LIGO — CALIFORNIA INSTITUTE OF TECHNOLOGY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DOCUMENT CHANGE NOTICE (DCN)

DCN No. E990305-00-D
SHEET 1 OF 1

DOCUMENT No. (DOC-REV-GP. ID)	TITLE	NEW REV.
D990381-A	ARM CAVITY BAFFLE, OUTER SUPPORT, FAR VERTICAL, ITM/ETM LEG	B
D990382-A	ARM CAVITY BAFFLE, OUTER SUPPORT, NEAR VERTICAL, ITM/ETM LEG	B
D990383-A	ARM CAVITY BAFFLE, OUTER SUPPORT, ITM/ETM RAIL	B
D990384-00	ARM CAVITY BAFFLE, OUTER SUPPORT, ITM/ETM STABILIZER	A
D990385-00	ARM CAVITY BAFFLE, OUTER SUPPORT, ITM/ETM FOOT	A
D990386-00	ARM CAVITY BAFFLE, OUTER SUPPORT, ITM/ETM STOP	A
D990387-00	ARM CAVITY BAFFLE, OUTER SUPPORT, ITM/ETM LOCATOR	A
D990390-00	ARM CAVITY BAFFLE, OUTER SUPPORT, LOWER ANGLE, ITM/ETM ATTACHMENT	A
D990391-00	ARM CAVITY BAFFLE, OUTER SUPPORT, UPPER ANGLE, ITM/ETM ATTACHMENT	A
D990527-A	ARM CAVITY BAFFLE, OUTER SUPPORT, LEVER CLEARANCE HOLE, ETM RAIL	B

CHANGE DESCRIPTION (FROM/TO): Document List Continued

REASON FOR CHANGE: INITIAL RELEASE

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

DISPOSITION OF HARDWARE (IDENTIFY SERIAL NUMBERS)

- ☐ 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: ALL, 001 & UP
- ☐ List S/Ns to be retested per this change:

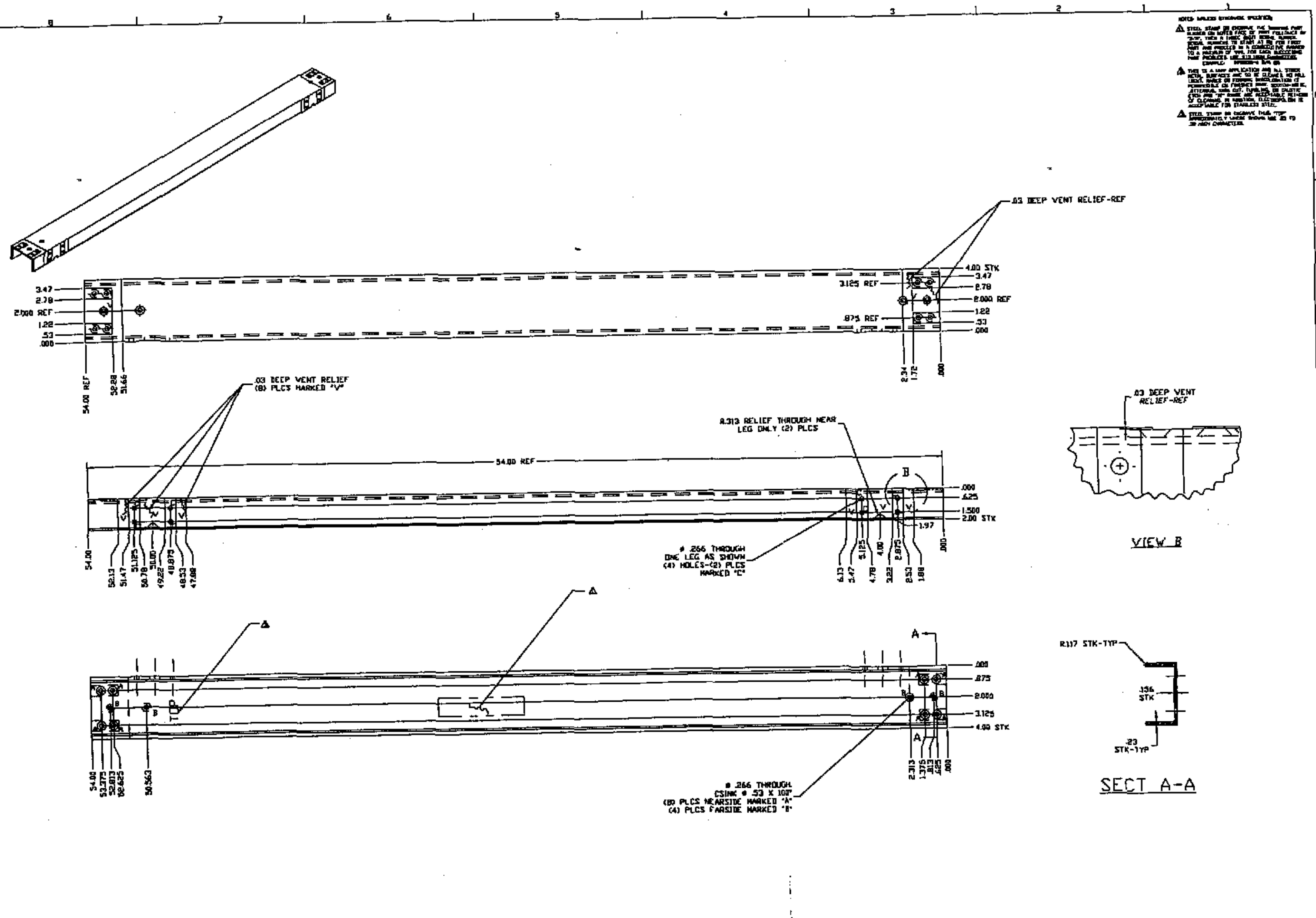
DCN DISTRIBUTION (X=incl. doc's)

Althouse	Barish	Coles
Coyne	Lazzarini	Lindquist
Raab	Sanders	Shoemaker
Stapfer	Tyler	
Weiss	Whitcomb	

Camp, Smith, Conley, Mailand, Romie

SAFETY, COST, SCHEDULE, REQUIREMENTS IMPACT? ☒ No ☐ Yes (If yes, enter CR (CCB) or TCP (TRB) no.)

APPROVALS:		DATE	OTHER APPROVALS (specify)	DATE
ORIGINATOR:	P. Kabot	10/28/99		
TASK LEADER:	M. Smith	11/1/99		
GROUP LEADER:	D. Coyne	10/28/99		
DCC RELEASE:		11-2-99		



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.005

MACHINE PARTS
FINISHED SURFACE
BREAK OUTSIDE CORNERS .005 - .015
REMOVE ALL BURRS

MATERIAL: TYPE 6061-T6 ALUMINUM CHANNEL

HEAT TREAT:

FINISH:

USED ON

NEXT ASSY: D990380, 0491, 0492

REV	DESCRIPTION	DCN NUMBER		APPR'D	CHECK	DRWN	DATE
B	RELEASE	E990305	-	-	-	KABOT	10-21-99
A	PRE-RELEASE	-	-	-	-	KABOT	10-7-99

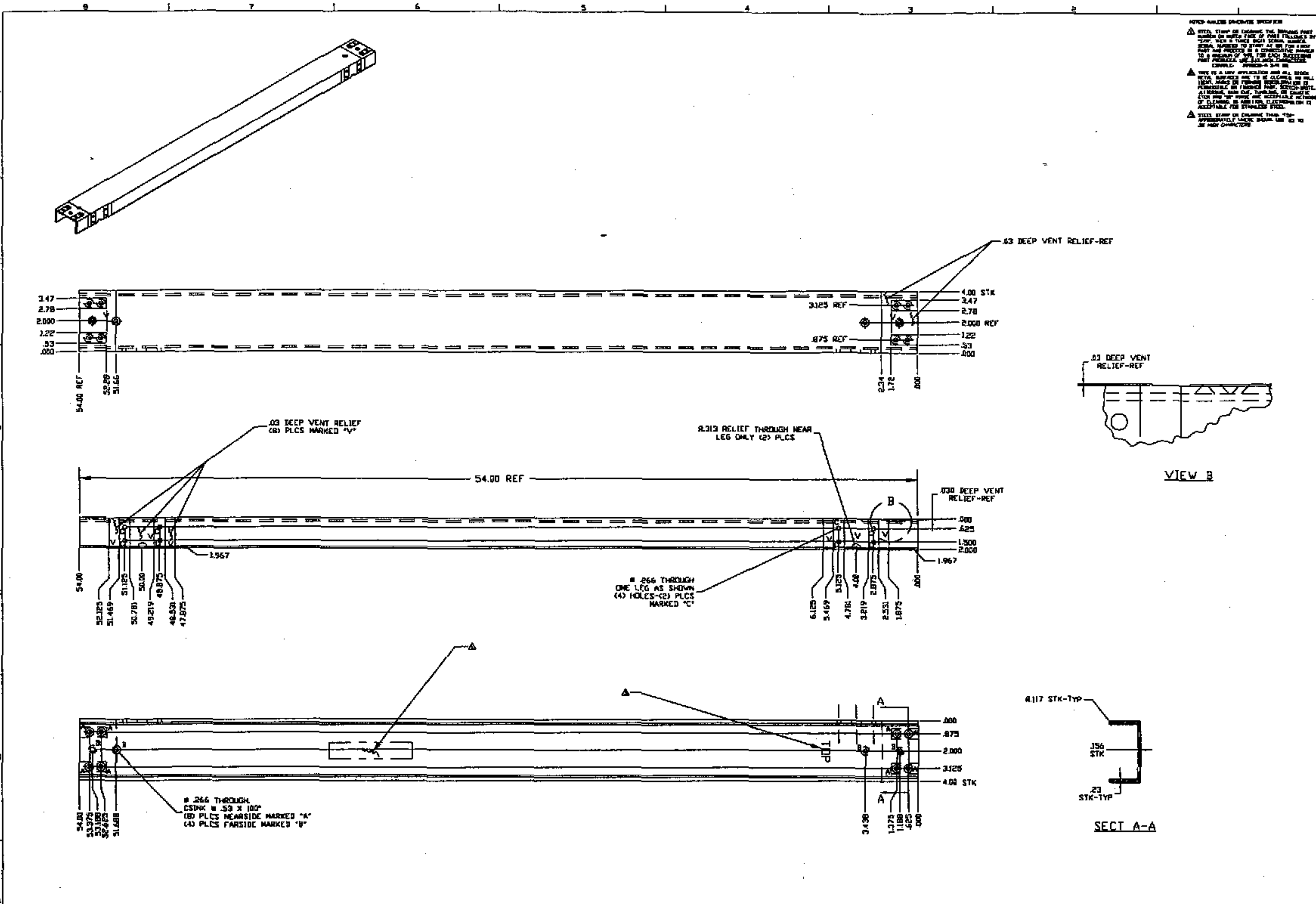
ISSUE DESCRIPTION

DWG. NO. | DESCRIPTION
REFERENCE DRAWINGS

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ARM CAVITY BAFFLE,
OUTER SUPPORT,
FAR VERTICAL,
ITM/ETM LEG

SIZE: E
DWG. NO. D990381-B
SCALE: NTS
SHEET 1 OF 1



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ± .01
THREE PLACE DECIMAL ± .003

INSIDE RADII .06
FINISHED SURFACE 63
BREAK CORNERS .005 TO .015
REMOVE ALL BURRS

REV	DESCRIPTION	DCN NUMBER		APPR'D	CHECK	DRWN	DATE
B	RELEASE	E990305	-	-	-	KABOT	10-21-99
A	PRE-RELEASE	-	-	-	-	KABOT	10-7-99

ISSUE DESCRIPTION

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ARM CAVITY BAFFLE,
OUTER SUPPORT,
NEAR VERTICAL,
ITM/ETM LEG

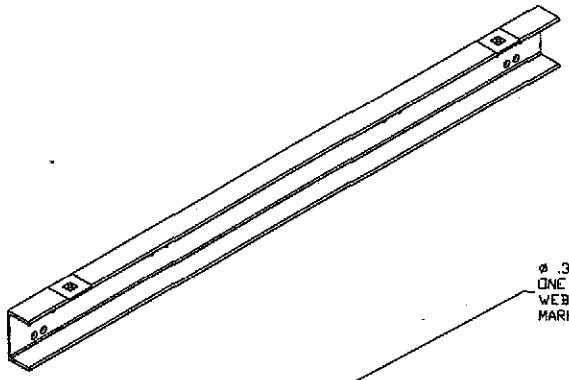
SIZE E DWG NO. D990382-B

SHEET 1 OF 1

NOTES: UNLESS OTHERWISE SPECIFIED

⚠ STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY "S/N", THEN A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999, FOR EACH SUCCEEDING PART PRODUCED. USE .125 HIGH CHARACTERS.
EXAMPLE: D990383-A S/N 001

⚠ THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.



VIEW A

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.003
INSIDE RADII .06
FINISHED SURFACE RMS
BREAK OUTSIDE CORNERS .005 - .015
REMOVE ALL BURRS

MATERIAL: TYPE 6061-T6 ALUMINUM CHANNEL
ALUM. ASSOC. SIZE=4x2x.15x23
HEAT TREAT:
FINISH: ⚠ ⚠

USED ON:
NEXT ASS'Y: D990380, D990491, D990492

REV	DESCRIPTION	DCN NUMBER		APPR'D	CHECK	DRWN	DATE
B	RELEASE	E990309	-	-	-	KABOT	10-21-99
A	PRE-RELEASE	-	-	-	-	KABOT	10-6-99

ISSUE DESCRIPTION

DWG. NO. | DESCRIPTION
REFERENCE DRAWINGS

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

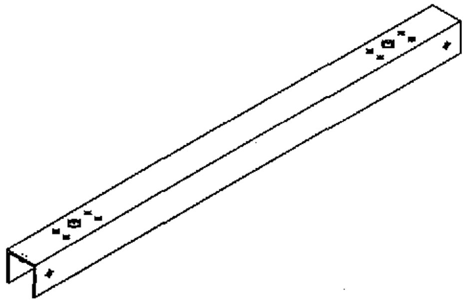
ARM CAVITY BAFFLE, OUTER SUPPORT, ITM/ETM RAIL

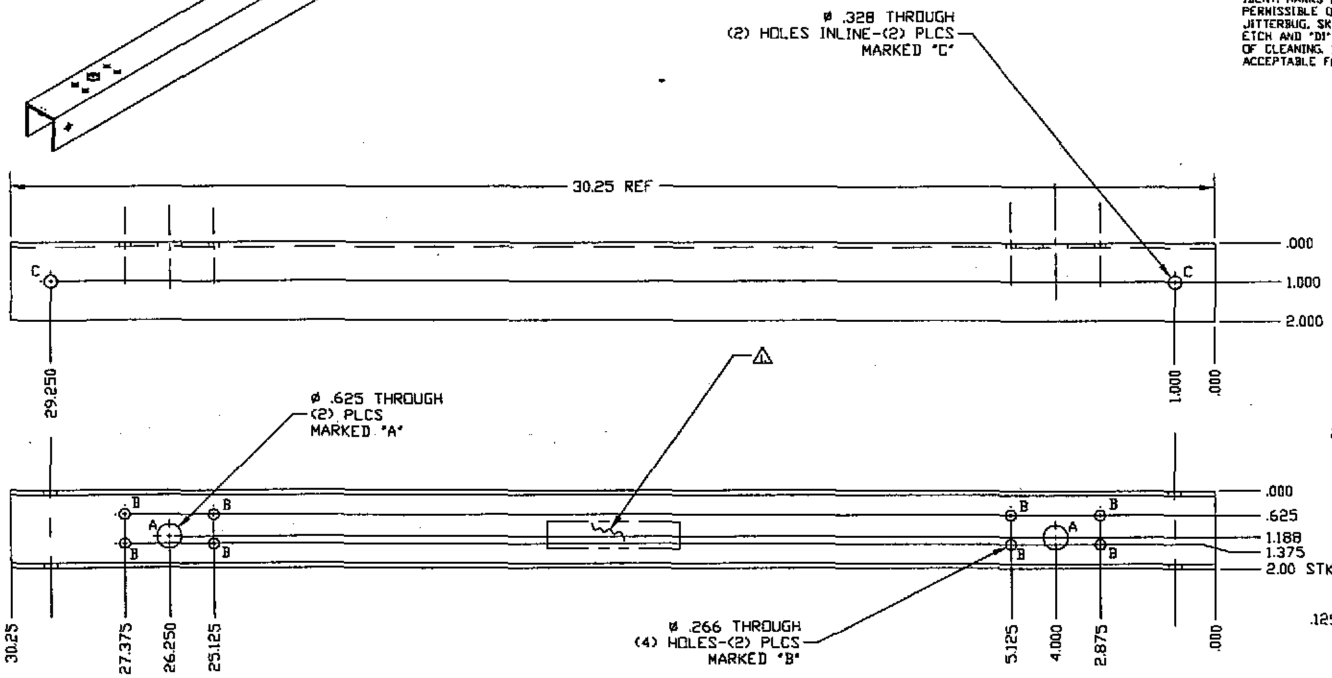
CAD FILE: partdwg
DRAWING NO: D990383-B
REV: B
SCALE: NTS
SHEET: 1 OF 1

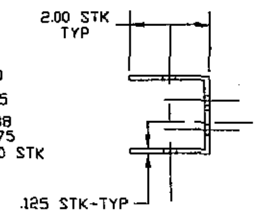
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY "S/N", THEN A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999, FOR EACH SUCCEEDING PART PRODUCED. USE 0.13 HIGH CHARACTERS.
   EXAMPLE: D990038-A S/N 001

2. THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.







DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES (in)
TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.005
INSIDE RADII .06
FINISHED SURFACE 125
BREAK OUTSIDE CORNERS .005 - .015
REMOVE ALL BURRS

MATERIAL: TYPE 6063-T6 ALUMINUM CHANNEL SHARP CORNER 2 x 2 x .125 | HEAT TREAT: | FINISH: 1 2

USED ON: | NEXT ASS'Y: D990380, 0491, 0492

REV	DESCRIPTION	DCN NUMBER	-	APPR'D	CHECK	DRWN	DATE
A	RELEASE	E990305	-	-	-	KABOT	8-5-99

ISSUE DESCRIPTION

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

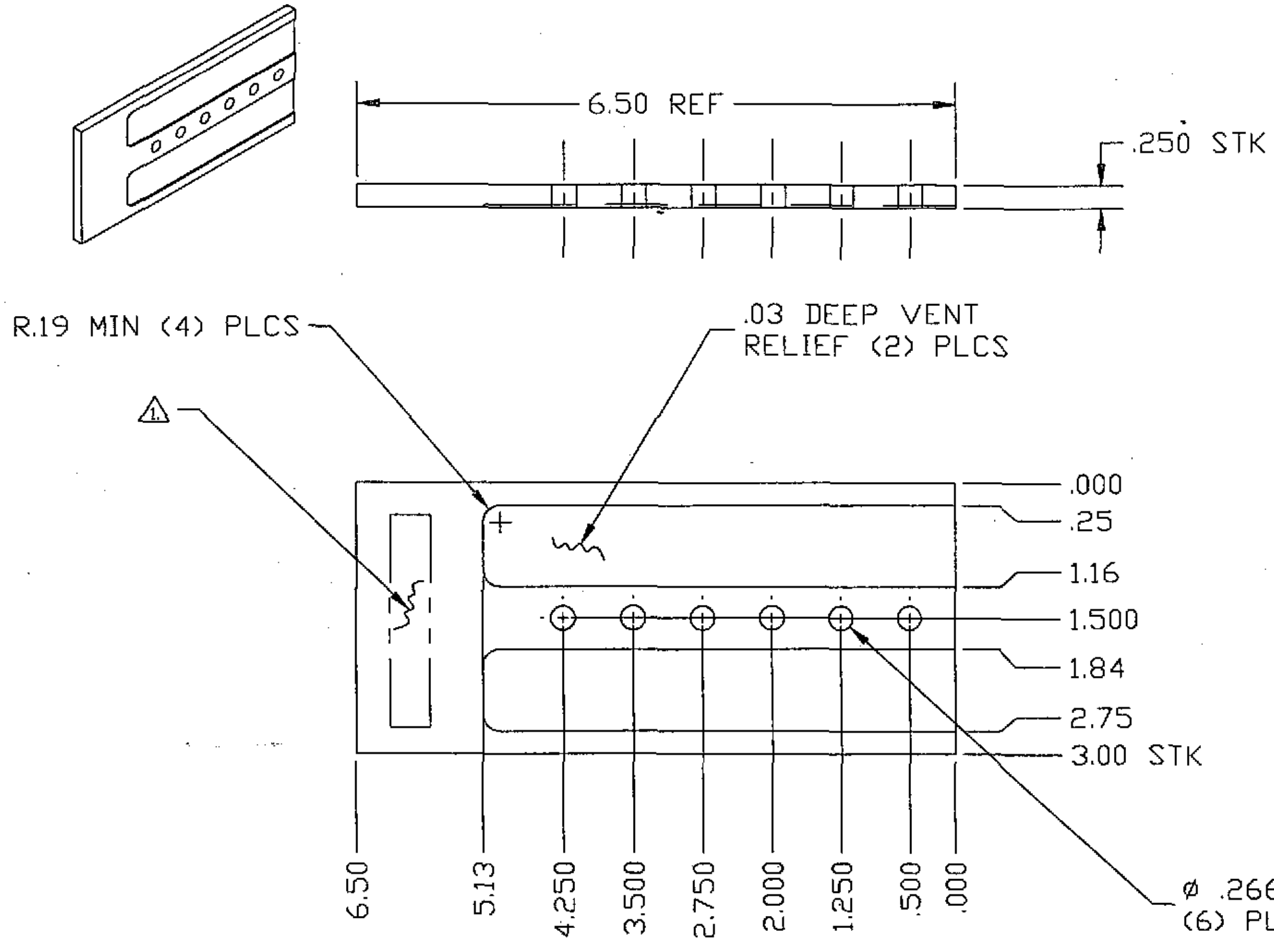
ARM CAVITY BAFFLE,
OUTER SUPPORT,
ITM/ETM STABILIZER

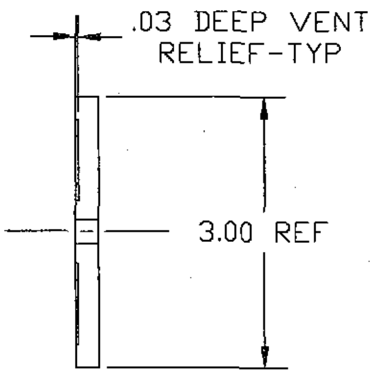
CAD FILE	SIZE	DWG. NO.
part2.dwg	C	D990384-A
SCALE NTS		SHEET 1 OF 1

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY *"S/N", THEN A THREE DIGIT SERIAL NUMBER.* SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999, FOR EACH SUCCEEDING PART PRODUCED. USE 0.13 HIGH CHARACTERS.
   EXAMPLE: D990038-A S/N 001

2. THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.





UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES (mm)

TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.003

INSIDE RADII .06
FINISHED SURFACE RMS
BREAK OUTSIDE CORNERS .005 - .015
REMOVE ALL BURRS

MATERIAL: TYPE 6061-T6 ALUMINUM RECTANGULAR BAR .25 x 3.00
HEAT TREAT:
FINISH: 1 2
USED ON:
NEXT ASS'Y: D990380, D990491, D990492

DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS	

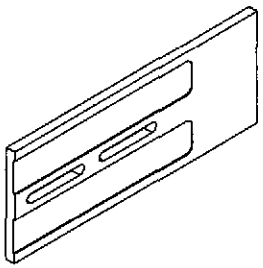
REV	DESCRIPTION	DCN NUMBER	-	APPR'D	CHECK	DRWN	DATE
A	RELEASE	E990305	-			KABOT	10-7-99

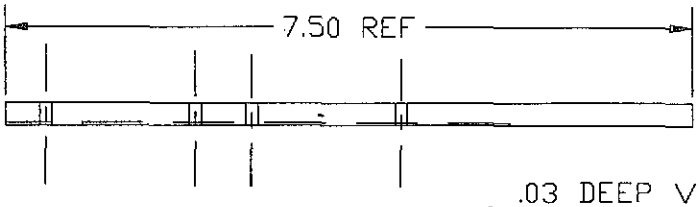
ISSUE DESCRIPTION

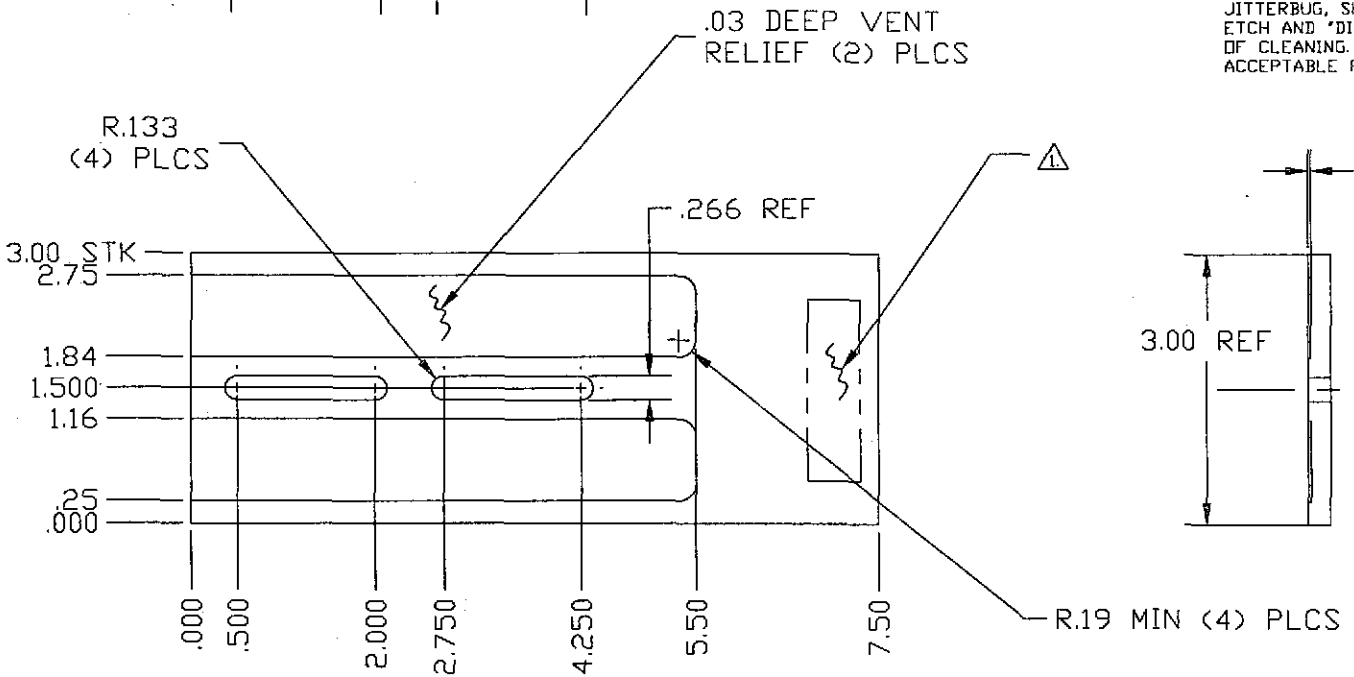
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ARM CAVITY BAFFLE,
OUTER SUPPORT,
ITM/ETM FOOT

CAD FILE: ext_supb.dwg
SIZE: B
DWG. NO. D990385-A
SCALE: NTS
SHEET 1 OF 1







NOTES: (UNLESS OTHERWISE SPECIFIED)

1. STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY "S/N", THEN A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999, FOR EACH SUCCEEDING PART PRODUCED. USE 0.13 HIGH CHARACTERS.
   EXAMPLE: D990038-A S/N 001
2. THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES (mm)

TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.003

INSIDE RADII .06
FINISHED SURFACE 63RS
BREAK OUTSIDE CORNERS .005 - .015
REMOVE ALL BURRS

MATERIAL: TYPE 6061-T6 ALUMINUM RECTANGULAR BAR .25 x 3.00
HEAT TREAT:
FINISH: ⚠ ⚠

REV	DESCRIPTION	ECN NUMBER	-	APPR'D	CHECK	DRWN	DATE
A	RELEASE	E990305	-			KABOT	10-7-98

DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS	

USED ON

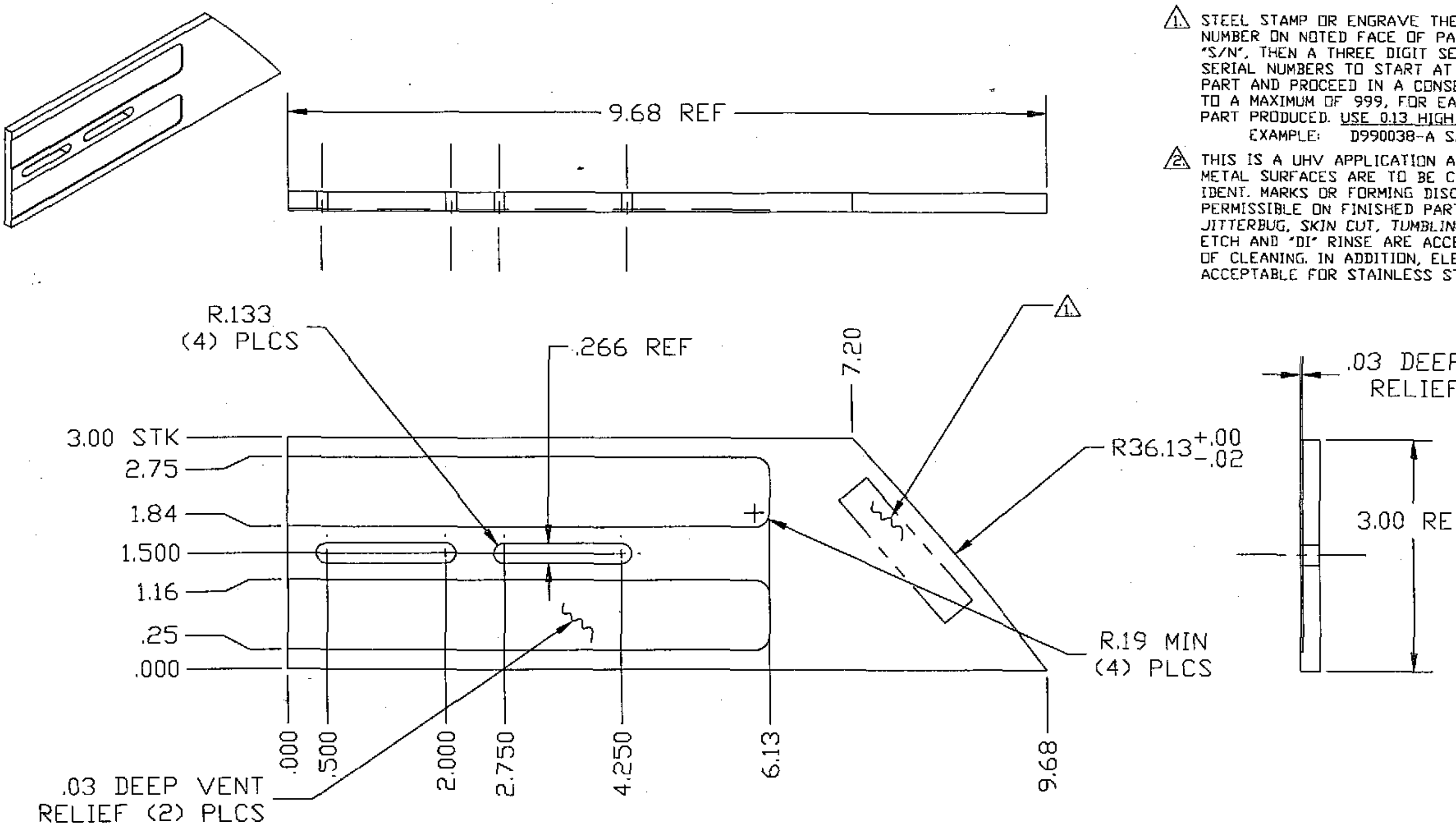
NEXT ASS'Y: D990380, D990491, D990492

ISSUE DESCRIPTION

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ARM CAVITY BAFFLE, OUTER SUPPORT, ITM/ETM STOP

CAD FILE	SIZE	DWG. NO.
mat_suppliers	B	D990386-A
SCALE: NTS	SHEET 1 OF 1	



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY "S/N", THEN A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999, FOR EACH SUCCEEDING PART PRODUCED. USE 0.13 HIGH CHARACTERS.
   EXAMPLE: D990038-A S/N 001

2. THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, *JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC* ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.

DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES (mm)

TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.003

INSIDE RADII .06
FINISHED SURFACE RMS
BREAK OUTSIDE CORNERS .005 - .015
REMOVE ALL BURRS

MATERIAL: TYPE 6061-T6 ALUMINUM RECTANGULAR BAR .25 x 3.00
HEAT TREAT:
FINISH: 1 2
USED ON
NEXT ASS'Y: D990380, D990491, D990492

REV	DESCRIPTION	DCN NUMBER	-	APPR'D	CHECK	DRWN	DATE
A	RELEASE	E990305	-			KABOT	10-7-99

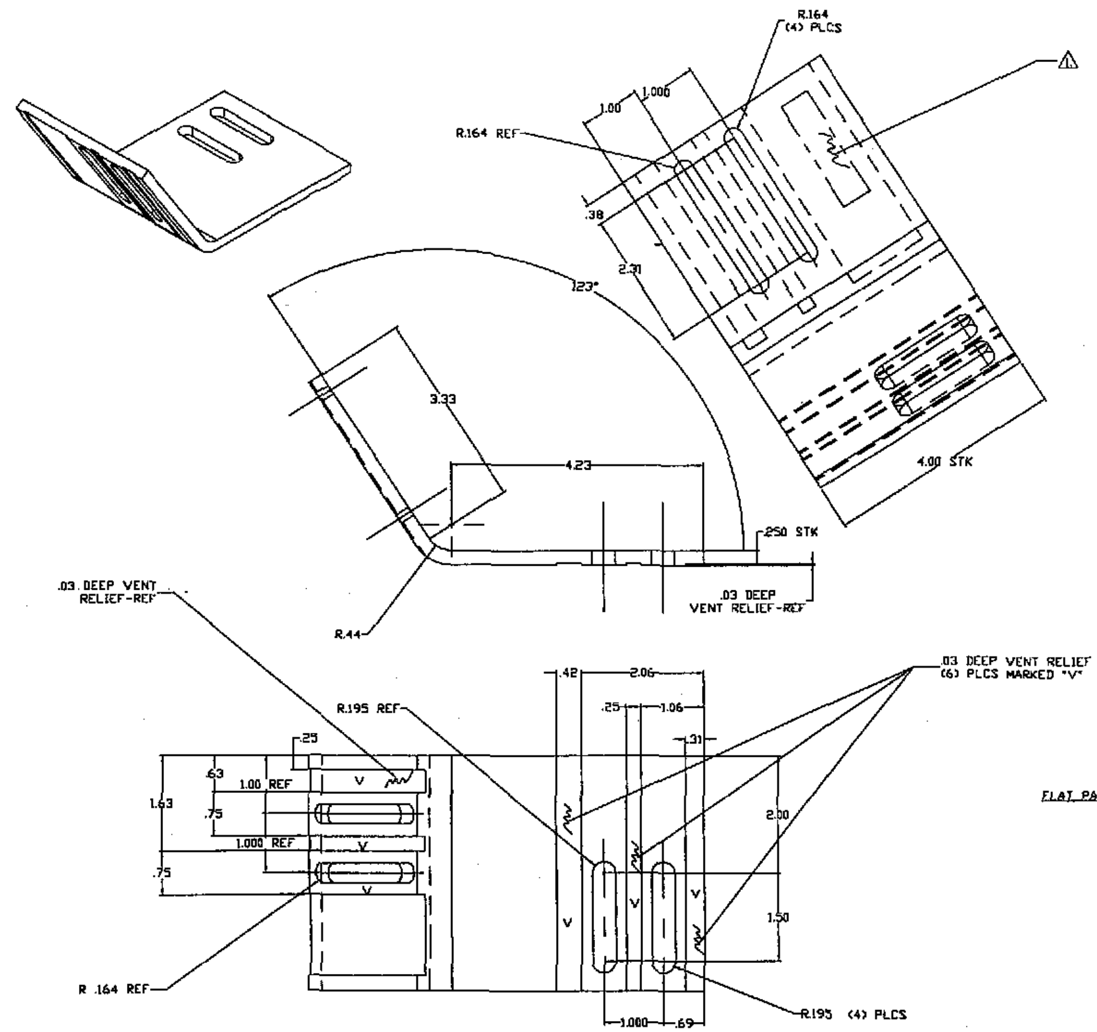
ISSUE DESCRIPTION

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ARM CAVITY BAFFLE,
OUTER SUPPORT,
ITM/ETM LOCATOR

CAD FILE: mk1Ba2.dwg
SIZE: B
DWG. NO. D990387-A
SCALE: NTS
SHEET 1 OF 1

10/12/99



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY "S/N", THEN A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999, FOR EACH SUCCEEDING PART PRODUCED. USE 0.13 HIGH CHARACTERS.
   EXAMPLE: D990038-A S/N 001

2. THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.

FLAT PATTERN LENGTH = 8.10 APPROX.

UNLESS OTHERWISE SPECIFIED

MATERIAL: TYPE 6061-T6 ALUMINUM RECTANGULAR BAR

HEAT TREAT:

FINISH: 1 2

USED ON

NEXT ASS'Y: D990380, 0491, 0492

A	RELEASE	E990305	-	-	-	KABOT	10-8-99
REV	DESCRIPTION	DCN NUMBER	-	APPR'D	CHECK	DRWN	DATE

ISSUE DESCRIPTION

DWG. NO. | DESCRIPTION

REFERENCE DRAWINGS

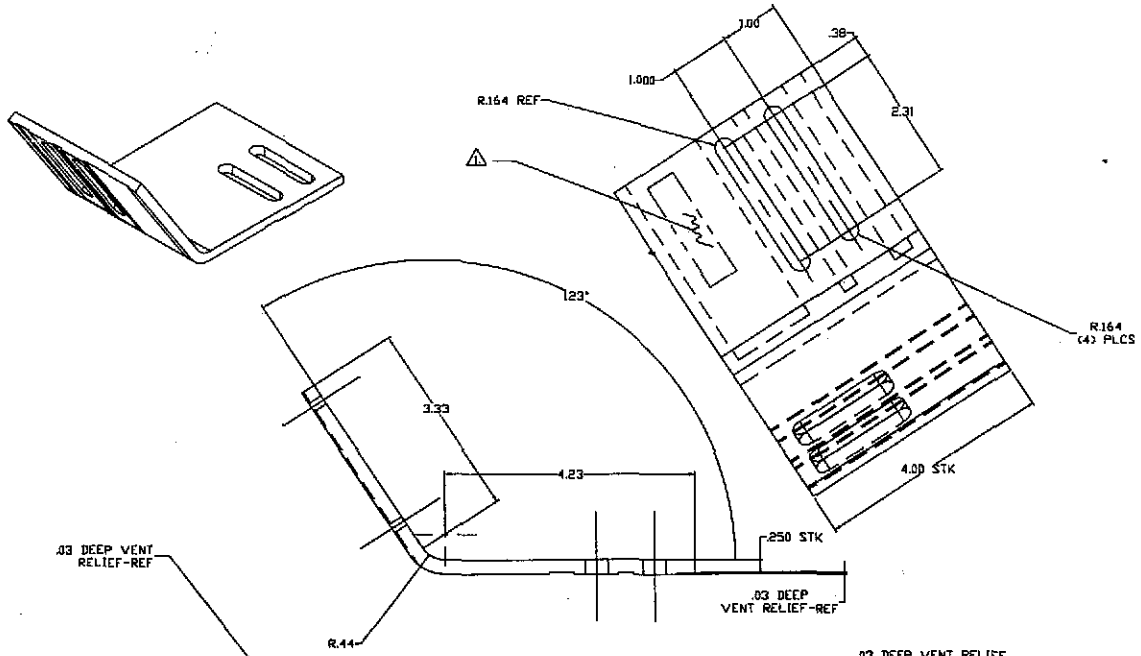
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

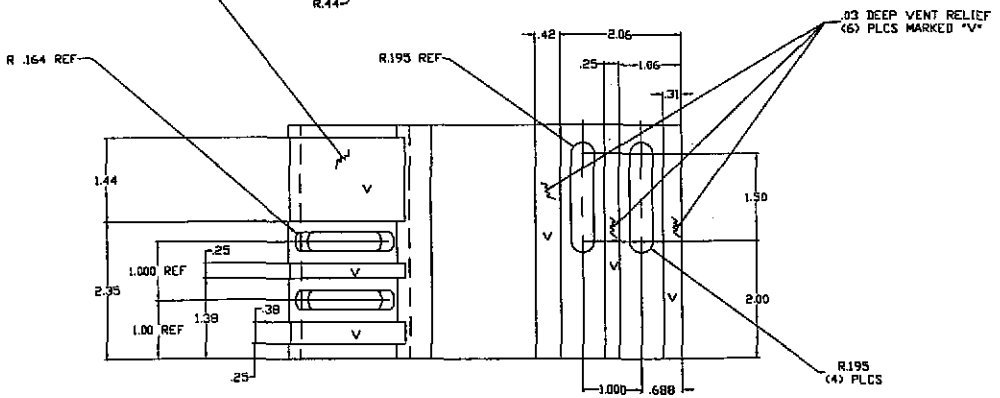
ARM CAVITY BAFFLE,
OUTER SUPPORT,
LOWER ANGLE,
ITM/ETM ATTACHMENT

CAD FILE: bkt_x_t.dwg
SIZE: C
DWG. NO.: D990390-A
SCALE: NTS
SHEET: 1 OF 1

10/12/99

E





NOTES: (UNLESS OTHERWISE SPECIFIED)

⚠1 STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY "S/N", THEN A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999, FOR EACH SUCCEEDING PART PRODUCED. USE .013 HIGH CHARACTERS.
EXAMPLE: D990038-A S/N 001

⚠2 THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.

FLAT PATTERN LENGTH = 8.10 APPROX.

DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES [mm]
TOLERANCES
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.005
BREAK OUTSIDE CORNERS .005 - .010
REMOVE ALL BURRS

MATERIAL: TYPE 304L-16 ALUMINUM RECTANGULAR BAR .25 x 4.00
HEAT TREAT:
FINISH: ⚠1 ⚠2

USED ON:
NEXT ASSY: D990300, 0491, 0492

REV	DESCRIPTION	DCN NUMBER	-	APPR'D	CHECK	DRVN	DATE
A	RELEASE	D990305	-	-	-	KABOT	10-8-99

ISSUE DESCRIPTION

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

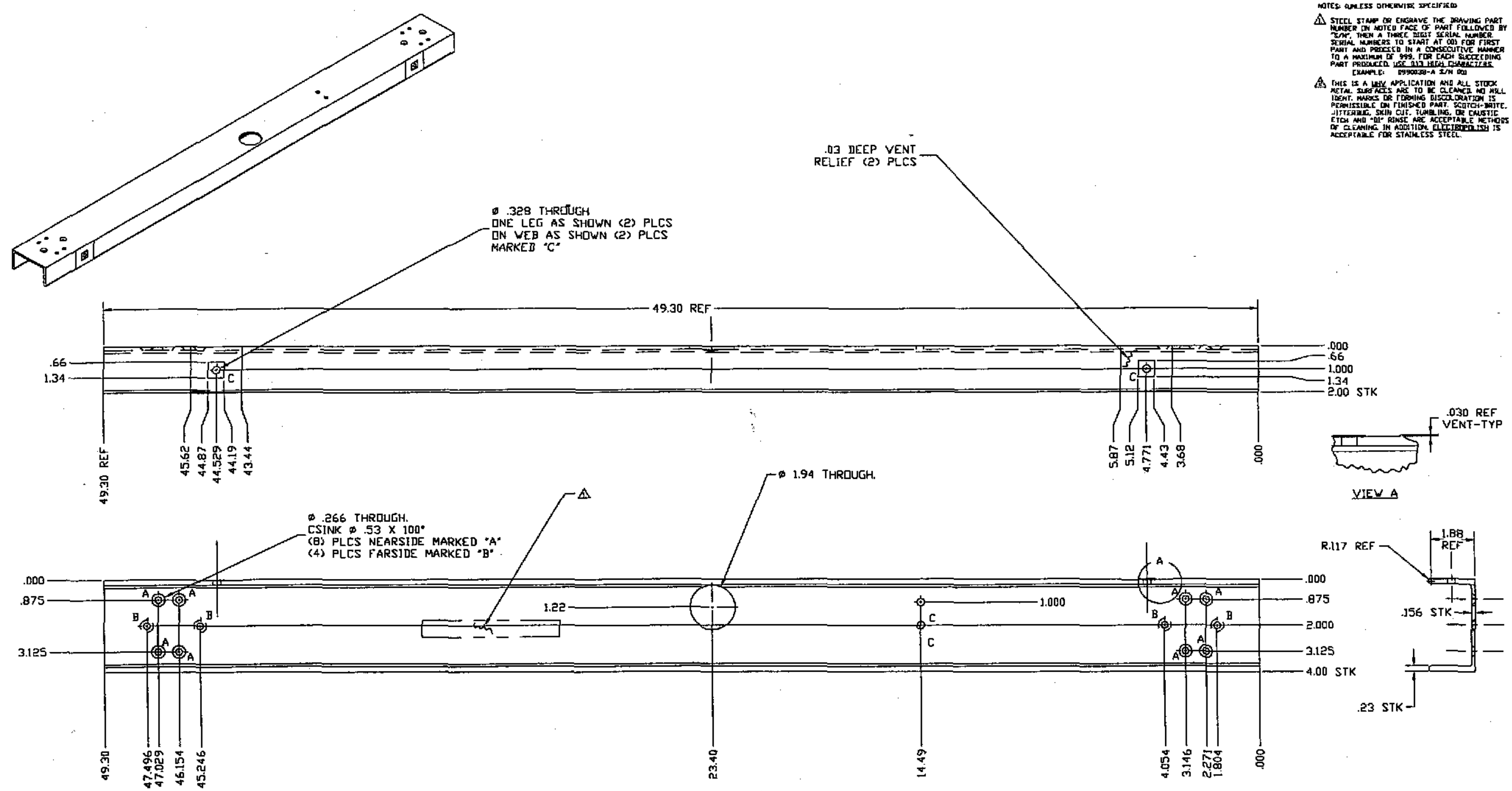
ARM CAVITY BAFFLE,
OUTER SUPPORT,
UPPER ANGLE,
ITM/ETM ATTACHMENT

CAD FILE: bk1\1.dwg
SIZE: C
DWG. NO.: D990391-A
SCALE: NTS
SHEET: 1 OF 1

NOTES: UNLESS OTHERWISE SPECIFIED

1. STEEL STAMP OR ENGRAVE THE DRAWING PART NUMBER ON NOTED FACE OF PART FOLLOWED BY "S/N", THEN A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS TO START AT 001 FOR FIRST PART AND PROCEED IN A CONSECUTIVE MANNER TO A MAXIMUM OF 999. FOR EACH SUCCEEDING PART PRODUCED. USE .013 HIGH CHARACTERS.
   EXAMPLE: D990038-A S/N 001

2. THIS IS A UHV APPLICATION AND ALL STOCK METAL SURFACES ARE TO BE CLEANED. NO MILL IDENT. MARKS OR FORMING DISCOLORATION IS PERMISSIBLE ON FINISHED PART. SCOTCH-BRITE, JITTERBUG, SKIN CUT, TUMBLING, OR CAUSTIC ETCH AND "DI" RINSE ARE ACCEPTABLE METHODS OF CLEANING. IN ADDITION, ELECTROPOLISH IS ACCEPTABLE FOR STAINLESS STEEL.



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES

TOLERANCES:
FRACTIONAL ± 1/64
ANGULAR ± 1/2°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.003

INSIDE RADII .06
FINISHED SURFACE RMS
BREAK OUTSIDE CORNERS .005 - .015
REMOVE ALL BURRS

MATERIAL: TYPE 6061-T6 ALUMINUM CHANNEL, ALUM. ASSOC. SIZE:4x2x.15x.23
HEAT TREAT:
FINISH: 1 2
USED ON
NEXT ASS'Y: D990492

DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS	

REV	DESCRIPTION	DCN NUMBER		APPR'D	CHECK	DRAWN	DATE
B	RELEASE	E990305	-	-	-	KABOT	10-21-99
A	PRE-RELEASE	-	-	-	-	KABOT	10-5-99

ISSUE DESCRIPTION

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ARM CAVITY BAFFLE, OUTER SUPPORT, LEVER CLEARANCE HOLE, ETM RAIL

CAD FILE: partle.dwg
SIZE: D
DWG. NO.: D990527-B
SCALE: NTS
SHEET: 1 OF 1