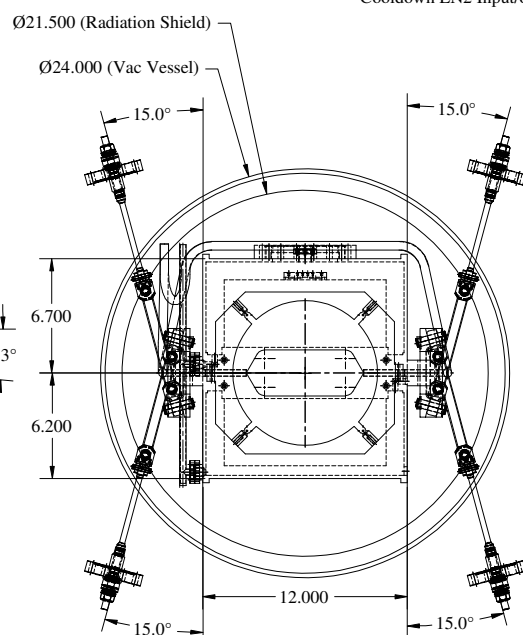
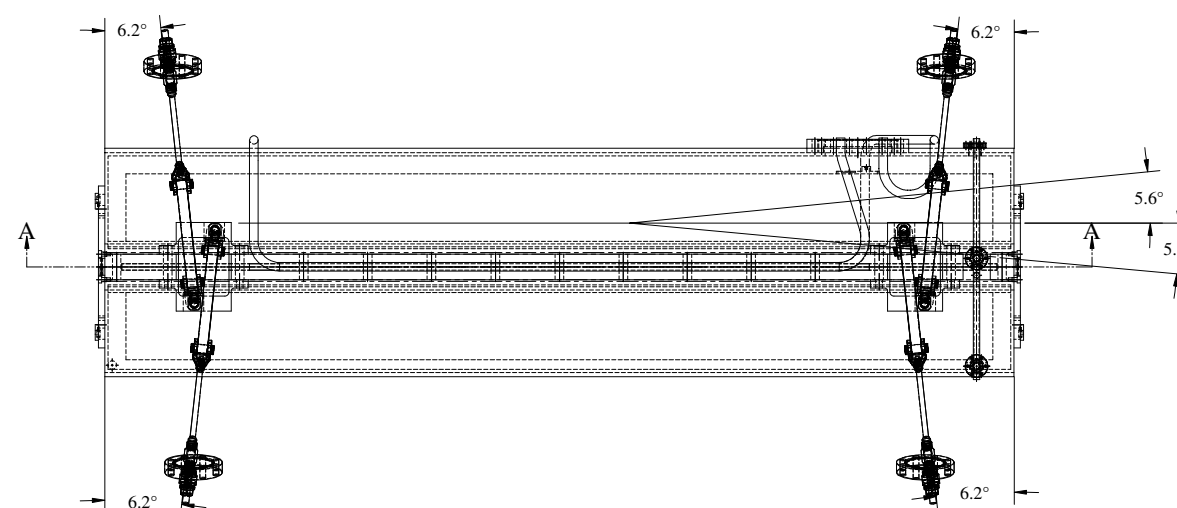
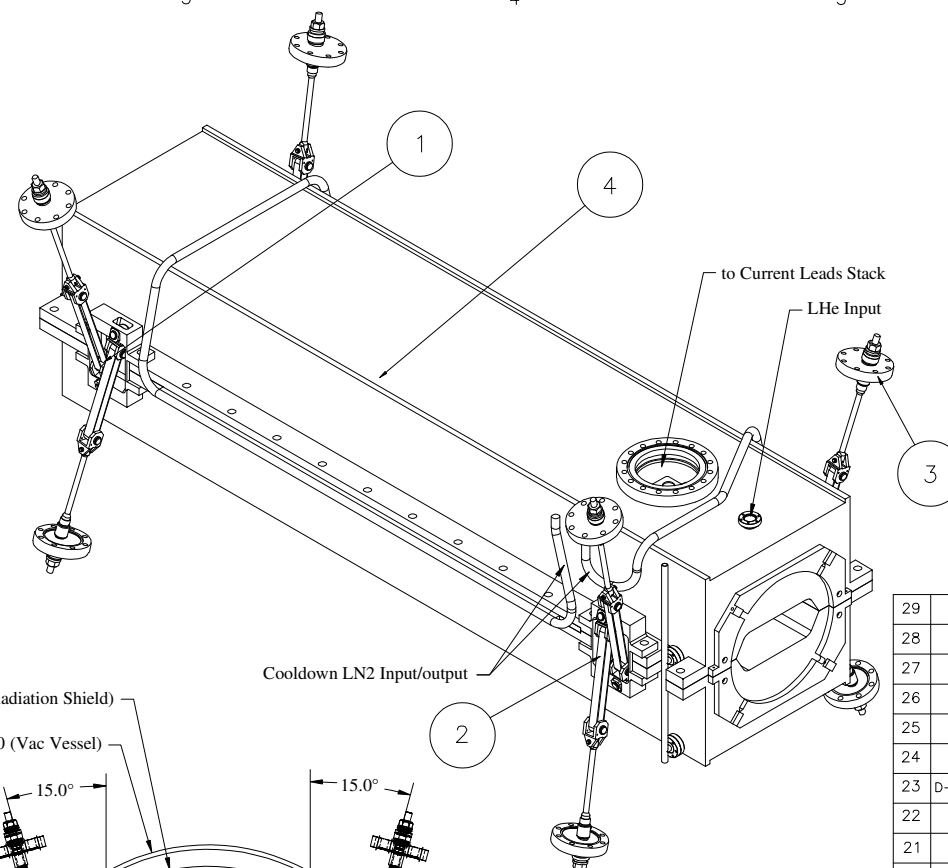


REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		REVISED PARTS LIST TO SHOW ALL PARTS HERE, CHGD. LOAD CELL & ADDED ITEM # 25.	2/18/03	KWS



**CESR-C 7-POLE 40cm WIGGLER COLDMASS SUSPENSION ASSEMBLY WITH COLDMASS**

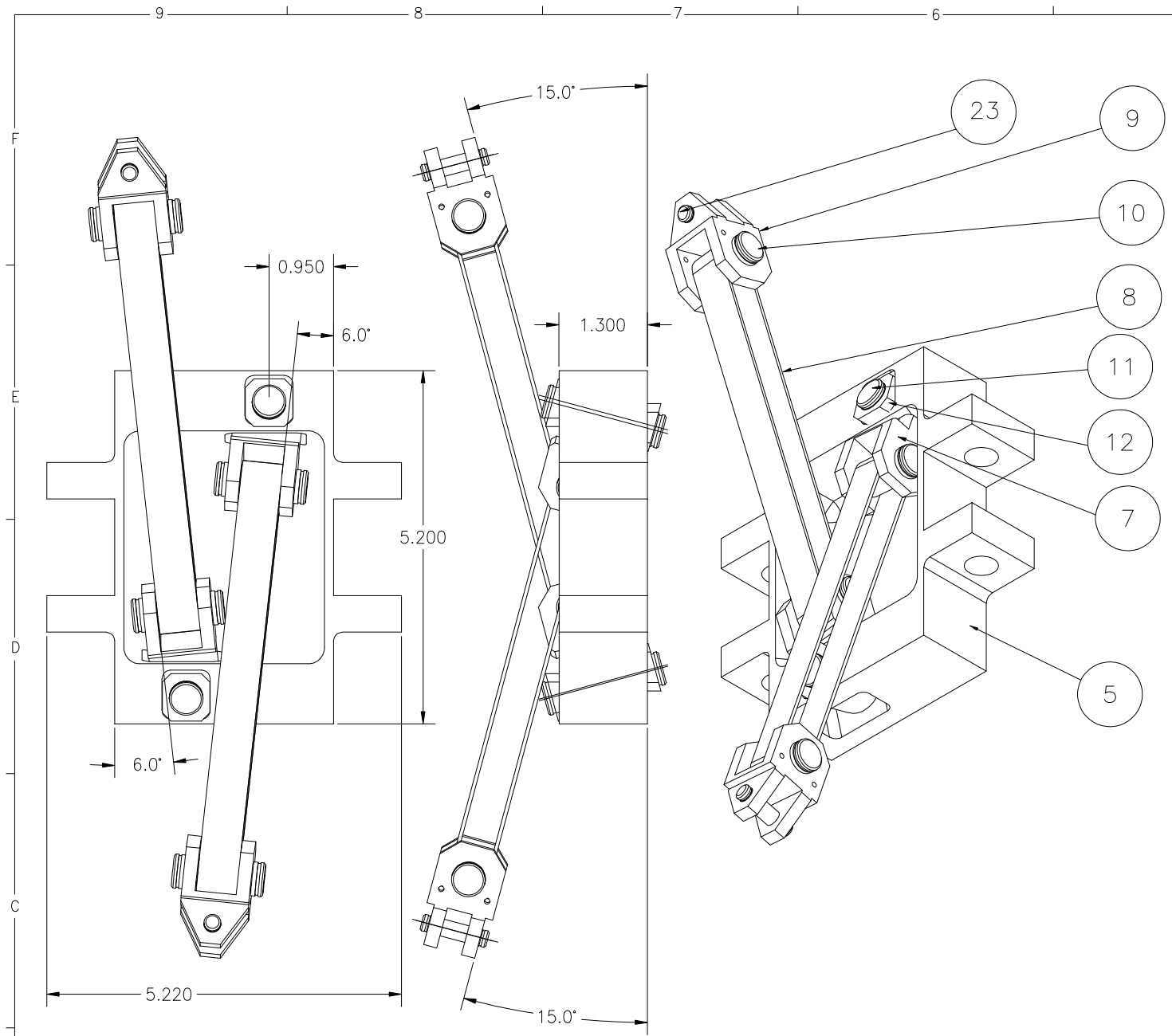
1 D-6070-006-01  
 QTY.: 1 REQ'D  
 NOTE:

29		WASHER FLAT #4 SCREW	SS	4	4		
28		SOCKET HEAD SCREW 4-40 X 3/8 LG.		4	4	SS	
27		RETAINING RING 1/2	SS	12	12		
26		RETAINING RING 1/4	SS	16	16		
25		LOCK NUT 3/8-24 UNF STL.			8	McMaster-Carr # 93839A815	
24		BRAIDED COPPER CABLE FASTEN TO ITEM 9		AS REQD	AS REQD	PURCHASED	
23	D-6070-006-05	PIN-03		8	8	SS 304L	
22		FLANGE NUT	Steel		1	McMaster-Carr # 91030A430	
21		ROLLER THRUST BEARING			1	W.M. BERG # BR5-2	
20		EXTRA THICK WASHER	Steel		1	McMaster-Carr # 98099A031	
19C	D-6070-006-07	LOAD CELL BOTTOM			1	SS	
19B	D-6070-006-07	BELLEVILLE WASHER	SS		1	McMaster-Carr # 91235A125	
19A	D-6070-006-07	LOAD CELL TOP			1	SS	
19	D-6070-006-07	BELLEVILLE WASHER LOAD CELL SUB-ASM			1	OPTIONAL	
18		SPHERICAL WASHERS	Steel		1	McMaster-Carr # 91131A050	
17	D-6070-006-07	FLANGE 3 3/8			1	SS 304L	
16	D-6070-006-07	BELLOWS ADAPTER-02			1	SS 304L	
15	D-6070-006-07	BELLOWS	SS 304L		1	MINI-FLEX SS-500-50-88	
14	D-6070-006-07	BELLOWS ADAPTER-01			1	SS 304L	
13	D-6070-006-07	INVAR_ROD			1	INVAR	
12	D-6070-006-05	TAPERED WASHER		4	4		
11	D-6070-006-05	PIN_02		2	2		
10	D-6070-006-05	PIN_01		4	4		
9	D-6070-006-05	CLEVIS_WARM		2	2		
8	D-6070-006-05	STRAP		2	2		
7	D-6070-006-05	CLEVIS_COLD		2	2		
6	D-6070-006-04	CLAMP-02			1		
5	D-6070-006-03	CLAMP-01			1		
4	REF. ONLY	COLDMASS		1			
3	D-6070-006-06	TENSION RODS SUB-ASM		8		X	
2	D-6070-006-02	ASSM-STRAPS-02		2		X	
1	D-6070-006-02	ASSM-STRAPS-01		2		X	
-	D-6070-006-01	COLDMASS SUSPENSION ASM		X			

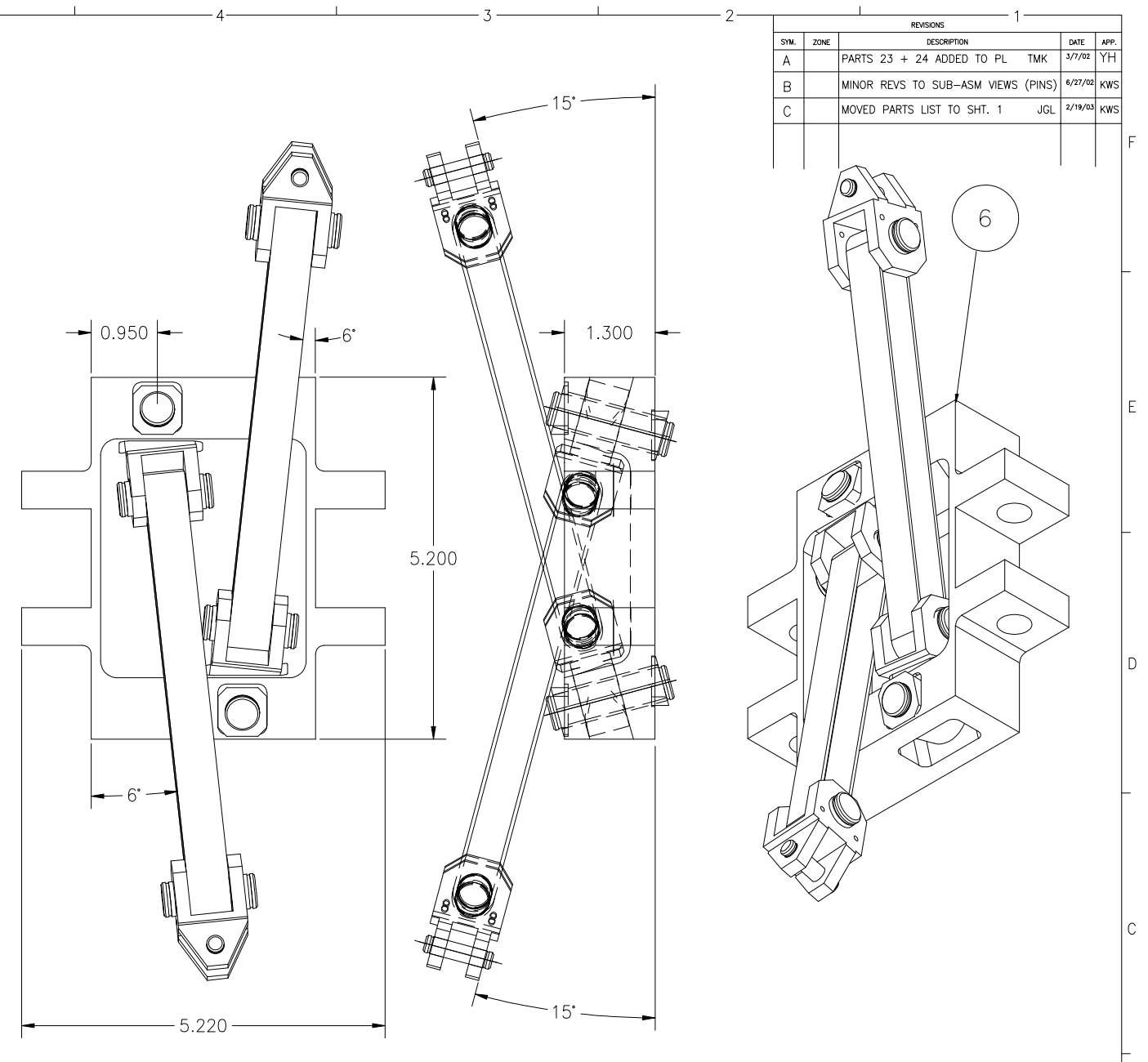
REV.	ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
				G1	G2	G3		
D	PRINT DISTR.		PLOT DATE 02/19/03 CAD FILE NAME Z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Tension Straps\assm_strap_paper.dwg					
D	CR-1	6070-006	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5 ALL SURFACES					
	<b>Cornell University</b> Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853							
	<b>CESR-c 7-Pole 40cm Wiggler Coldmass Suspension Assembly With Coldmass</b>							
	CHECKED BY	YH	DRAWN BY	Yun HE	DRAWN FOR	E. Nordberg N. Mistry	DATE	7/15/01
	APPROVED BY	YH	SCALE	1:5	REV.	D	6070-006	SH. NO. 1 CONT. ON 2

FOR MACHINING LUBRICANT USE ONLY  
 ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
 OR EQUIVALENT APPROVED BY CORNELL LNS.

REVISIONS					
SYM.	ZONE	DESCRIPTION	DATE	APP.	
A		PARTS 23 + 24 ADDED TO PL	TMK	3/7/02	YH
B		MINOR REVS TO SUB-ASM VIEWS (PINS)		6/27/02	KWS
C		MOVED PARTS LIST TO SHT. 1	JGL	2/19/03	KWS



① **Assm-Straps - 01**  
 D-6070-006-02  
 QTY.: 2 PER WIGGLER  
 NOTE: SYMMETRIC TO ASSM-STRAPS-02



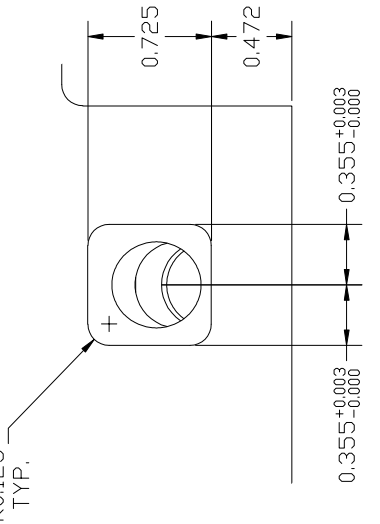
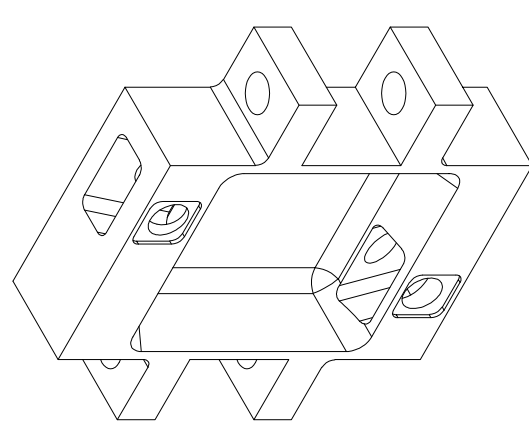
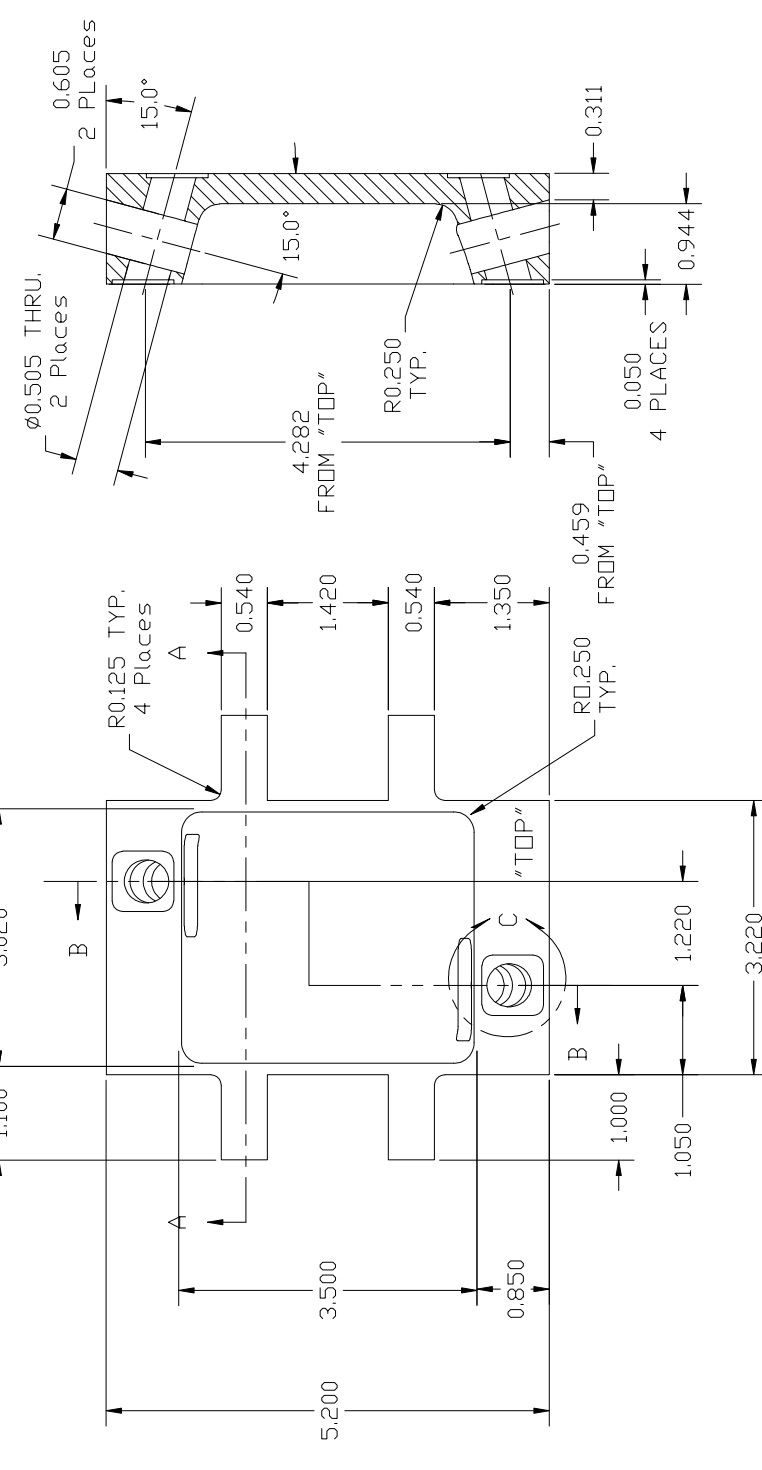
② **Assm-Straps-02**  
 D-6070-006-02  
 QTY.: 2 PER WIGGLER  
 NOTE: SYMMETRIC TO ASSM-STRAPS-01

FOR MACHINING LUBRICANT USE ONLY  
 ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
 OR EQUIVALENT APPROVED BY CORNELL LNS.

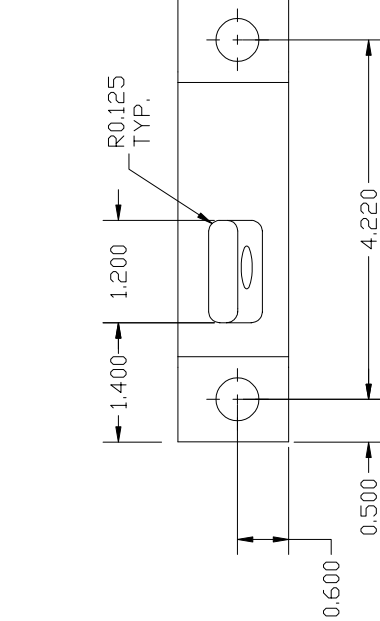
ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
			G1	G2	G3		
D	6070-006	PRINT DISTR.					
CR-1		PLOT DATE 02/19/03 CAD FILE NAME Z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Tension Straps\assm_straps01_02_paper.dwg UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES $\phi$					
		<b>Cornell University</b> Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853					
		<b>CESR-c 7-Pole 40cm Wiggler Coldmass Suspension</b> Sub-assemblies of Tension Straps					
C		CHECKED BY YH	DRAWN BY Yun HE	DRAWN FOR E. Nisberg N. Misny	DATE 7/17/01	SCALE 1:1	D 6070-006 REV. C
		APPROVED BY YH					SH. NO. 2 CONT. ON 3

SYL.	ZONE	DESCRIPTION	DATE	APP.
A		CHANGED LOCATIONS OF SQUARE WASHER PICKETS	12/13/01	TK/PH
B	C-6	TAP 1/2-13, 2 PLCS WAS .405 DIA., 2 PLCS D.M.E.	10/09/02	TDC
C	C-6	0.505 CLR HOLES, REDUCED GAP TO 1.420" KVS	09/29/02	KVS
D	F-3	Ø0.505 THRU WAS Ø0.500 THRU D.M.E.	11-4-02	KVS

SECTION B-B

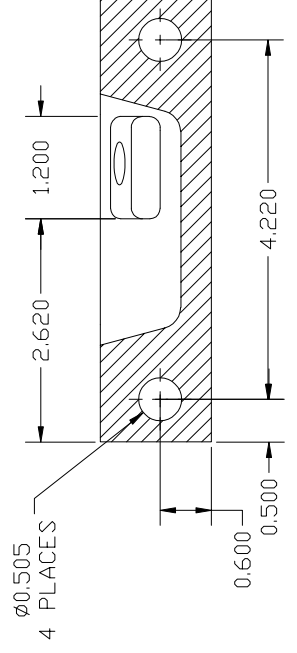


DETAIL D  
SCALE 2:1  
2 PLACES



DETAIL C  
2X SCALE  
2 PLACES

SECTION A-A



⑤ CLAMP - 01  
(D-6070-006-03)  
MAT'L: SS 304  
QTY.: 2 PER WIGGLER  
NOTE: SYMMETRIC TO CLAMP-02

ITEM	DWG. NO.	DESCRIPTION	Q1	Q2	Q3	REMARKS	REV.
D	6070-006	CLAMP					D

PRINT	PLOT DATE	11-04-02
DISTR.	CAD FILE NAME	Z:\proj\archive\6070\6070-004_CESRc-7-40_Wiggler_Corostat_Asm\Tension Straps\CLAMP_1.dwg
CR-1	UNLESS OTHERWISE SPECIFIED	
	DIMENSIONS ARE IN INCHES	
	TOLERANCES ON FRACTIONS	±1/64
	ON DECIMALS	±0.005
	ANGLES	±0.5
	ALL SURFACES	BY
CHECKED BY	YH	
APPROVED BY	YH	
DATE	7/15/01	
SCALE	1:1	
REV.	D	6070-006
SH. NO.	3	CONT. ON 4

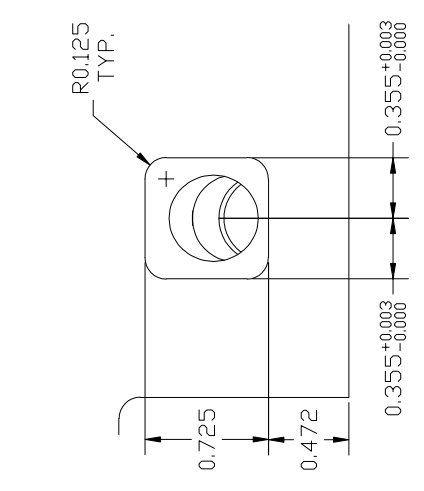
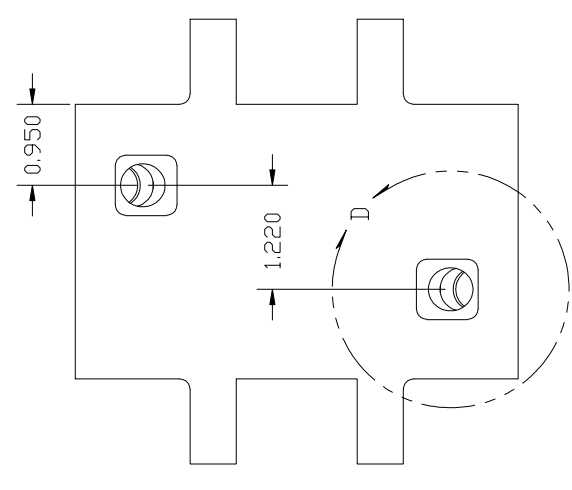
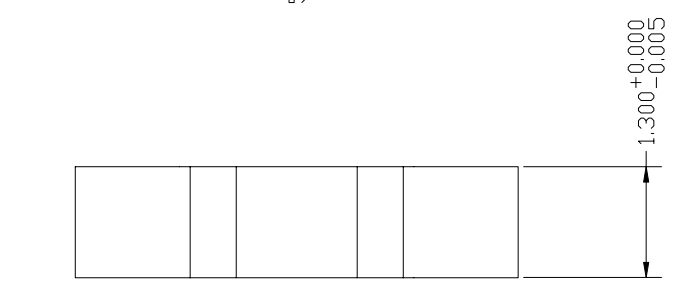
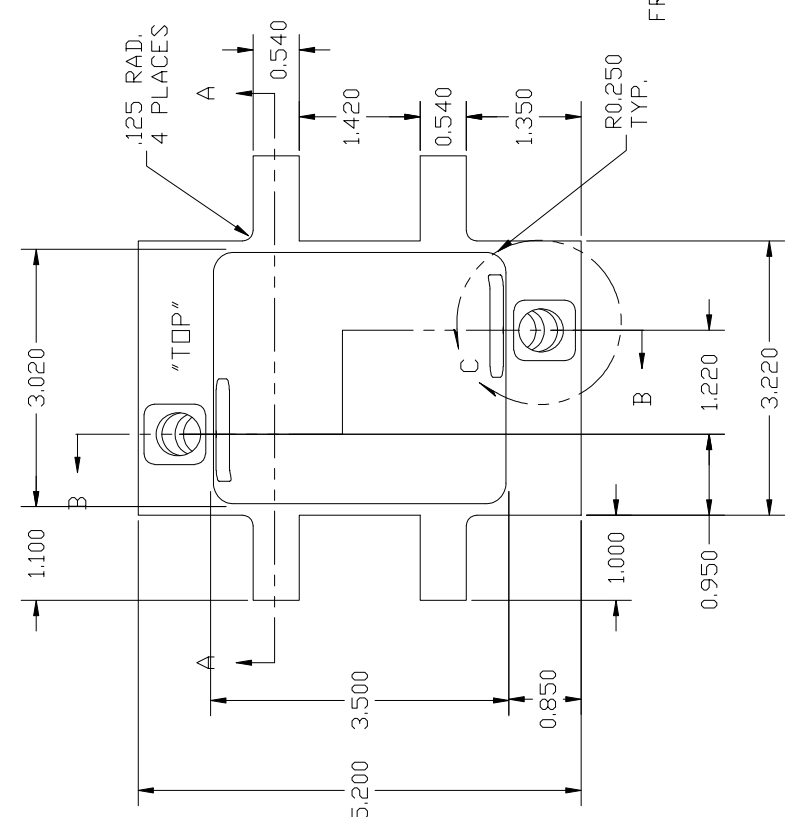
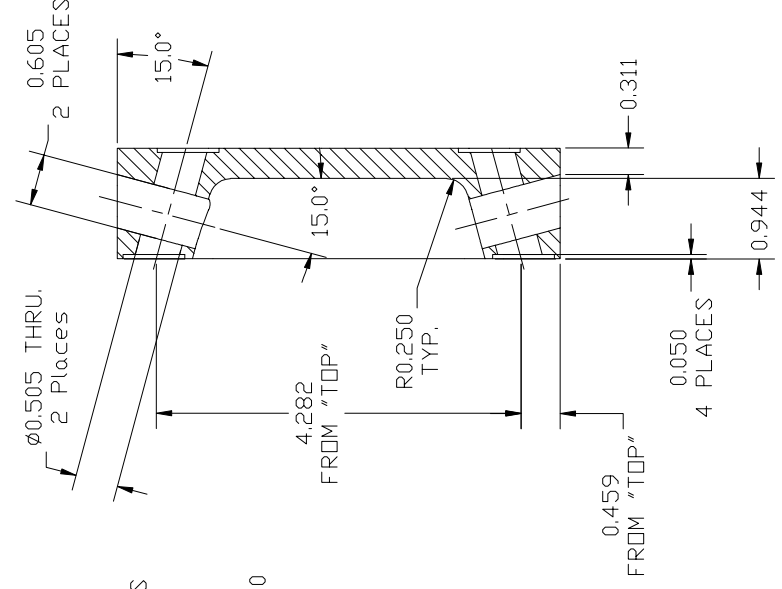
**Cornell University**  
Floyd B. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853

CESR-c 7-Pole 40cm Wiggler Coldmass Suspension  
Tension Straps Clamp 01

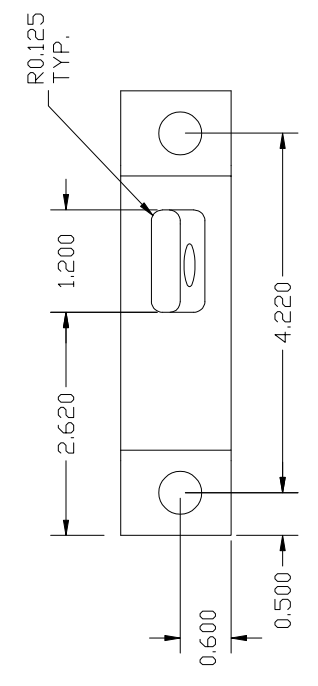
FOR MACHINING LUBRICANT USE ONLY  
ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
OR EQUIVALENT APPROVED BY CORNELL LNS.

REV. NO.		SYN.	ZONE	DESCRIPTION	DATE	APP.
1		A		CHANGED LOCATIONS OF SQUARE WASHER LOCATIONS	12/23/01	TK/WH
2		B	C-6	TAP 1/2-13, 2 PLCS WAS .405 DIA., 2 PLCS. D.M.E.	12/23/01	TDC
3		C	C-6	0.505 HOLE AND GAP REDUCED TO 1.420 K.W.S.	12/23/01	K.W.S.
4		D	F-3.4	Ø0.505 THRU WAS Ø0.500 THRU D.M.E.	11-4-01	K.W.S.

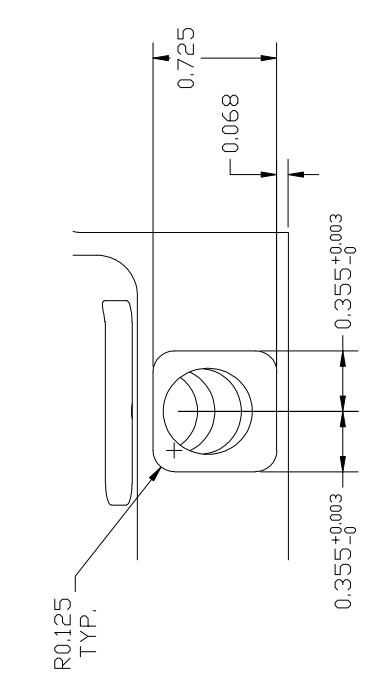
SECTION B-B



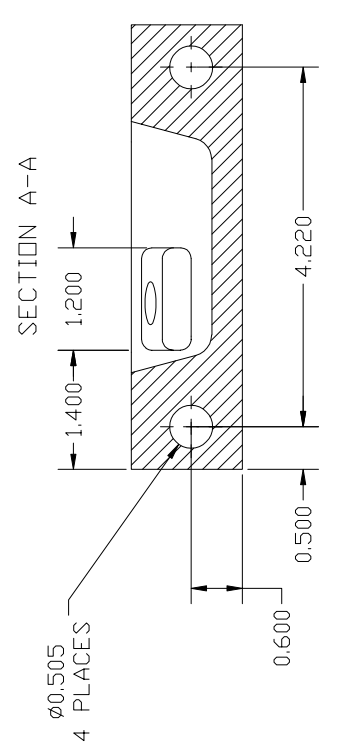
DETAIL D  
SCALE 2:1  
2 PLACES



DETAIL C  
2X SCALE  
2 PLACES



⑥ CLAMP - 02  
D-6070-006-04  
MAT'L: SS 304  
QTY.: 2 PER WIGGLER  
NOTE: SYMMETRIC TO CLAMP-01

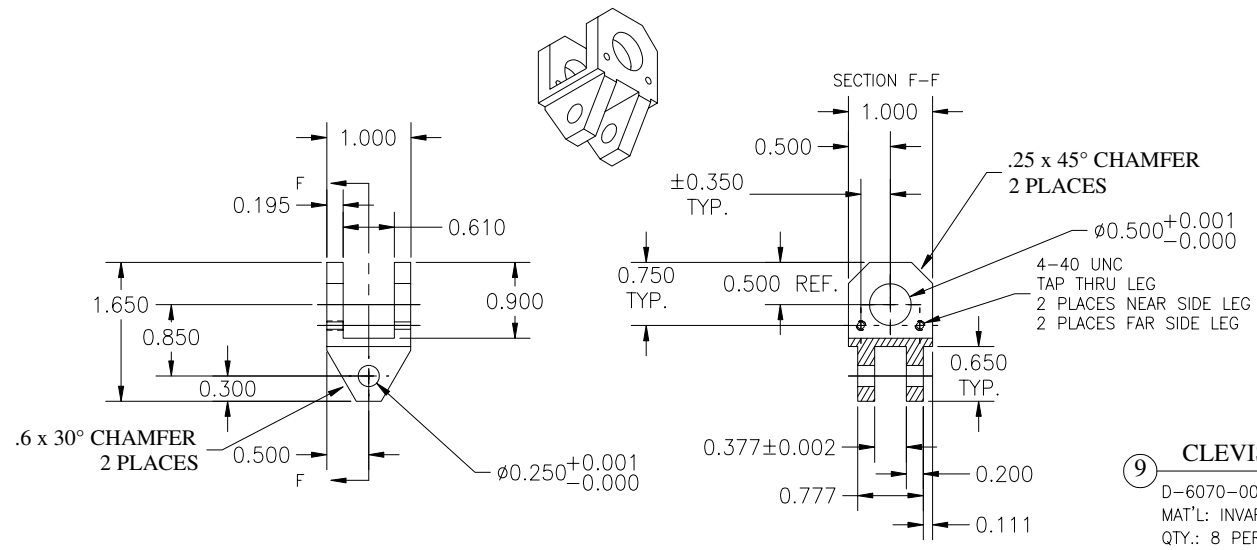


FOR MACHINING LUBRICANT USE ONLY  
ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
OR EQUIVALENT APPROVED BY CORNELL LNS.

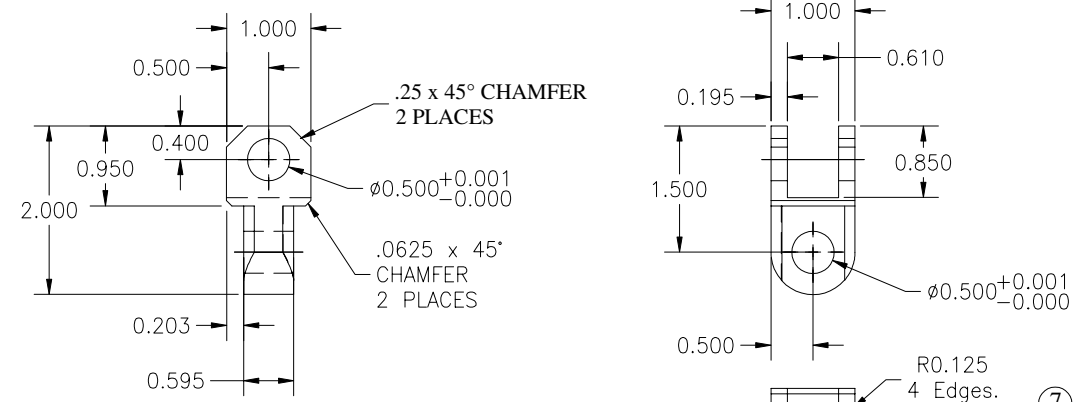
ITEM	DWG. NO.	DESCRIPTION	Q1	Q2	Q3	REMARKS	REV.
PRINT	DATE 11-4-02						
DISTR.	CAD FILE NAME Z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Crystal Asm\Tension Straps\CLAMP.2.dwg						
6070-006	CR-1	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
4		TOLERANCES ON FRACTIONS ±1/64					
0		0.00±0.005					
		ANGLES ±0.5					
		ALL SURFACES					
		CHECKED BY YH					
		APPROVED BY YH					
		DRAWN BY Yun HE					
		DATE 7/15/01					
		SCALE 1:1					
		6070-006					
		D					
		SH. NO. 4					
		CONT. ON 5					

**Cornell University**  
Floyd B. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853  
CESR-c 7-Pole 40cm Wiggler Tension Straps  
Tension Straps Clamp 02

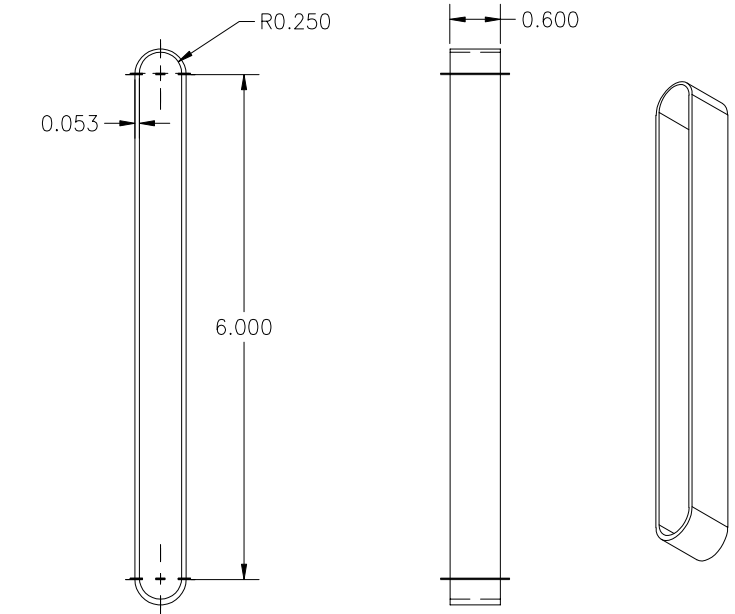
REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		PT.9 ADDED TOL. TO .377 SLOT AND REMOVED FILLETS FROM .610 SLOT	12/13/01	TK/YH
B		PT. 7 REMOVED FILLETS FROM .610 SLOT		
B		PART.9 ADDED 4--40UNC TAPS AND PART 23	3/7/02	YH
C		Invar was Stn Stl, Part #7 & #9	6/21/02	TOC
D		Revs to Pins, Prts #10, #11, #23	6/27/02	KWS
E		Added .125 Rad to 4 edges of Prt #7	7/26/02	KWS
F	E7	Removed .050: Rad Fillet on Prt #9	8/2/02	KWS



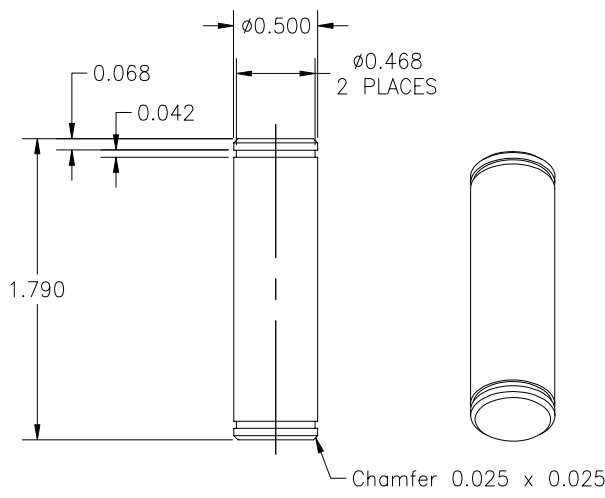
**9 CLEVIS\_WARM**  
 D-6070-006-05  
 MAT'L: INVVAR  
 QTY.: 8 PER WIGGLER



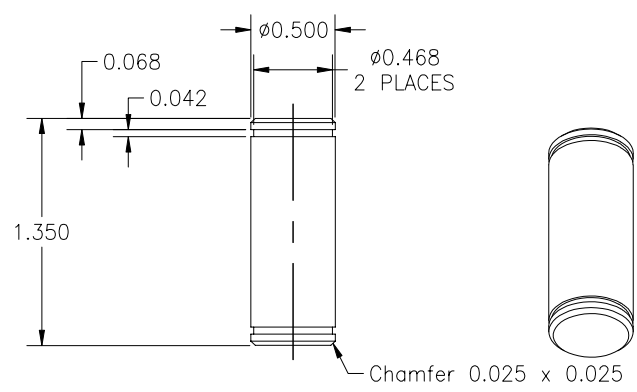
**7 CLEVIS\_COLD**  
 D-6070-006-05  
 MAT'L: INVVAR  
 QTY.: 8 PER WIGGLER



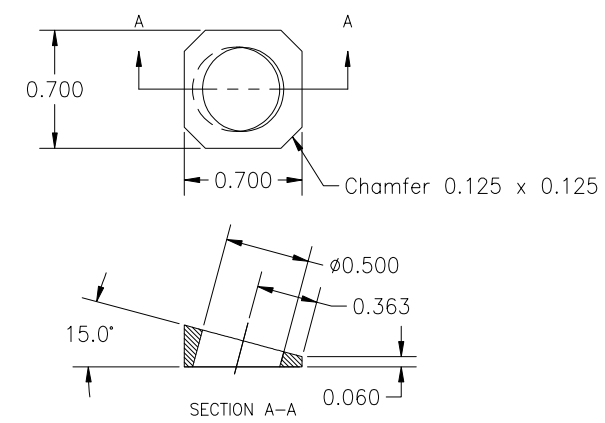
**8 Strap**  
 D-6070-006-05  
 MAT'L: FIBER (OF GLASS OR CARBON)  
 QTY.: 8 PER WIGGLER  
 PURCHASED



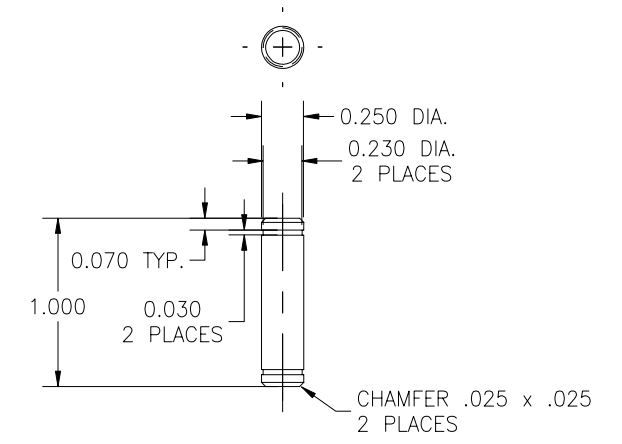
**11 PIN 02**  
 D-6070-006-05  
 MAT'L: SS 304, NON-MAGNETIC, PERMEABILITY >1.03  
 QTY.: 8 PER WIGGLER  
 2X SCALE



**10 PIN 01**  
 D-6070-006-05  
 MAT'L: SS 304, NON-MAGNETIC, PERMEABILITY >1.03  
 QTY.: 16 PER WIGGLER  
 2X SCALE



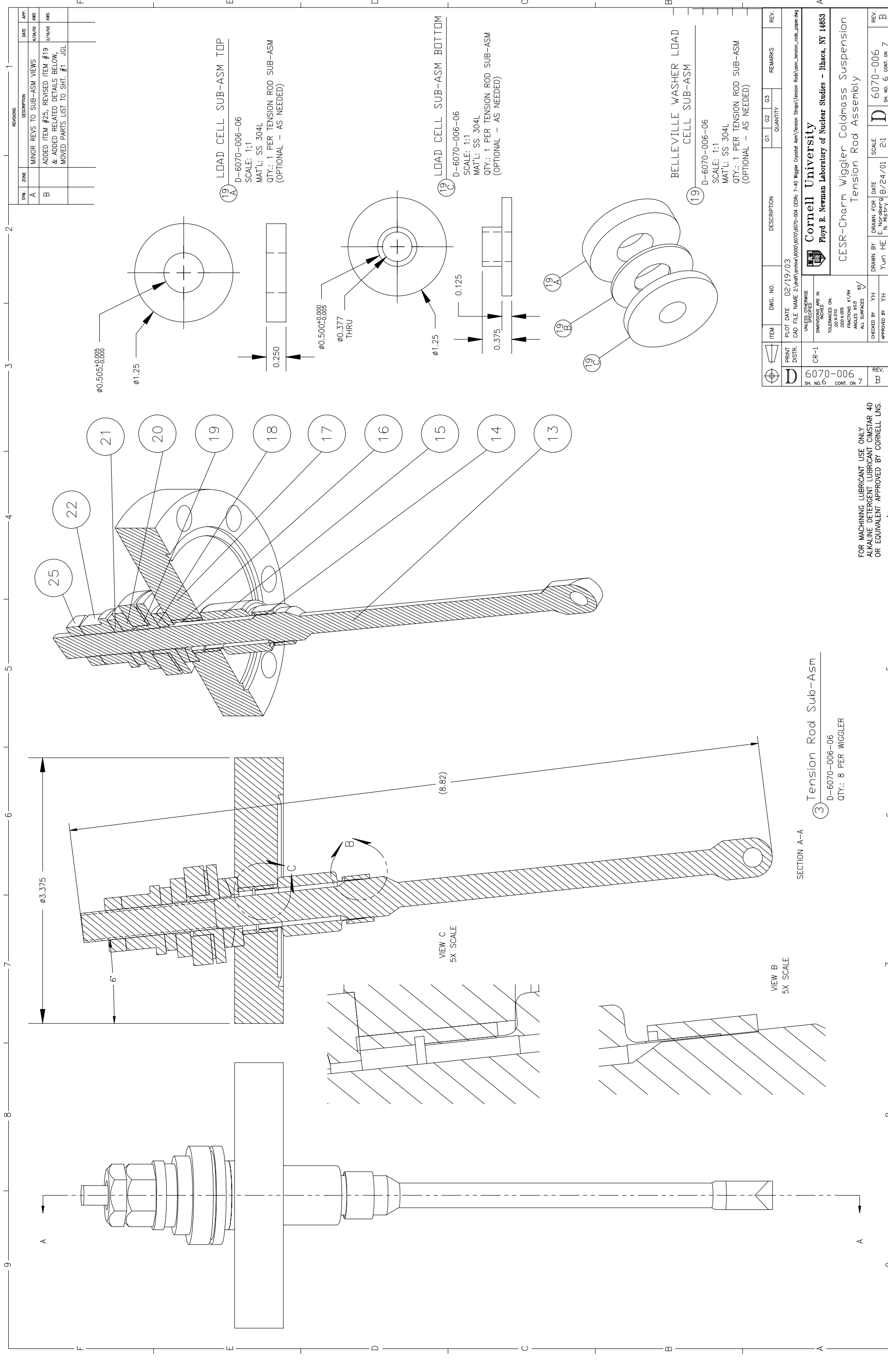
**12 TAPERED WASHER**  
 D-6070-006-05  
 MAT'L: SS 304, NON-MAGNETIC, PERMEABILITY >1.03  
 QTY.: 16 PER WIGGLER  
 2X SCALE



**23 PIN-03**  
 D-6070-006-05  
 MAT'L: SS 304, NON-MAGNETIC, PERMEABILITY >1.03  
 QTY.: 8 PER WIGGLER  
 2X SCALE

REV.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
				QUANTITY				
D	PRINT	PLOT DATE 8/2/02						
	DISTR.	CAD FILE NAME Z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Tension Straps\assm_straps01_02_paper.dwg						
6070-006	CR-1	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES						
			<b>Cornell University</b> Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853					
			<b>CESR-c 7-Pole 40cm Wiggler Coldmass Suspension</b> Tension Straps Parts					
	CHECKED BY YH	DRAWN BY Yun HE	DRAWN FOR E. Neuberger N. Malby	DATE 7/17/01	SCALE 1:1	D	6070-006	REV. F
	APPROVED BY YH							

FOR MACHINING LUBRICANT USE ONLY  
 ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
 OR EQUIVALENT APPROVED BY CORNELL LNS.



SYN.	ZONE	DESCRIPTION	DATE	APP.
A		MINOR REVS TO SUB-ASM VIEWS	6/26/02	KMS
B		ADDED ITEM #25, REVISED ITEM #19 & ADDED RELATED DETAILS BELOW, MOVED PARTS LIST TO SHIT. #1 JGL	2/19/03	KMS

19 A LOAD CELL SUB-ASM TOP  
 D-6070-006-06  
 SCALE: 1:1  
 MAT'L: SS 304L  
 QTY.: 1 PER TENSION ROD SUB-ASM  
 (OPTIONAL - AS NEEDED)

19 C LOAD CELL SUB-ASM BOTTOM  
 D-6070-006-06  
 SCALE: 1:1  
 MAT'L: SS 304L  
 QTY.: 1 PER TENSION ROD SUB-ASM  
 (OPTIONAL - AS NEEDED)

19 BELLEVILLE WASHER LOAD CELL SUB-ASM  
 D-6070-006-06  
 SCALE: 1:1  
 MAT'L: SS 304L  
 QTY.: 1 PER TENSION ROD SUB-ASM  
 (OPTIONAL - AS NEEDED)

ITEM	DWG. NO.	DESCRIPTION	QUANTITY	REV.
19		BELLEVILLE WASHER LOAD CELL SUB-ASM		

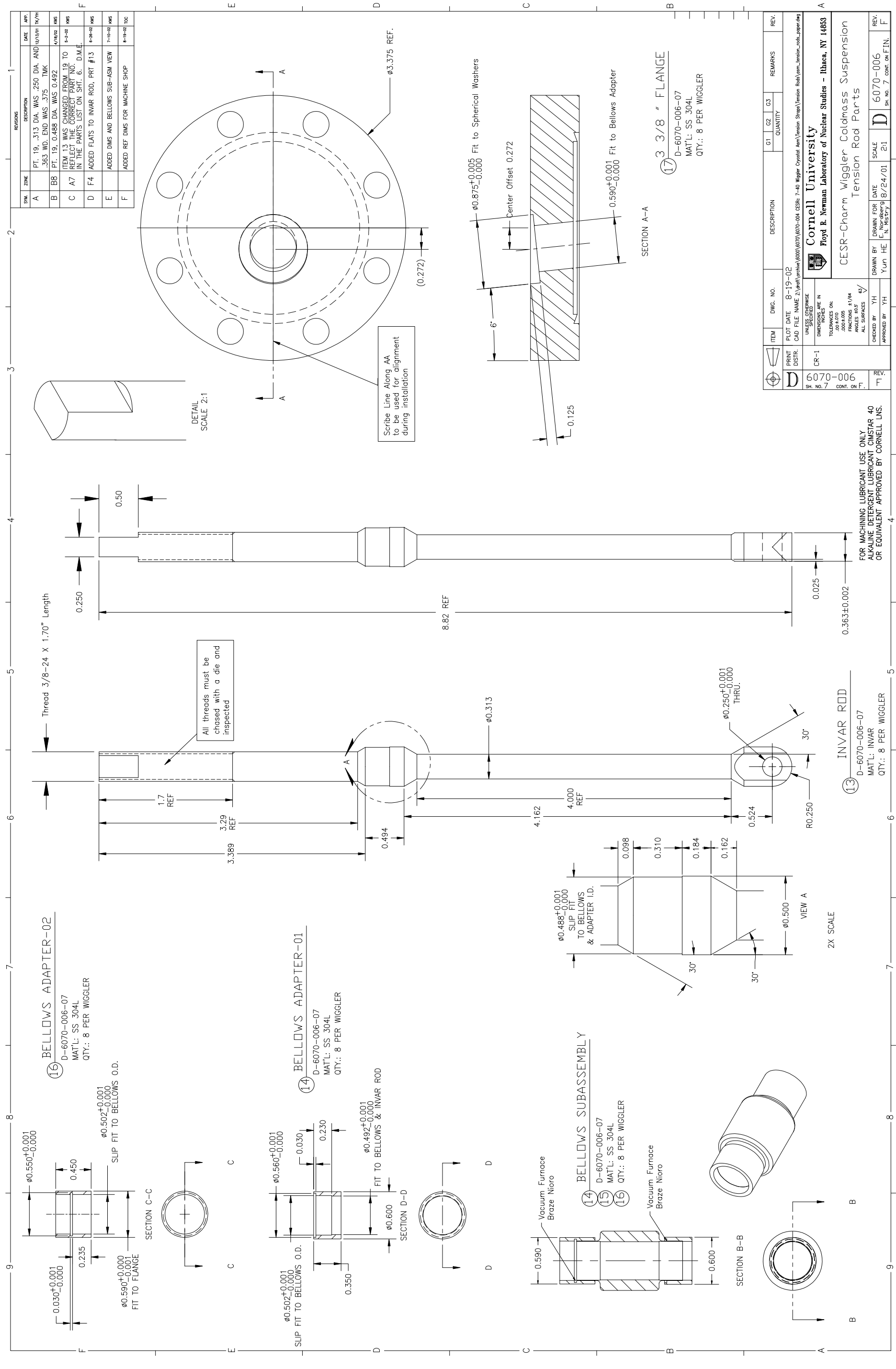
PRINT	PLOT DATE	02/19/03
DISTR.	CAD FILE NAME	Z:\work\archive\6000\6070\6070-004 CESR 7-40 Wiggler Crystal Arm\Tension Rods\Tension Rods_Sub-Asm_top.dwg
6070-006	UNLESS OTHERWISE SPECIFIED	
8	DIMENSIONS ARE IN	INCHES
CONT. ON 7	TOLERANCES ARE:	0.001-0.005
	FRACTIONS	1/4
	ANGLES	0.5
	ALL SURFACES	BY
	CHECKED BY	YH
	APPROVED BY	YH
	DRAWN BY	YH
	DATE	8/24/01
	SCALE	2:1
	REV.	D
	SH. NO.	5
	CONT.	ON 7

3 Tension Rod Sub-Asm  
 D-6070-006-06  
 QTY.: 8 PER WIGGLER

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 ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
 OR EQUIVALENT APPROVED BY CORNELL LNS.

Cornell University  
 Floyd B. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853

CESR-Charm Wiggler Coldmass Suspension  
 Tension Rod Assembly



REV.	DATE	DESCRIPTION
A	7-19-02	PT. 19, .313 DIA. WAS .250 DIA. AND .363 WD. END WAS .375 TMK
B	4/18/02	PT. 19, 0.488 DIA. WAS 0.492
C	8-2-02	ITEM 13 WAS CHANGED FROM 19 TO REFLECT THE CORRECT PART NO. IN THE PARTS LIST ON SHT. 6.
D	8-28-02	ADDED FLATS TO INVAR ROD, PRT #13
E	7-18-03	ADDED DIMS AND BELLOWS SUB-ASM VIEW
F	8-18-03	ADDED REF DIMS FOR MACHINE SHOP

PRINT DISTR. CR-1 D 6070-006 SHEET NO. 7 CONT. OF 11	ITEM Dwg. No. 8-19-02 PLOT DATE 8-19-02 CAD FILE NAME Z:\wgl\gen\6070\6070-006.dwg UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS: .001 FRACTIONS: 1/64 ANGLES: .015 ALL SURFACES <input checked="" type="checkbox"/>	DESCRIPTION D-6070-006-07 MATL: SS 304L QTY.: 8 PER WIGGLER	QUANTITY G1 G2 G3 17	REMARKS REV.
Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853		CESR-Charm Wiggler Coldmass Suspension Tension Rod Parts		
FOR MACHINING LUBRICANT USE ONLY ALKALINE DETERGENT LUBRICANT CIMSTAR 40 OR EQUIVALENT APPROVED BY CORNELL LNS.		DRAWN BY DATE SCALE YUH HE N. Mistry 8/24/01 2:1 D 6070-006 SHEET NO. 7 CONT. OF 11		

15 BELLOWS ADAPTER-02  
D-6070-006-07  
MATL: SS 304L  
QTY.: 8 PER WIGGLER

14 BELLOWS ADAPTER-01  
D-6070-006-07  
MATL: SS 304L  
QTY.: 8 PER WIGGLER

BELLOWS SUBASSEMBLY  
D-6070-006-07  
MATL: SS 304L  
QTY.: 8 PER WIGGLER

13 INVAR ROD  
D-6070-006-07  
MATL: INVAR  
QTY.: 8 PER WIGGLER

FOR MACHINING LUBRICANT USE ONLY  
ALKALINE DETERGENT LUBRICANT CIMSTAR 40  
OR EQUIVALENT APPROVED BY CORNELL LNS.