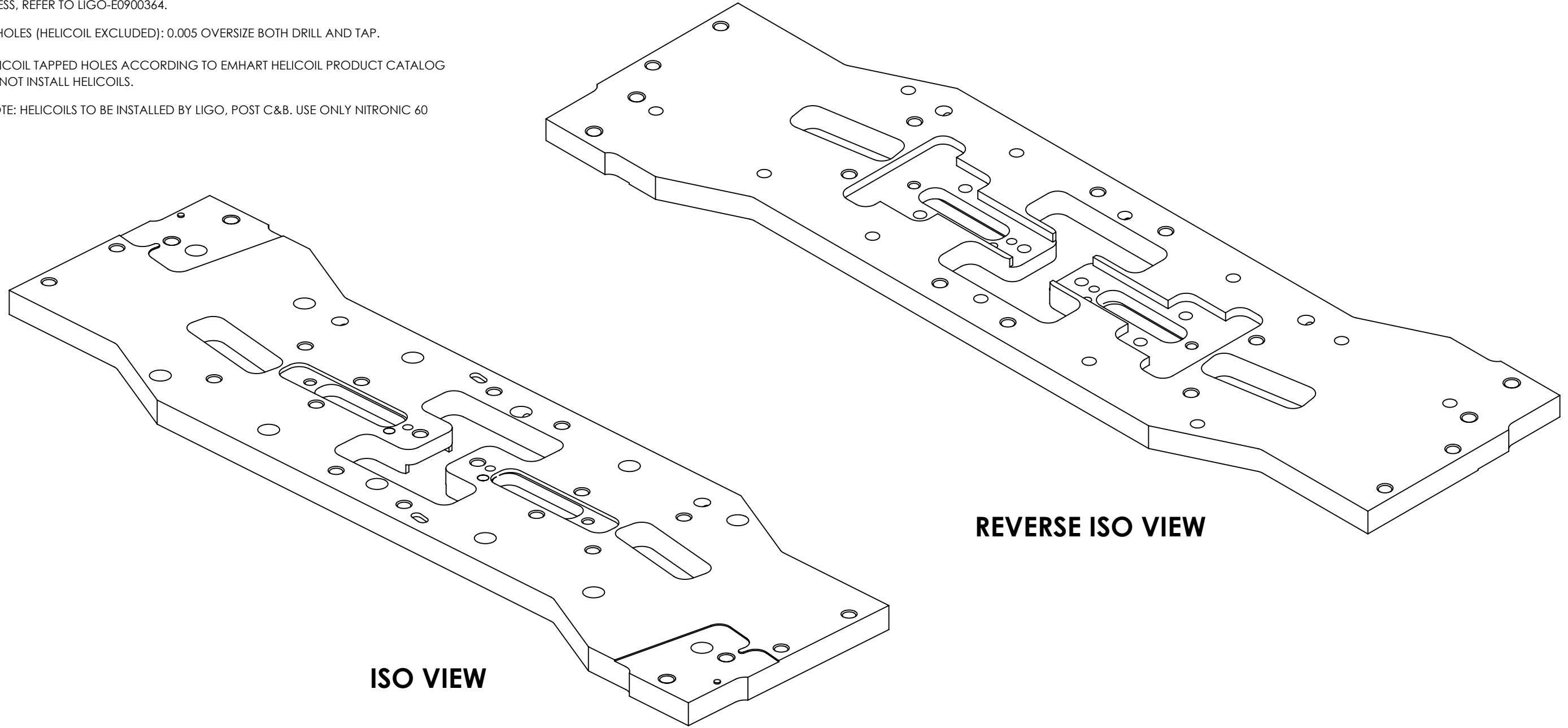


NOTES (CONTINUED):

- ⑤ SCRIBE, ENGRAVE (A VIBRATORY TOOL MAY BE USED), LASER MARK 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. EXAMPLE: DXXXXXX-VY, TYPE-XX, S/N XXX
- 6. MASS: 5.399 KG [11.903 LB].
- 7. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED.
- 8. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.
- 9. NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE, AND IN WRITING, BY LIGO LABORATORY. IN GENERAL, WELD REPAIRS AND PRESS FIT INSERT REPAIRS ARE NEVER ACCEPTABLE; THE PART SHOULD BE MADE WITH VIRGIN MATERIAL. SPECIAL CIRCUMSTANCES CAN BE REVIEWED IF / WHEN BROUGHT TO THE ATTENTION OF LIGO CONTRACTING OFFICER'S REPRESENTATIVE (COTR) THROUGH A MATERIAL REVIEW BOARD (MRB) PROCESS. REFER TO LIGO-E0900364.
- ⑩ ALL TAPPED HOLES (HELICOIL EXCLUDED): 0.005 OVERSIZE BOTH DRILL AND TAP.
- ⑪ PREPARE HELICOIL TAPPED HOLES ACCORDING TO EMHART HELICOIL PRODUCT CATALOG HC2000. DO NOT INSTALL HELICOILS.
- ⑫ INTERNAL NOTE: HELICOILS TO BE INSTALLED BY LIGO, POST C&B. USE ONLY NITRONIC 60 HELICOILS.

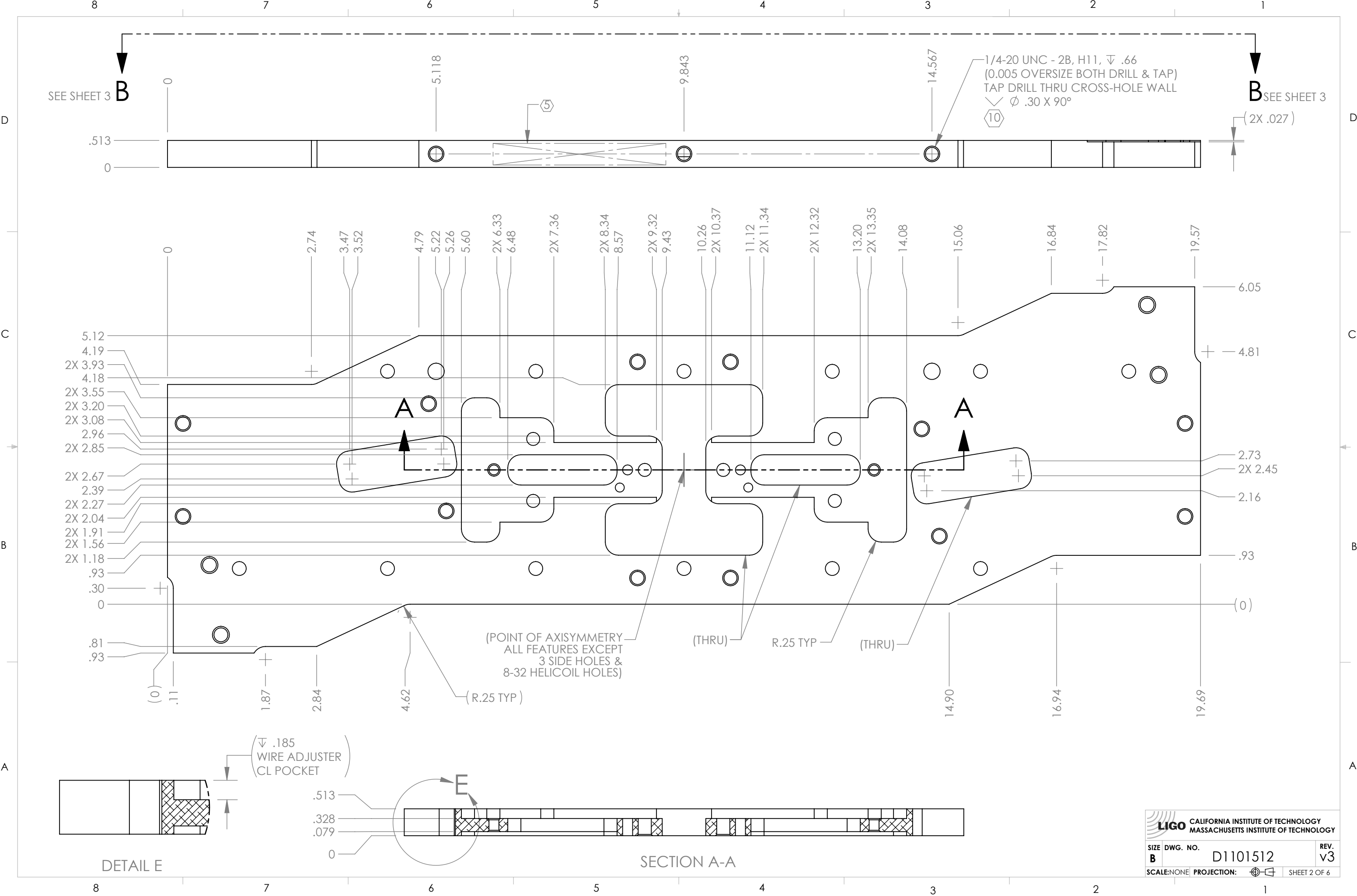
REV.	DATE	DCN #	DRAWING TREE #
v1	25 MAR 2012	E1101214	
v2	26 APR 2013	-	
v3	08 MAY 2013	E1300398-X0	



D1101512 aLIGO TMS Upper Mass Bottom Plate, PART PDM REV: X-069, DRAWING PDM REV: X-026

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)				LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY		PART NAME						
DIMENSIONS ARE IN INCHES TOLERANCES: .XX ± .01 .XXX ± .005 ANGULAR ± 0.1°				1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, .005-.015. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS SHALL BE WATER SOLUBLE AND FREE OF SULFUR, CHLORINE AND SILICONE, SUCH AS CINCINNATI MILACRON'S CIMTECH 410.		aLIGO TMS UPPER MASS BOTTOM PLATE						
MATERIAL		FINISH		SYSTEM		SUB-SYSTEM		DESIGNER	DATE	SIZE	DWG. NO.	REV.
304 SSSL		63 μinch Ra		ADVANCED LIGO		AOS		K. MAILAND	28 JUL 2011	B	D1101512	v3
NEXT ASSY				D1200469		CHECKER		APPROVAL		SCALE: NONE PROJECTION:		
						SEE DCN		SEE DCN		SHEET 1 OF 6		

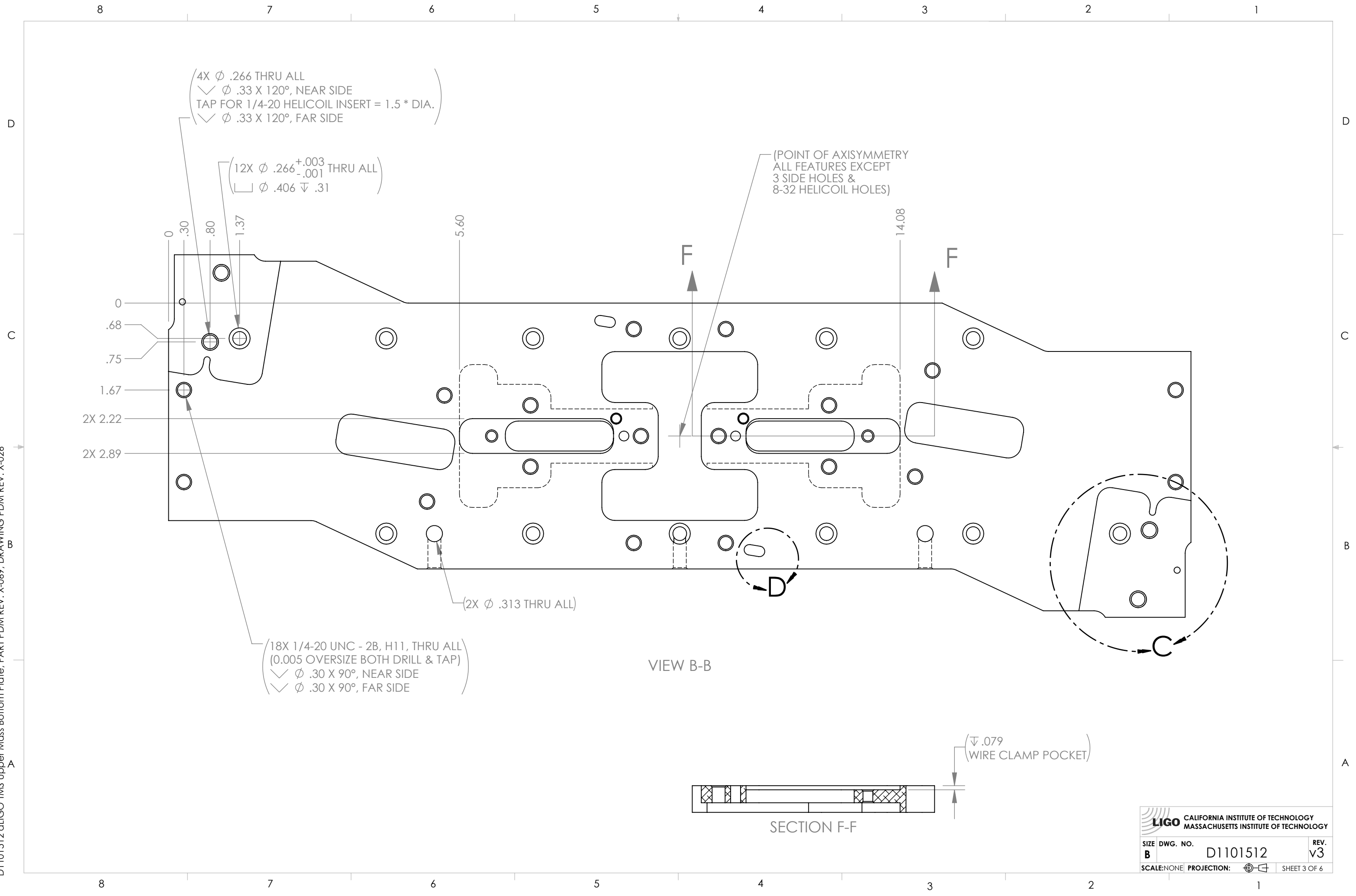
D1101512 aLIGO TMS Upper Mass Bottom Plate, PART PDM REV: X-069, DRAWING PDM REV: X-026



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SIZE DWG. NO. B	D1101512	REV. v3
SCALE: NONE	PROJECTION:	SHEET 2 OF 6

D1101512 TMS Upper Mass Bottom Plate, PART PDM REV: X-069, DRAWING PDM REV: X-026



(4X ϕ .266 THRU ALL
 \sphericalangle ϕ .33 X 120°, NEAR SIDE
TAP FOR 1/4-20 HELICOIL INSERT = 1.5 * DIA.
 \sphericalangle ϕ .33 X 120°, FAR SIDE

(12X ϕ .266^{+0.003}/_{-.001} THRU ALL)
 \square ϕ .406 ∇ .31

(POINT OF AXISYMMETRY
ALL FEATURES EXCEPT
3 SIDE HOLES &
8-32 HELICOIL HOLES)

(18X 1/4-20 UNC - 2B, H11, THRU ALL
(0.005 OVERSIZE BOTH DRILL & TAP)
 \sphericalangle ϕ .30 X 90°, NEAR SIDE
 \sphericalangle ϕ .30 X 90°, FAR SIDE

(2X ϕ .313 THRU ALL)

VIEW B-B

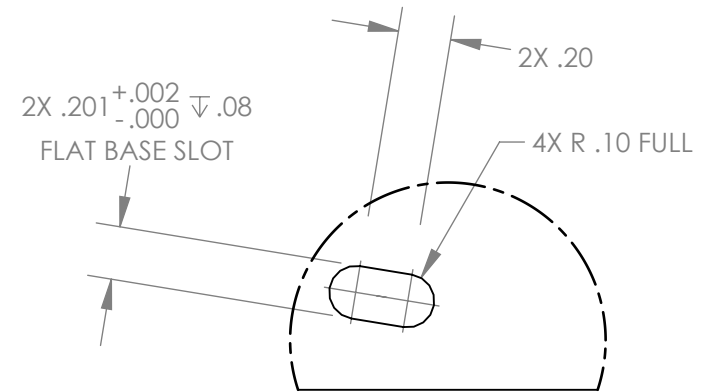
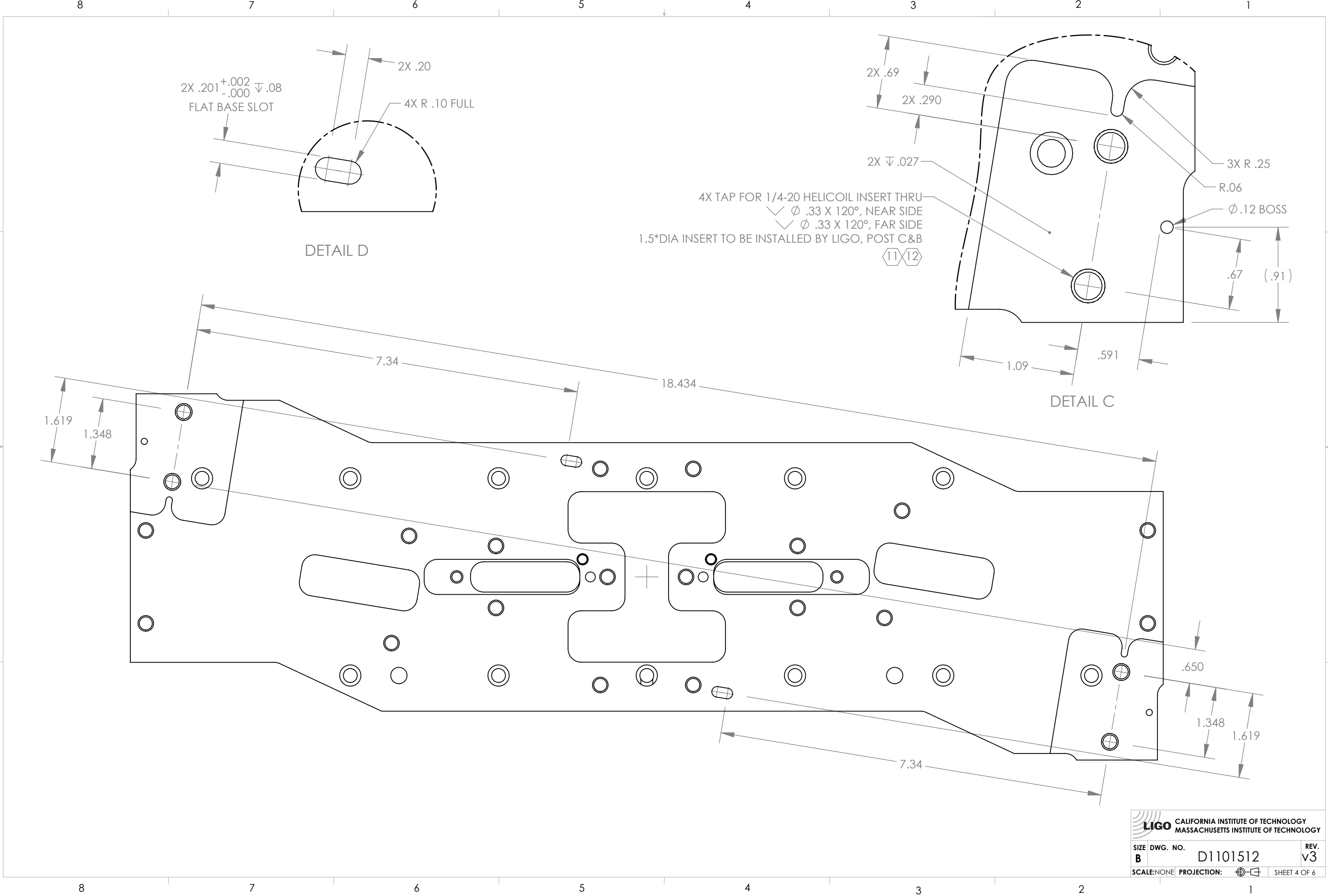
SECTION F-F

(∇ .079
WIRE CLAMP POCKET)

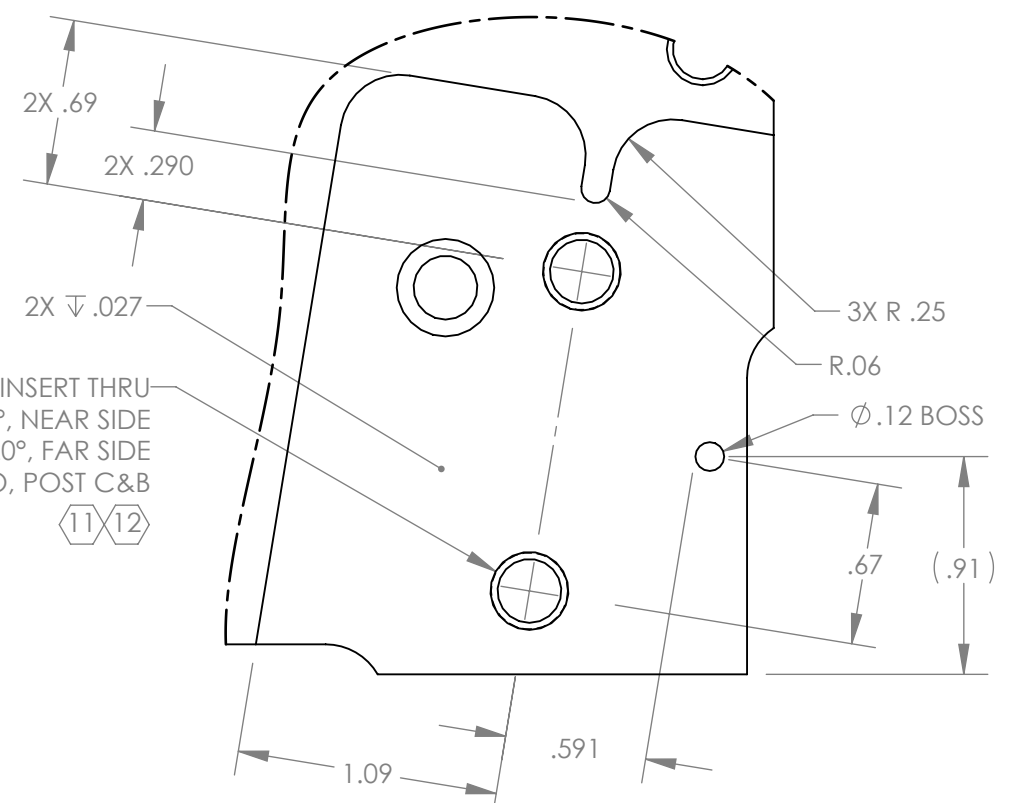
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SIZE	DWG. NO.	REV.
B	D1101512	v3
SCALE: NONE	PROJECTION:	SHEET 3 OF 6

D1101512 aLIGO TMS Upper Mass Bottom Plate, PART PDM REV: X-069, DRAWING PDM REV: X-026



DETAIL D



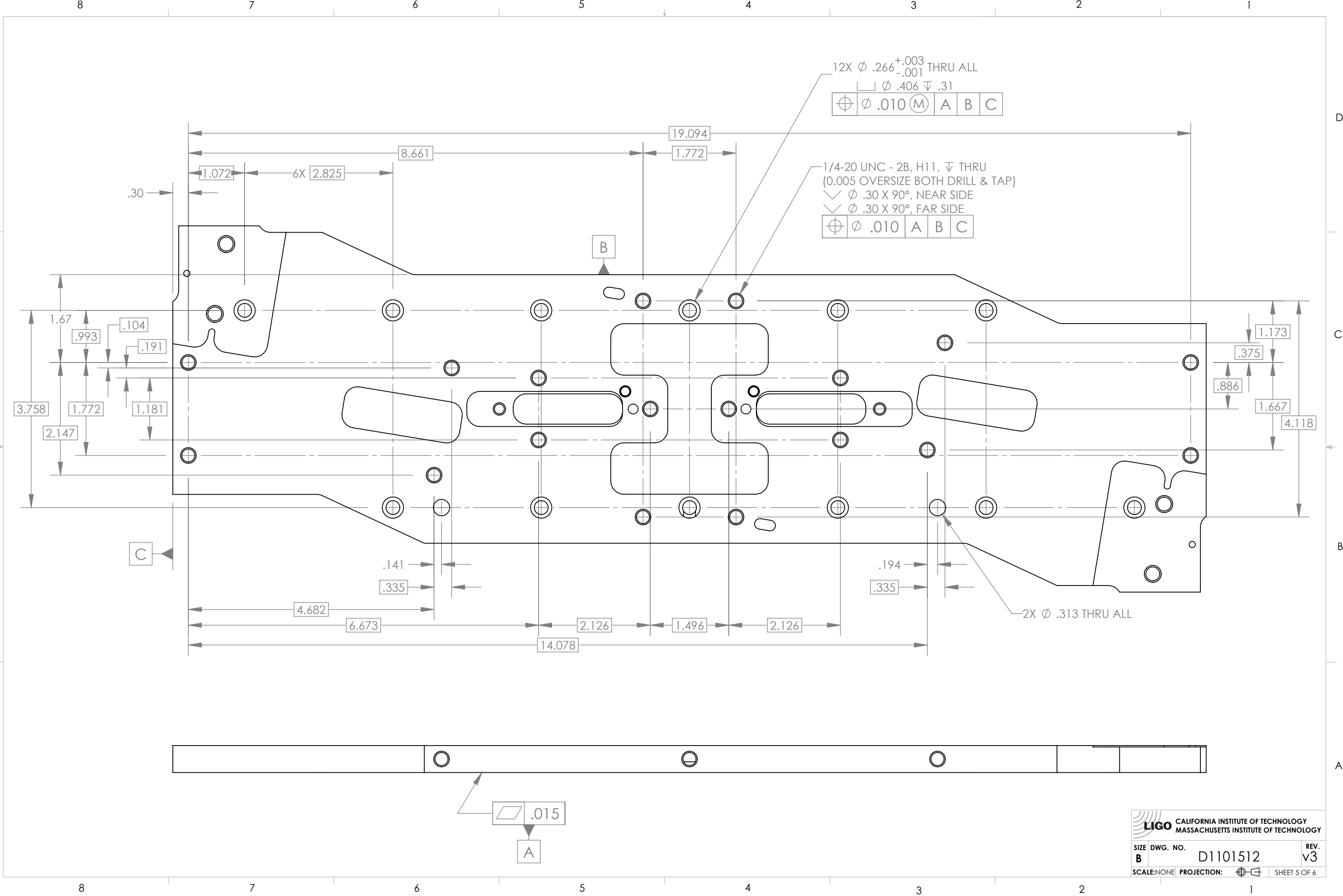
DETAIL C

4X TAP FOR 1/4-20 HELICOIL INSERT THRU
✓ ∅ .33 X 120°, NEAR SIDE
✓ ∅ .33 X 120°, FAR SIDE
1.5*DIA INSERT TO BE INSTALLED BY LIGO, POST C&B
⬡11⬡12

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE	DWG. NO.	REV.
B	D1101512	v3
SCALE: NONE	PROJECTION:	SHEET 4 OF 6

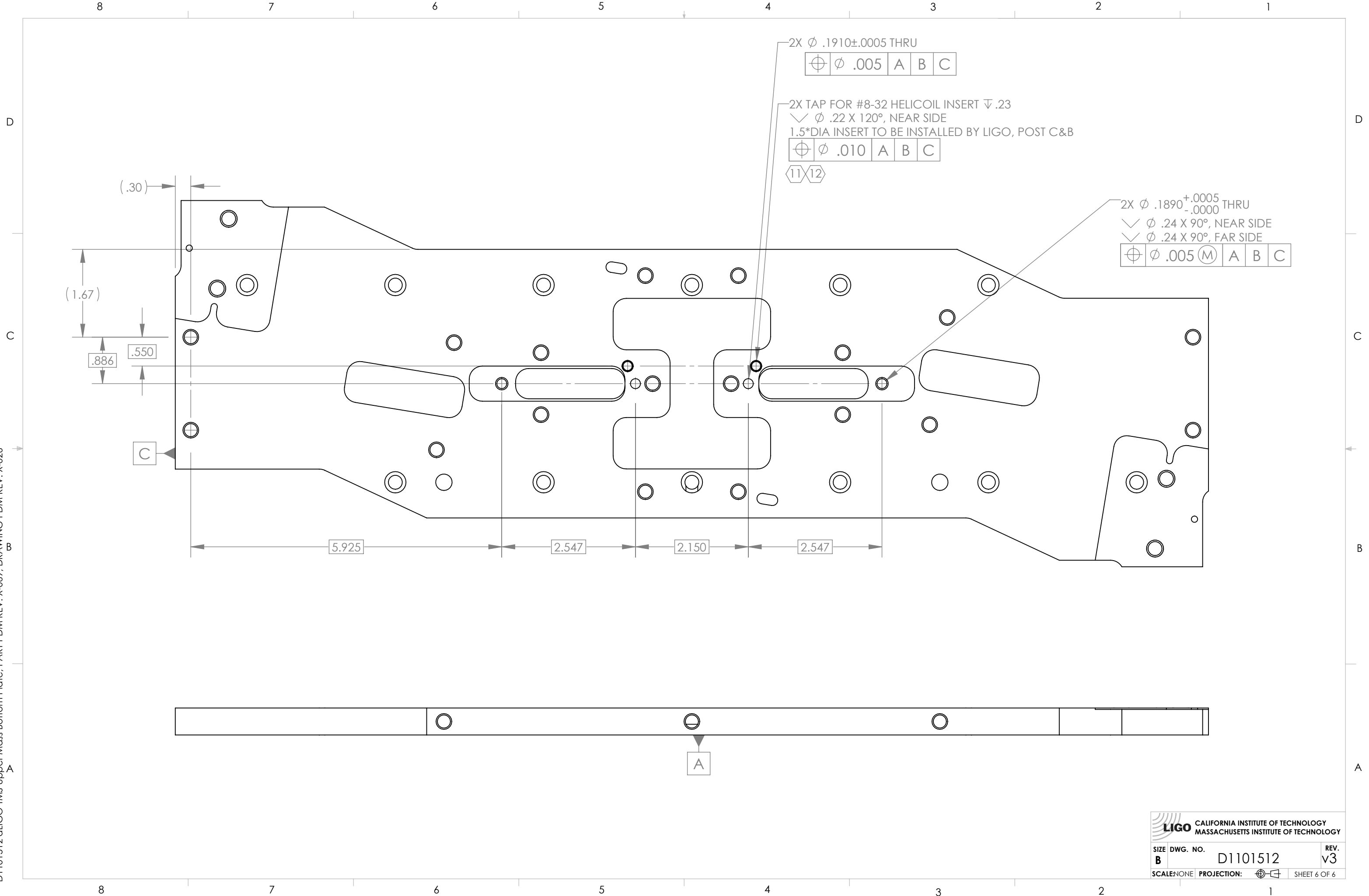
D1101512 LIGO TMS Upper Mass Bottom Plate, PART PDM REV: X-069, DRAWING PDM REV: X-026



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SIZE	DWG. NO.	REV.
B	D1101512	v3
SCALE: NONE	PROJECTION:	SHEET 5 OF 6

D1101512 TMS Upper Mass Bottom Plate, PART PDM REV: X-069, DRAWING PDM REV: X-026



LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY	
SIZE DWG. NO.	REV.
B D1101512	v3
SCALE NONE PROJECTION:	SHEET 6 OF 6