
REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-



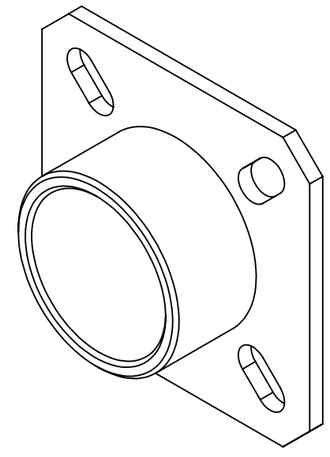




SECTION A-A



DETAIL B
SCALE 2 : 1
4 PLACES



NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)							
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± .5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME: BELLOWS SUPPORT, HAM STRUCTURE LIFT		
	MATERIAL: 6061-T6 Al	FINISH: 32 µinch	SYSTEM: ADVANCED LIGO	SUB-SYSTEM: SUS	DESIGNER: K. BUCKLAND 26 APR 2010 DRAFTER: L.OLMOS 25 MAY 2010 CHECKER: K. BUCKLAND 22 JUL 2010 APPROVAL	SIZE: B	DWG. NO.: D1001772 REV.: v1
			NEXT ASSY: D1001664			SCALE: 1:1	PROJECTION: SHEET 1 OF 1

D1001772 BELLOWS SUPPORT, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-006, DRAWING PDM REV: X-004

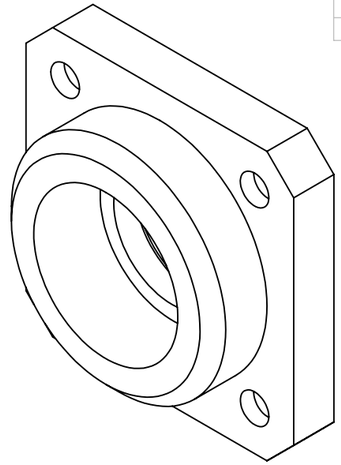
REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-

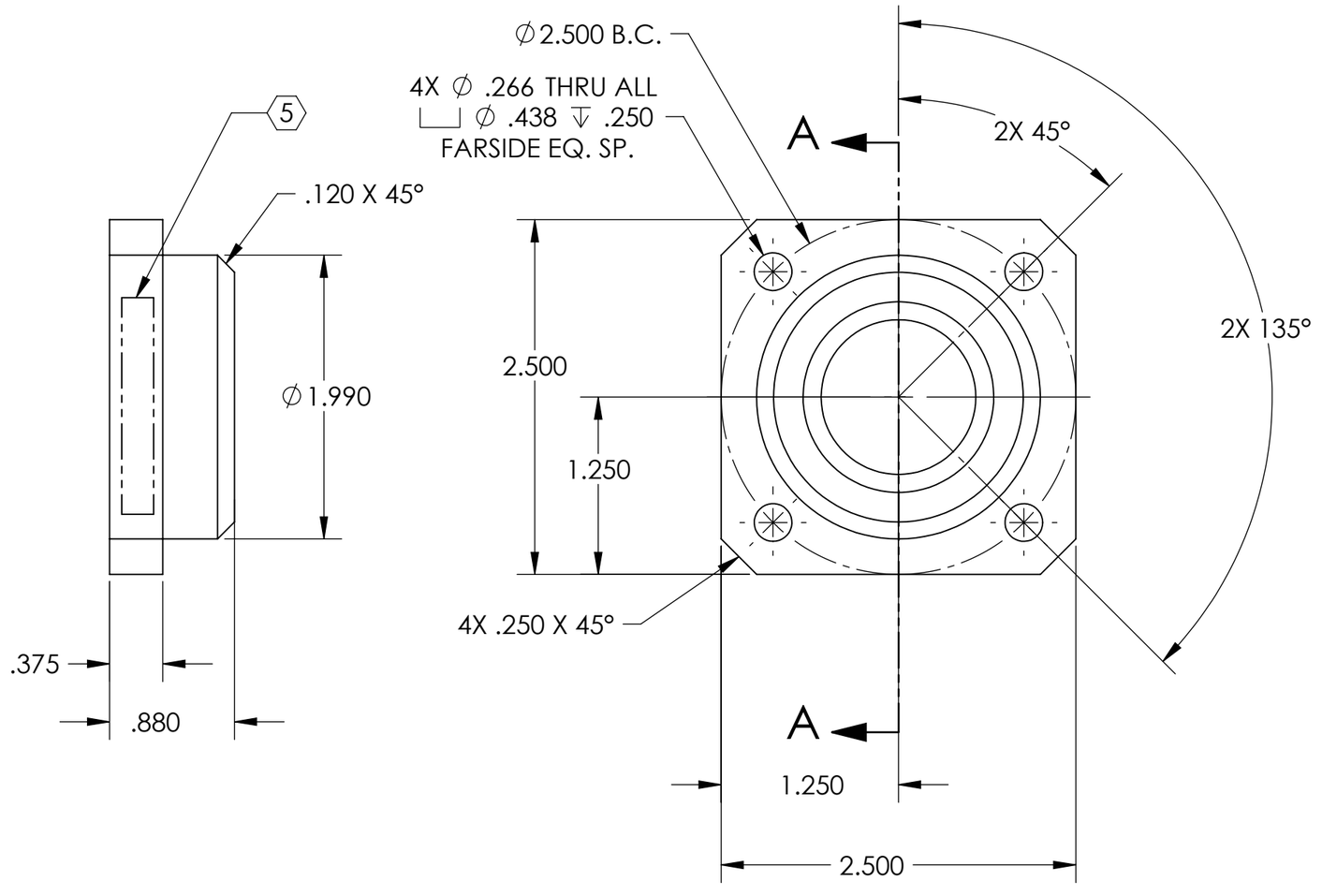
NOTES CONTINUED:

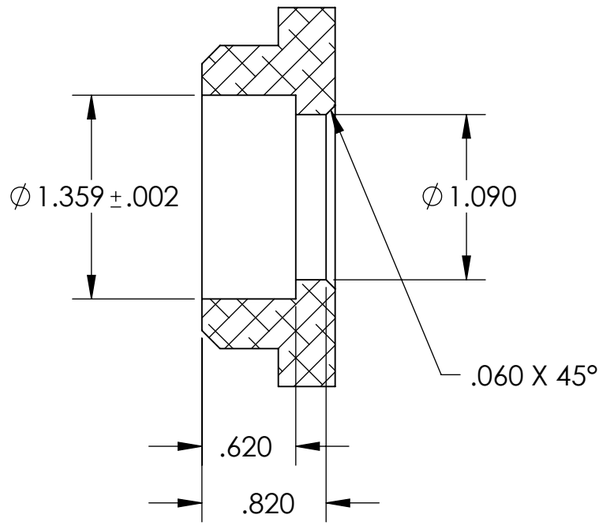
5. SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OFABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

7. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.







SECTION A-A

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)						
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± .5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	PART NAME: HAM STRUCTURE LIFT TOP BEARING SUPPORT		
	MATERIAL: 6061-T6 Al	FINISH: 32 µinch	SYSTEM: ADVANCED LIGO	SUB-SYSTEM: SUS	DESIGNER: K. BUCKLAND 14 APR 2010 DRAFTER: L.OLMOS 25 MAY 2010 CHECKER: K. BUCKLAND 22 JUL 2010 APPROVAL:	SIZE: B DWG. NO.: D1001771 REV.: v1 SCALE: 1:1 PROJECTION: SHEET 1 OF 1
			NEXT ASSY: D1001664			

D1001771 TOP BEARING SUPPORT, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-006, DRAWING PDM REV: X-003

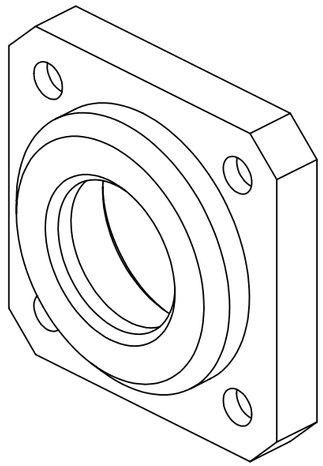
NOTES CONTINUED:

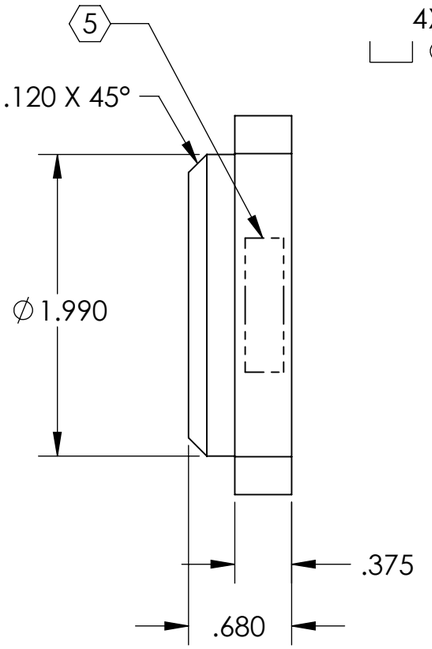
5. SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

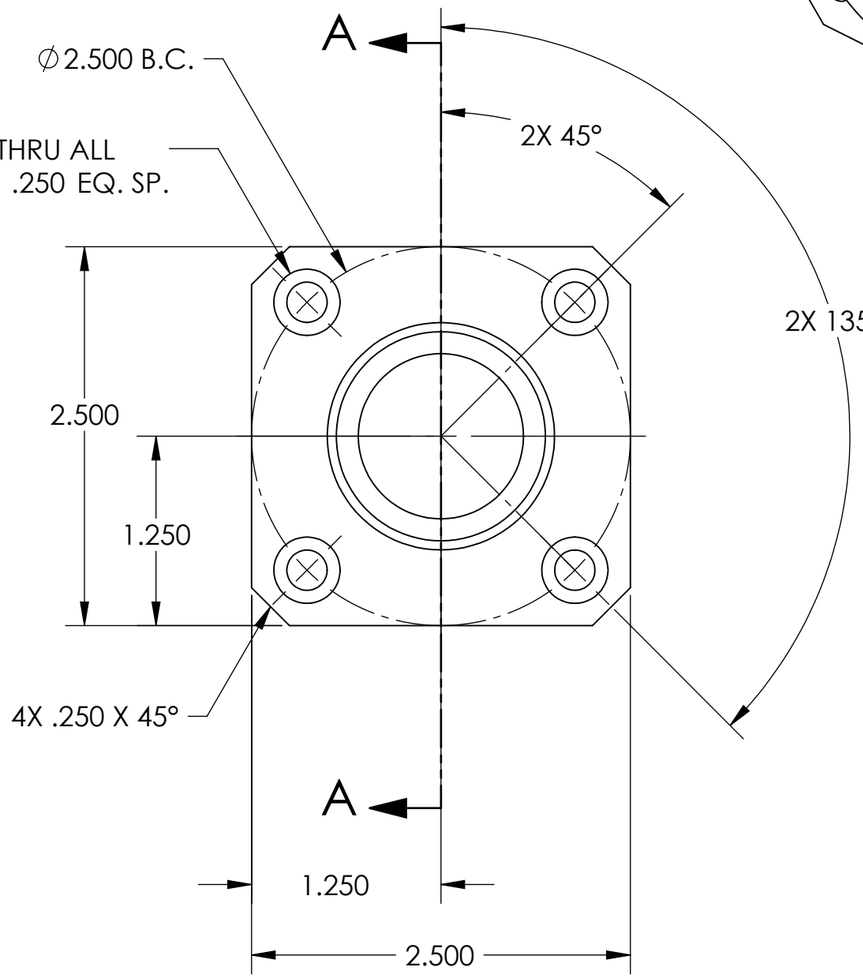
6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OFABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

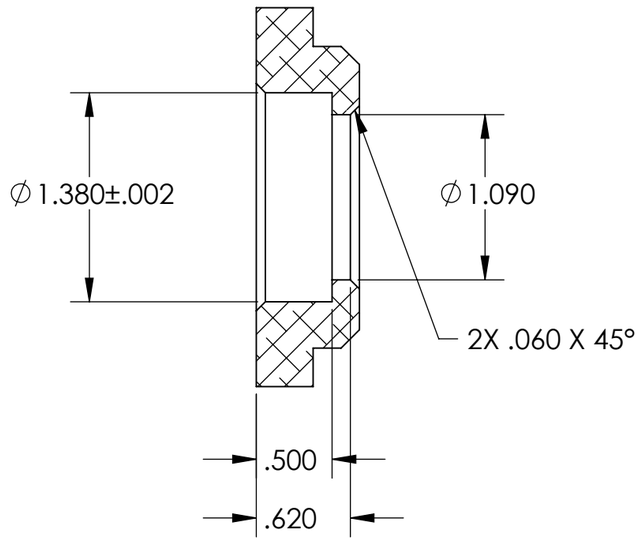
7. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-









SECTION A-A

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)							
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± 0.5°	1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, R.02 MIN. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME: BOTTOM BEARING SUPPORT, HAM STRUCTURE LIFT		
	MATERIAL: 6061-T6 Al	FINISH: 32 µinch	SYSTEM: ADVANCED LIGO	SUB-SYSTEM: SUS	DESIGNER: K. BUCKLAND 14 APR 2010 DRAFTER: L. OLMOS 7 JUNE 2010 CHECKER: K. BUCKLAND 22 JUL 2010 APPROVAL:	SIZE: B	DWG. NO.: D1001770 REV.: v1 SCALE: 1:1 PROJECTION: SHEET 1 OF 1
			NEXT ASSY: D1001664				

D1001770 BOTTOM BEARING SUPPORT, HAM STRUCTURE LIFT, aLIGO, SUS, PART PDM REV: X-007, DRAWING PDM REV: X-003

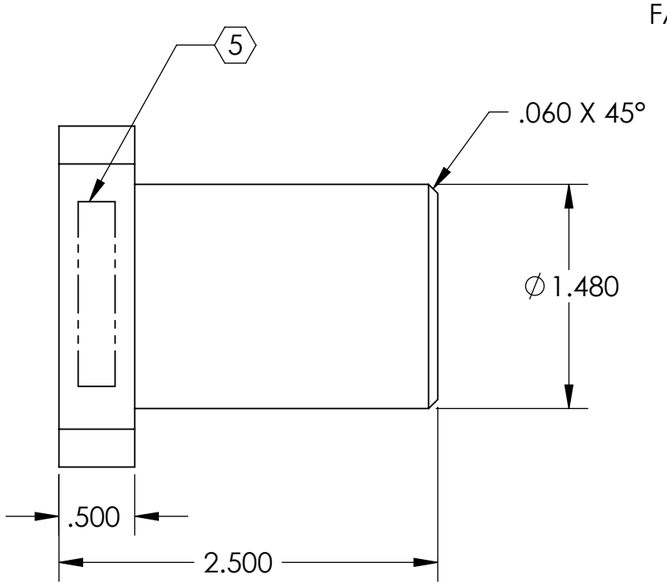
NOTES CONTINUED:

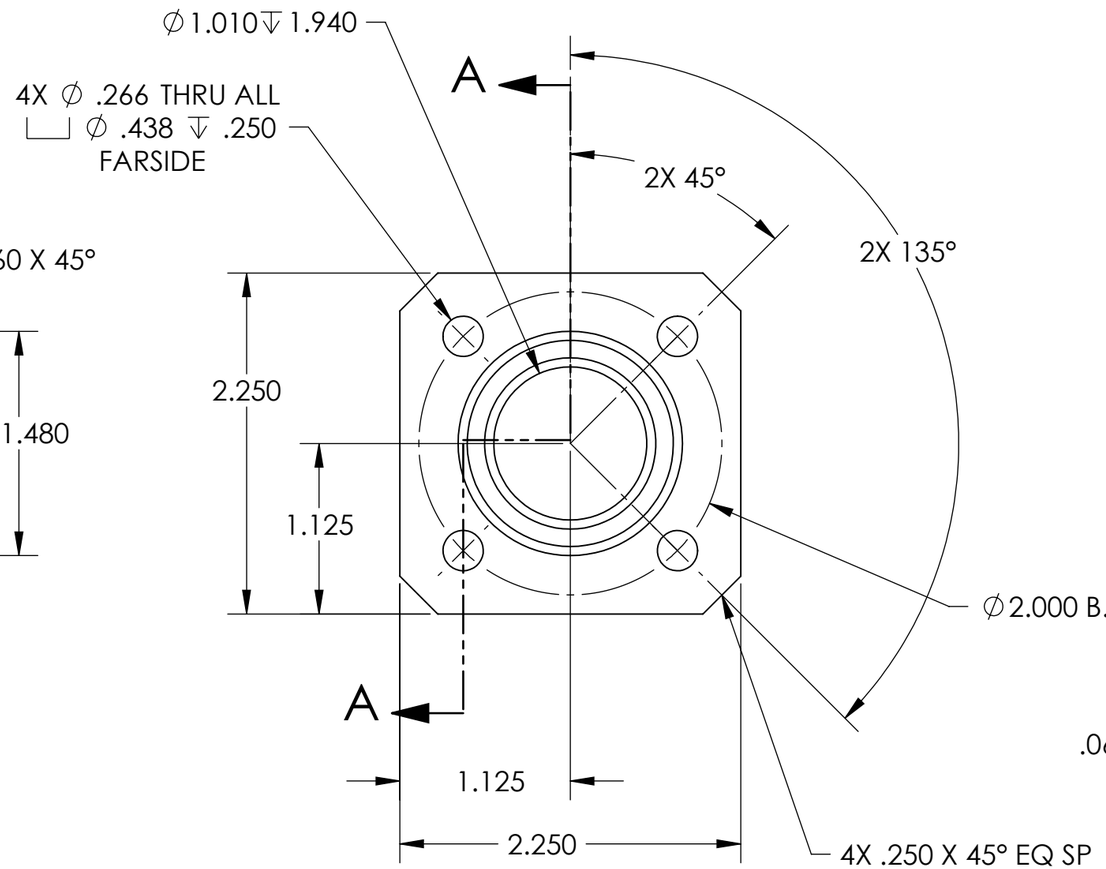
⑤ SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. A VIBRATORY TOOL MAY BE USED. EXAMPLE: DXXXXXXX-VY, TYPE-XX, S/N XXX

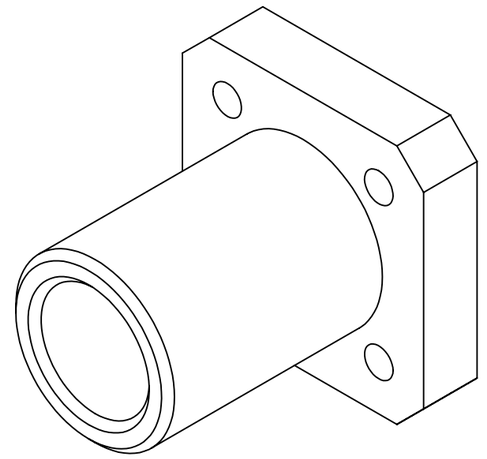
6. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.

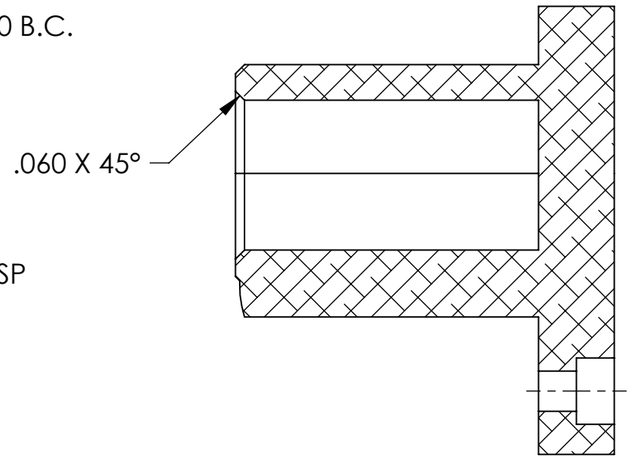
⑦ ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.

REV.	DATE	DCN #	DRAWING TREE #
V1	22 JUL 2010	E1000270	-
-	-	-	-
-	-	-	-









SECTION A-A

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

DIMENSIONS ARE IN INCHES

TOLERANCES:
.XX ± .01
.XXX ± .005

ANGULAR ± .5°

1. INTERPRET DRAWING PER ASME Y14.5-1994.
2. REMOVE ALL SHARP EDGES, R.02 MIN.
3. DO NOT SCALE FROM DRAWING.
4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

MATERIAL 304 SSTL

FINISH 32 µinch

LIGO — CALIFORNIA INSTITUTE OF TECHNOLOGY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM ADVANCED LIGO | **SUB-SYSTEM** SUS

NEXT ASSY D1001664

PART NAME GUIDE SHAFT SUPPORT, HAM STRUCTURE LIFT

DESIGNER	K. BUCKLAND	9 APR 2010
DRAFTER	L.OLMOS	27 MAY 2010
CHECKER	K. BUCKLAND	22 JUL 2010
APPROVAL		

SIZE B | **DWG. NO.** D1001769 | **REV.** v1

SCALE: 1:1 | **PROJECTION:** | SHEET 1 OF 1

D1001769 GUIDE SHAFT SUPPORT, HAM STRUCTURE SUPPORT,aLIGO, SUS, PART PDM REV: X-004
D1001664 HAM STRUCTURE LIFT ASSY, aLIGO, SUS, DRAWING PDM REV: X-006