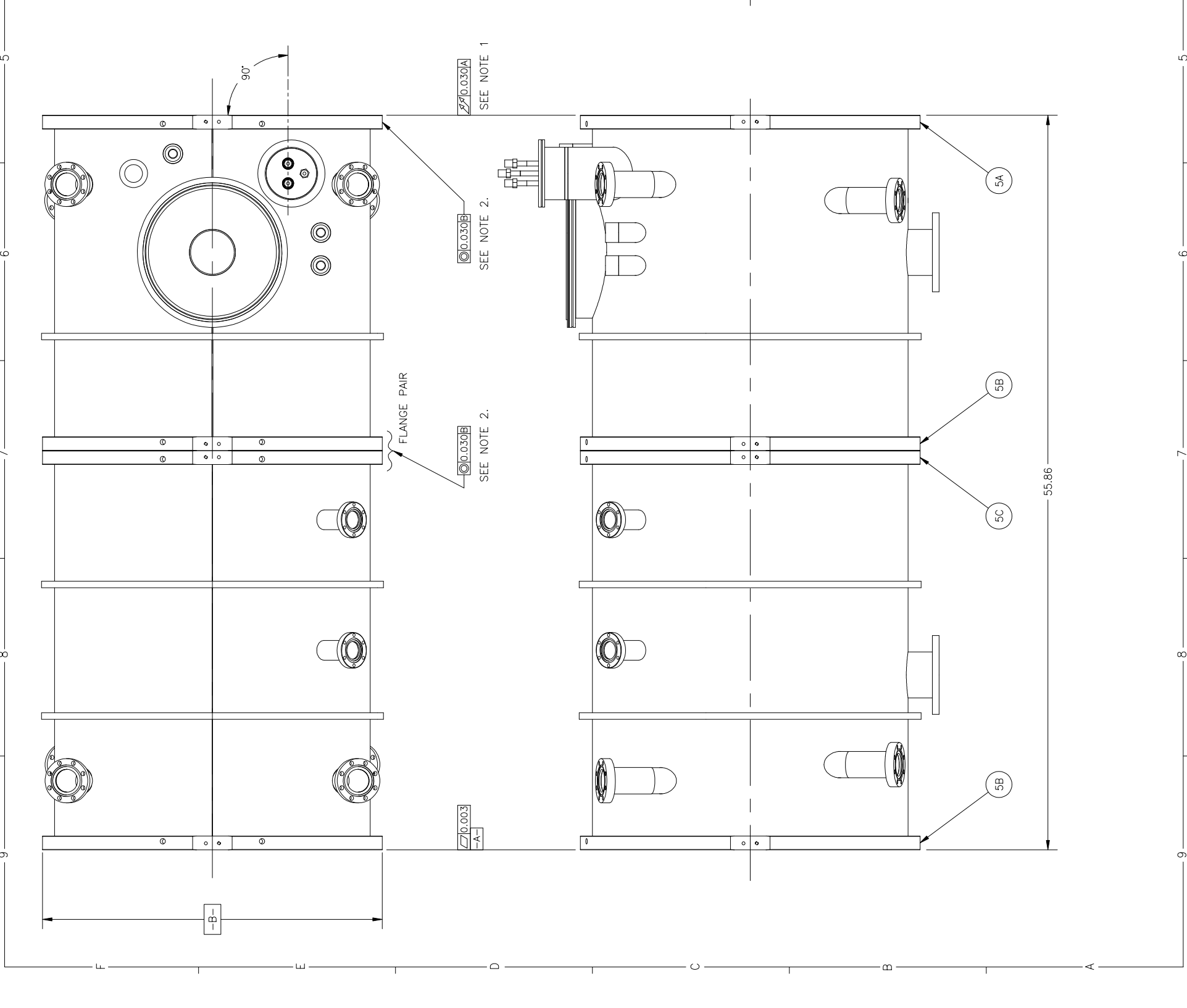
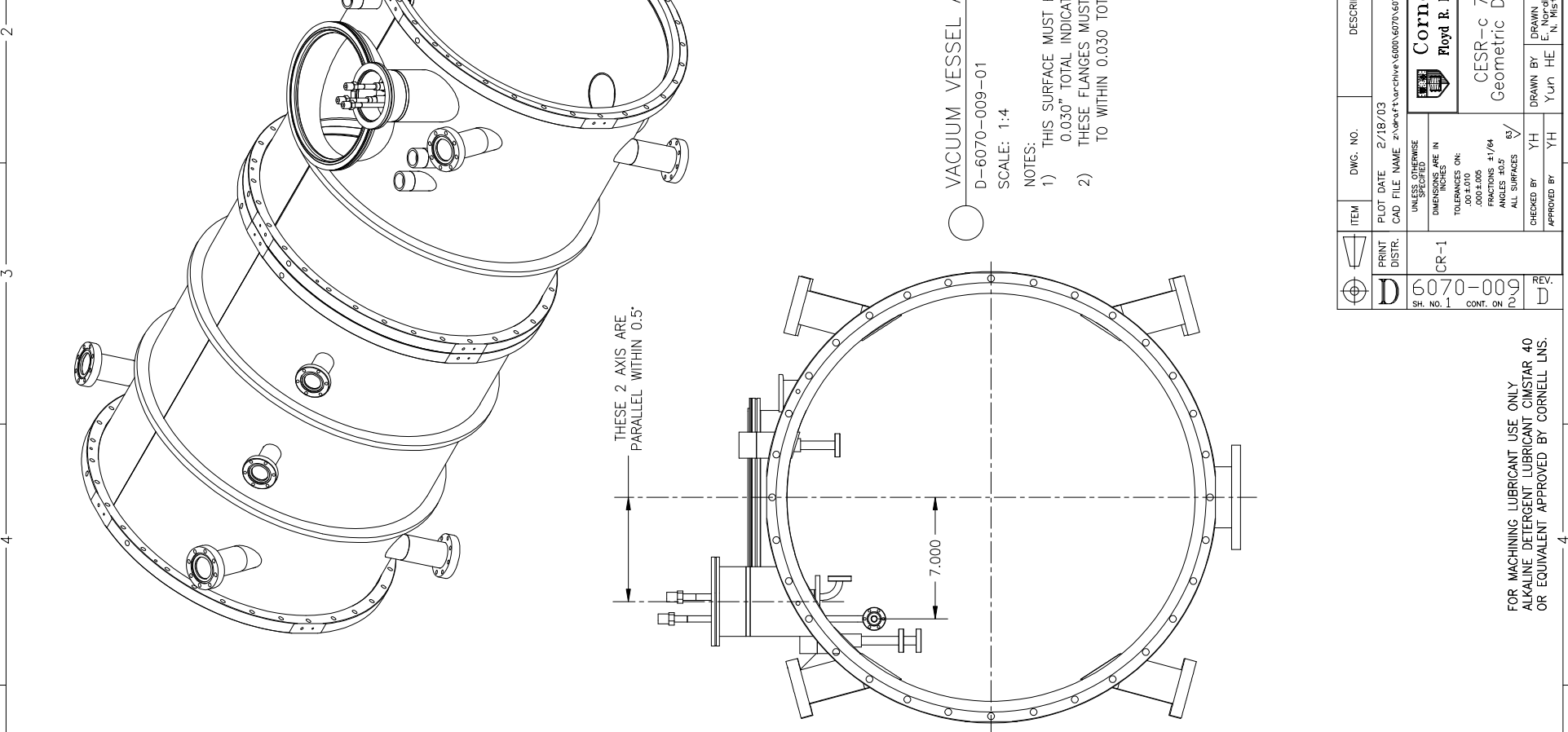


REVISIONS			
SYN.	ZONE	DESCRIPTION	DATE
A		Added Prt #45, Blank-Off Flange. KWS	3/22/02
B		Major part & drawing revisions	9/31/02
C		ADD 2 INSTANCES OF ITEM 51	7/18/02
D		REPLACED STUB #34 W/SUB-ASM #18	8/6/02



VACUUM VESSEL ASM. GEOMETRIC TOLERANCING

D-6070-009-01
SCALE: 1:4

NOTES:

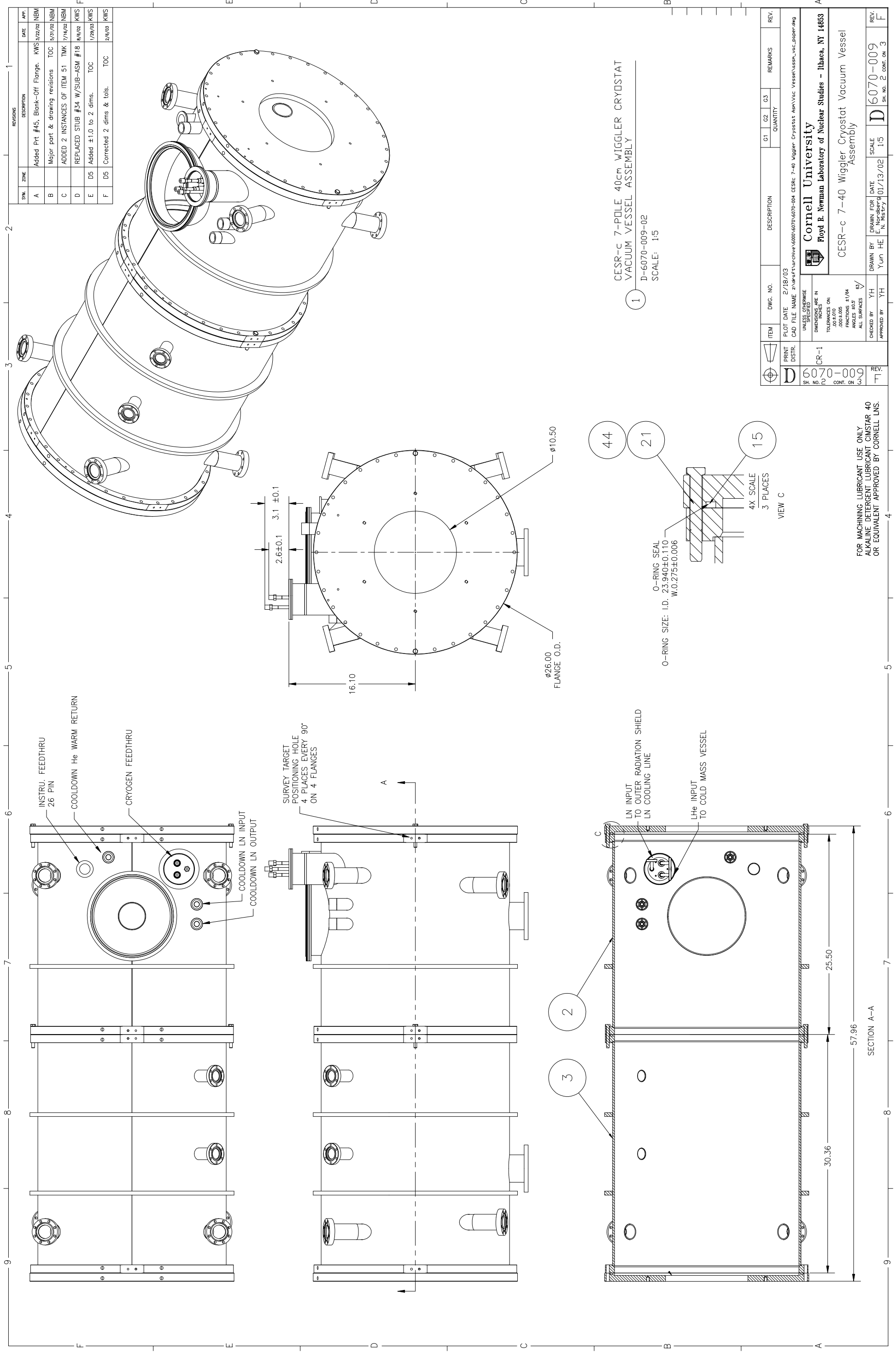
- 1) THIS SURFACE MUST BE PARALLEL TO DATUM -A- TO WITHIN 0.030" TOTAL INDICATOR READING (T.I.R.).
- 2) THESE FLANGES MUST BE CONCENTRIC TO DATUM -B- TO WITHIN 0.030 TOTAL INDICATOR READING (T.I.R.).

ITEM	DWG. NO.	DESCRIPTION	QTY	G1	G2	G3	REMARKS	REV.
PRINT DISTR.	DATE	2/18/03						
CR-1	CAD FILE NAME	Z:\newft\archive\6070\6070-004 CESRC 7-4b Wiggler Cryostat Assembly\vac_vessel.dwg						
D 6070-009	UNLESS OTHERWISE SPECIFIED	DIMENSIONS ARE IN INCHES						
NO. 1	TOLERANCES ON	DECIMALS: 0.005						
CONT. ON D 6070-009	FRACTIONS: 1/64							
	ANGLES: ±0.5							
	ALL SURFACES	BY						
	CHECKED BY	YH						
	APPROVED BY	YH						
	DRAWN FOR DATE	1/13/02	SCALE	1:4				
	YUN HE	E. Nordberg		D 6070-009				
		N. Mistry		SH. NO. 1 CONT. ON 2				

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

CESR-c 7-40 Wiggler Cryostat Vacuum Vessel
Geometric Dimensioning & Tolerancing of Assembly

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



REV. NO.		DATE	APP.
1	Added	1/22/02	NBM
2	Major part & drawing revisions	9/31/02	NBM
3	ADDED 2 INSTANCES OF ITEM 51	7/18/02	NBM
4	REPLACED STUB #34 W/SUB-ASM #18	8/6/02	KWS
5	Added ±1.0 to 2 dims.	1/29/03	KWS
6	Corrected 2 dims & tols.	2/6/03	KWS

CESR-c 7-POLE 40cm WIGGLER CRYOSTAT
 VACUUM VESSEL ASSEMBLY
 D-6070-009-02
 SCALE: 1:5

ITEM	DWG. NO.	DESCRIPTION	QTY	G1	G2	G3	REMARKS	REV.
1	D-6070-009-02	CESR-c 7-40 Wiggler Cryostat Vacuum Vessel Assembly						

PRINT DISTR.	PLOT DATE	2/18/03
CR-1	CAD FILE NAME	Z:\newsoft\archive\6070\6070-004 CESR-c 7-40 Wiggler Cryostat Assembly\vac_vessel.dwg
6070-009	UNLESS OTHERWISE SPECIFIED	
CONT. ON 2	DIMENSIONS ARE IN INCHES	
	TOLERANCES ON	
	FRACTIONS	±1/64
	ANGLES	±0.5
	ALL SURFACES	BY
	CHECKED BY	YH
	APPROVED BY	YH
	DRAWN BY	Yun HE
	DATE	01/13/02
	SCALE	1:5
	REV.	D
	SH. NO.	2
	CONT. ON	3

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

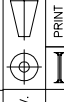
Cornell University
 Floyd B. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853

CESR-c 7-40 Wiggler Cryostat Vacuum Vessel Assembly

SYN.	ZONE	REVISIONS	
		DESCRIPTION	DATE
A		General revs.	KWS 6/26/02
B		Major part & drawing revisions	TOC 9/11/02
C		ADDED PARTS 51, 52 AND 53	TKM 7/16/02
D		SOME SH.# CHANGES	TKM 7/26/02
E		DELETED ITEM #34 AND CHANGED QTY OF #18	KWS 8/6/02
F		CHANGED CATALOG # OF ITEM 48 ITEM 18 WAS 4" PORT SUB-ASM. ITEM 46 WAS 4" O.D. TUBE. ITEM 47 WAS 6" NON-ROT FLANGE.	KWS 8/26/02
G			D.M.E. 7/13/03

ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
			G1	G2	G3		
53	6070-009-12	2.75 FLANGE	1				PURCHASED - MDC #F275150R OR EQUIV
52	6070-009-12	1.500" STN. STL. TUBE	1				
51	6070-009-12	2.75 FLANGE TUBE	2	X			
50	6070-009-07	NW100 FLANGE-4" BORE	1				PURCHASED - MDC #L400-W OR EQUIV
49	6070-009-07	EXTENSION TUBE	1				
48	6070-009-07	VCR-4 HIGH FLOW MALE	3				PURCHASED - CAJON #STBLT-FHVC-R-1-61B7 #F600400 OR EQUIV
47	6070-009-18	6" ROT FLANGE	1	1			PURCHASED - MDC #F600400 OR EQUIV
46	6070-009-18	3.50" O.D. TUBE	1	1			
45	6070-009-16	26" BLANK-OFF FLANGE	1				NOT SHOWN
44		HEX NUT 3/8"-16	96				PURCHASED
43	6070-009-15	BAYONET TUBE-01	2				1 PER SUB-ASM #8 1 PER SUB-ASM #20
42	6070-009-15	FLG 1-1/3" W 1/2" ROT TAP	3				PURCHASED - MDC #F133038RT OR EQUIV
41	6070-009-15	BAYONET 1/2" TUBE x 2.33"	1				1 PER SUB-ASM #16
40	6070-009-15	BAYONET TUBE-02	1				1 PER SUB-ASM #16
39	6070-009-15	3" BAYONET	3				PURCHASED-CRYOCOMP CB702-SFS OR EQUIV
38		DELETED					
37	6070-009-15	BAYONET 1/2" TUBE x 2.50"	1				1 PER SUB-ASM #8
36	6070-009-15	BAYONET 1/2" TUBE x 3.50"	1				1 PER SUB-ASM #20
35		DELETED					
34		DELETED					
33	6070-009-11	LN2 INTERCEPT	1				
32		1-1/3" FLANGE W 3/8" ROT TAP	3				PURCHASED - MDC #F133038RT OR EQUIV
31	6070-009-11	TUBE 3/8" LN2	1				0.028 WALL
30	6070-009-11	VACUUM JACKET	1				
29	6070-009-11	TUBE 3/8" LHe	2				0.028 WALL
28	6070-009-11	VACUUM BREAK	1				
27	6070-009-11	TUBE 9/16 x 4"	1				0.020 WALL
26	6070-009-11	TUBE 9/16 x 5.75"	2				0.020 WALL
25	6070-009-11	TUBE 3/4 x 4.75"	2				0.035 WALL

ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
			G1	G2	G3		
24	6070-009-11	TUBE 7/8 x 4"	2				0.020 WALL
23	6070-009-11	CONNECTOR-02	2				
22	6070-009-11	CONNECTOR-01	3				
21		HEX BOLT 3/8"-16 x 3"	96				PURCHASED
20	6070-009-15	BAYONET SUB-ASSM-03	1				
19	6070-009-12	24" O.D. LONG CYLINDER	1				
18	6070-009-18	3.50" PORT SUB-ASM	1				
17	6070-009-14	FEEDTHRU PORT KF NW40	1				
16	6070-009-15	BAYONET SUB-ASSM-02	1				
15		VITON O-RING	3				PURCHASED PARKER 2-473
14		KF NW250 FLG O-RING ASSM	1				PURCHASED - MDC #L1000-CR OR EQUIV
13		KF NW250 FLANGE	1				PURCHASED - MDC #L1000-W OR EQUIV
12	6070-009-14	STACK PORT TUBE 10" O.D.	1				
11	6070-009-07	CRYOGEN FEEDTHRU SUB-ASM	1				
10	6070-009-14	STRAP PORT TUBE 2" O.D.	4				
9		3-3/8" ROTATABLE FLANGE	4				PURCHASED - MDC #F338260R OR EQUIV
8	6070-009-15	BAYONET SUB-ASSM-01	1				
7	6070-009-14	STIFFENING RING	1				
6	6070-009-13	24" O.D. SHORT CYLINDER	1				
5C	6070-009-10	ø26" FLANGE-C	1				
5B	6070-009-09	ø26" FLANGE-B	1				
5A	6070-009-09	ø26" FLANGE-A	1				
5	6070-009-08	ø26 FLANGE BASIS OF 5A,B,C	4				
4	6070-009-17	ø26" O-RING END FLANGE	1				
3	6070-009-06	LONG VAC VESSEL SUB-ASSM	1		X		
2	6070-009-04	SHORT VAC VESSEL SUB-ASSM	1		X		
1	6070-009-02	VACUUM VESSEL ASSEMBLY	X				



PRINT DISTR. D
6070-009
CONT. OF 4

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE: 0.00±0.005 FRACTIONS ±1/64 ANGLES ±0.5 ALL SURFACES

CHECKED BY YH
APPROVED BY YH

DRAWN BY TMK
SCALE NA
DATE 5/30/02
D 6070-009
SH. NO. 3 CONT. ON 4

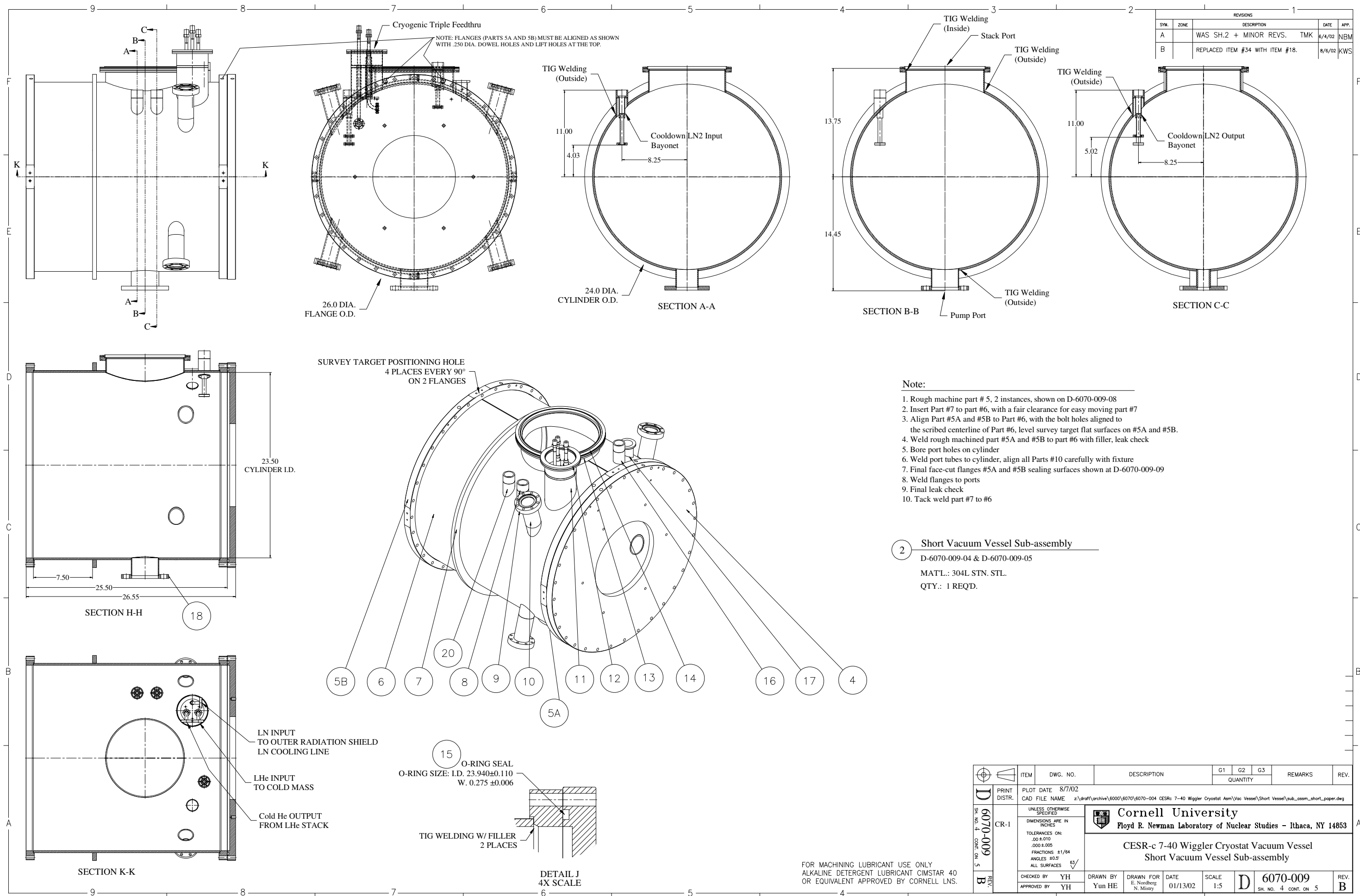
REVISIONS
DATE
REV. 1
REV. 2

REMARKS

PARTS LIST
CESR-c 7-40 Wiggler Cryostat Vacuum Vessel

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

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



REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		WAS SH.2 + MINOR REVS.	TMK 8/4/02	NBM
B		REPLACED ITEM #34 WITH ITEM #18.	8/6/02	KWS

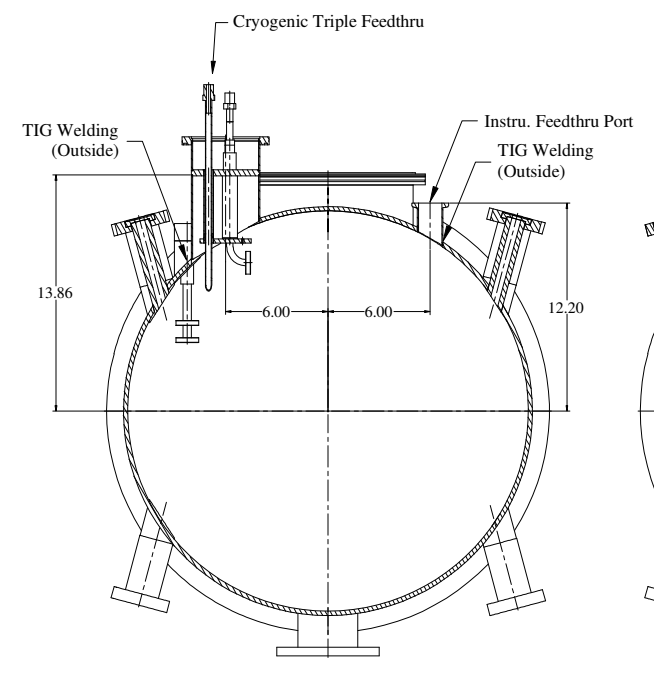
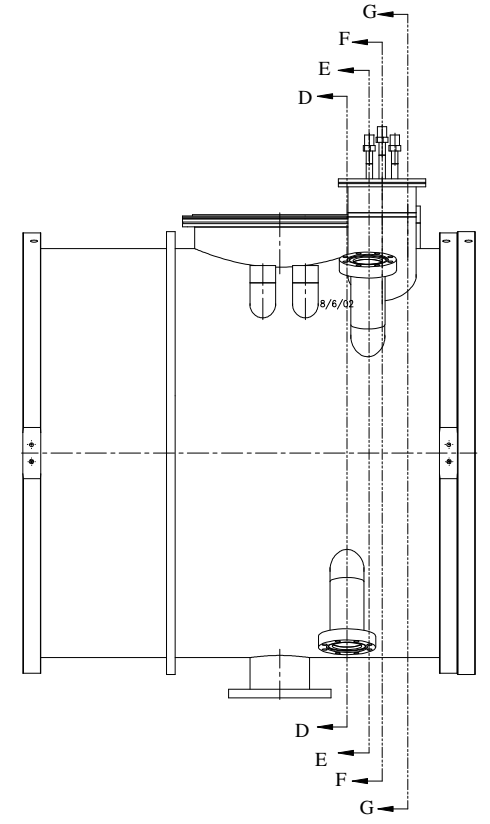
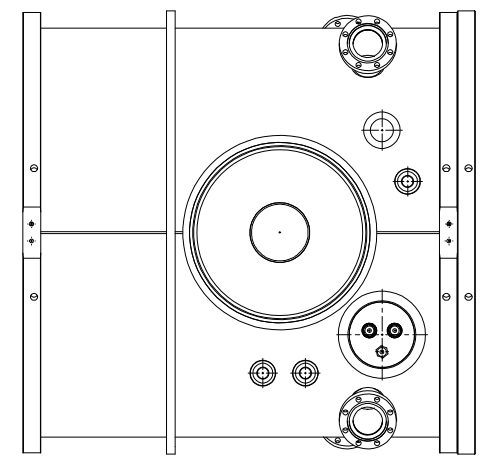
- Note:**
1. Rough machine part # 5, 2 instances, shown on D-6070-009-08
 2. Insert Part #7 to part #6, with a fair clearance for easy moving part #7
 3. Align Part #5A and #5B to Part #6, with the bolt holes aligned to the scribed centerline of Part #6, level survey target flat surfaces on #5A and #5B.
 4. Weld rough machined part #5A and #5B to part #6 with filler, leak check
 5. Bore port holes on cylinder
 6. Weld port tubes to cylinder, align all Parts #10 carefully with fixture
 7. Final face-cut flanges #5A and #5B sealing surfaces shown at D-6070-009-09
 8. Weld flanges to ports
 9. Final leak check
 10. Tack weld part #7 to #6

2 Short Vacuum Vessel Sub-assembly
 D-6070-009-04 & D-6070-009-05
 MAT'L.: 304L STN. STL.
 QTY.: 1 REQD.

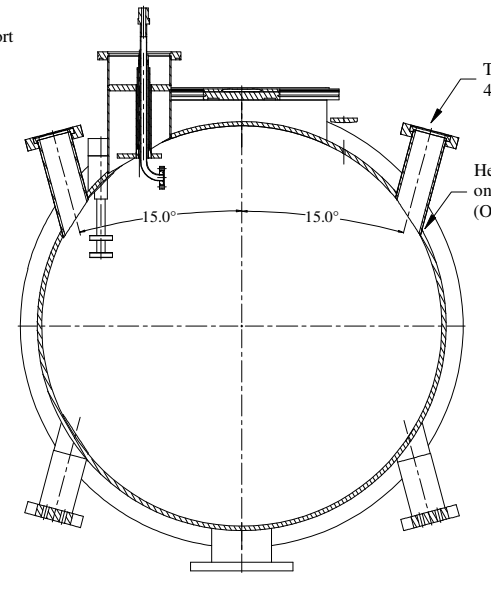
ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
			G1	G2	G3		
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6070-009 REV. 4	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES ϕ	Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853					
	CESR-c 7-40 Wiggler Cryostat Vacuum Vessel Short Vacuum Vessel Sub-assembly						
CHECKED BY YH	DRAWN BY Yun HE	DRAWN FOR E. Nordberg N. Mistry	DATE 01/13/02	SCALE 1:5	D 6070-009	REV. B	
APPROVED BY YH					SH. NO. 4 CONT. ON 5		

FOR MACHINING LUBRICANT USE ONLY
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 OR EQUIVALENT APPROVED BY CORNELL LNS.

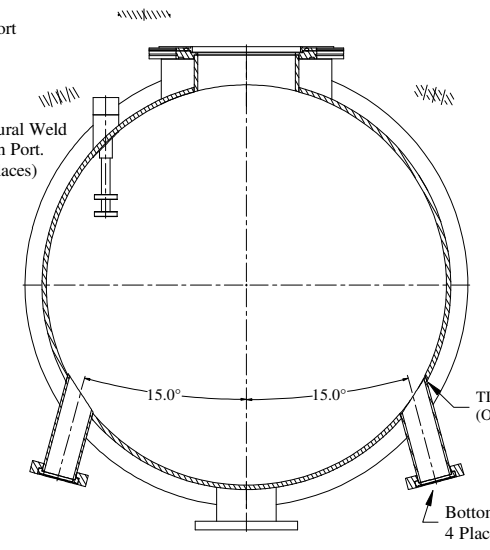
REVISIONS				
SYL.	ZONE	DESCRIPTION	DATE	APP.
A	E4 F9	PART 4: 10.50 D. WAS 8.50 D. .25" PINHOLE DEPTH WAS .35	YH 2-4-02	YH
B		WAS SHEET 3	TMK 6/4/02	NBM
C		REPLACED ITEM #34 WITH ITEM #18.	8/6/02	KWS
D	D1	3.00 DIMENSION WAS 3.50	8/15/02	NBM
E	D-4	'HEAVY STRUCTURAL WELD ON SUSPENSION' FORMERLY READ 'TIG WELDING'. D.M.E.	2/12/03	KWS



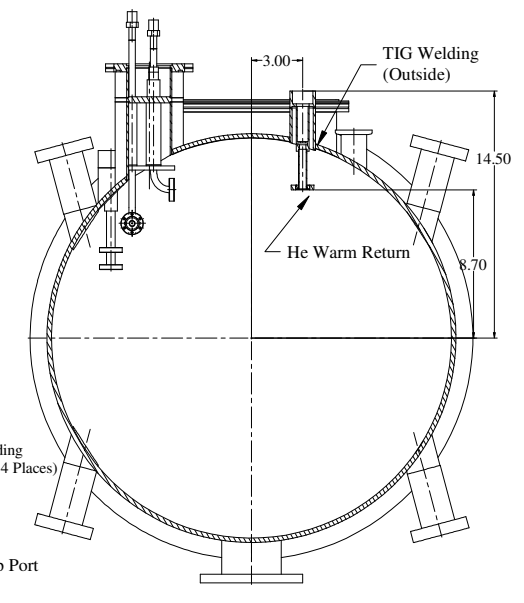
SECTION F-F



SECTION E-E



SECTION D-D

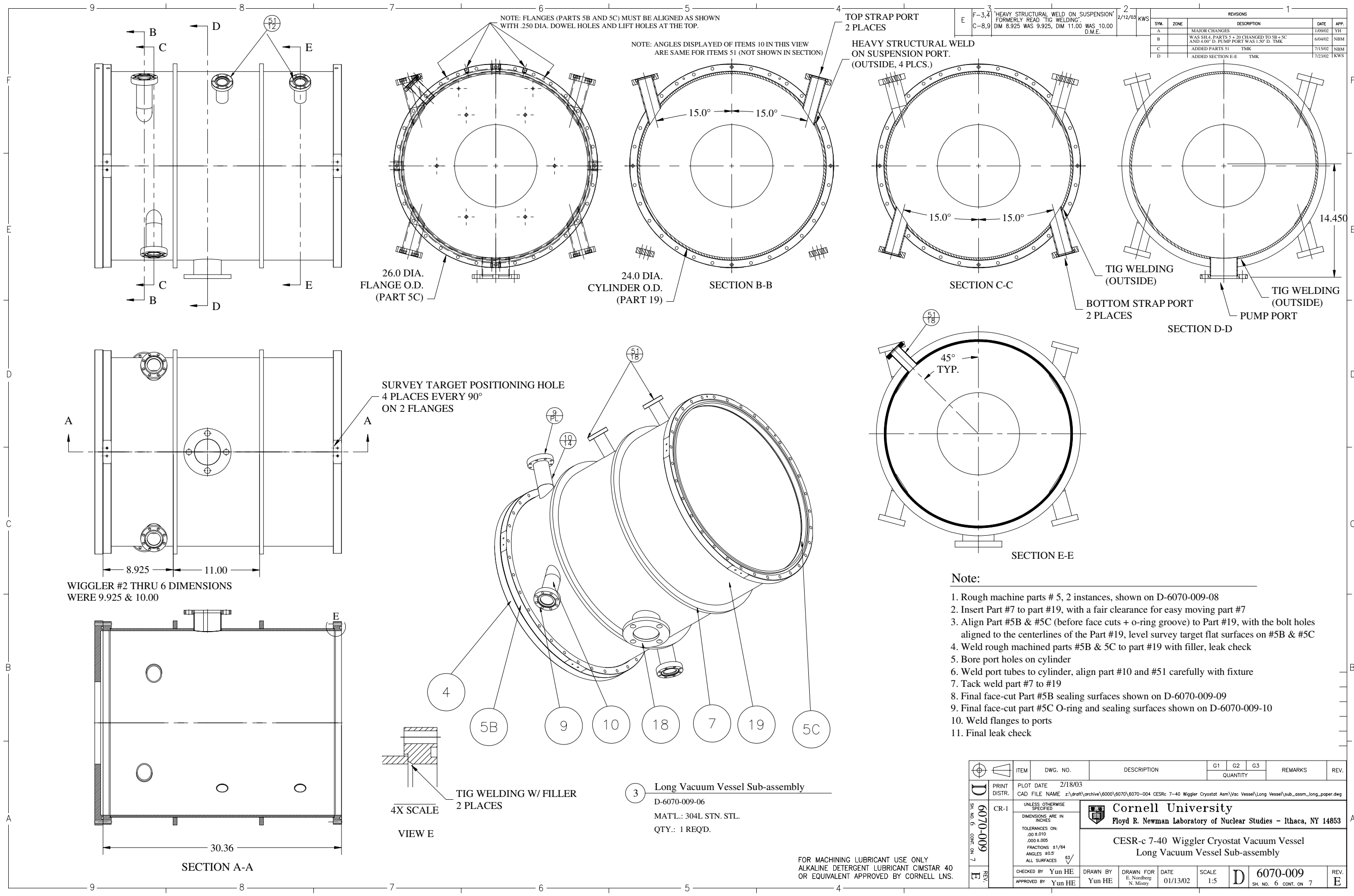


SECTION G-G

2 Short Vacuum Vessel Sub-assembly
 D-6070-009-04 & D-6070-009-05
 MATL.: 304L STN. STL.
 QTY.: 1 REQD.

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 OR EQUIVALENT APPROVED BY CORNELL LNS.

REV.	ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
				G1	G2	G3		
D	PRINT DISTR.		PLOT DATE 2/18/03 CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Vac Vessel\Short Vessel\sub_asm_short_paper.dwg					
6070-009	CR-1		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES 63/					
 Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853								
CESR-c 7-40 Wiggler Cryostat Vacuum Vessel Short Vacuum Vessel Sub-assembly								
	CHECKED BY YH	DRAWN BY Yun HE	DRAWN FOR E. Nordberg N. Mistry	DATE 01/13/02	SCALE 1:5	D 6070-009	REV. E	
	APPROVED BY YH					SH. NO. 5 CONT. ON 6		



NOTE: FLANGES (PARTS 5B AND 5C) MUST BE ALIGNED AS SHOWN WITH .250 DIA. DOWEL HOLES AND LIFT HOLES AT THE TOP.

NOTE: ANGLES DISPLAYED OF ITEMS 10 IN THIS VIEW ARE SAME FOR ITEMS 51 (NOT SHOWN IN SECTION)

TOP STRAP PORT
2 PLACES

HEAVY STRUCTURAL WELD
ON SUSPENSION PORT.
(OUTSIDE, 4 PLCS.)

SYL.		ZONE	DESCRIPTION	DATE	APP.
A			MAJOR CHANGES	1/19/02	YH
B			WAS SH.4. PARTS 5 + 20 CHANGED TO 5B + 5C AND 4.00" D. PUMP PORT WAS 1.50" D. TMK	6/04/02	NBM
C			ADDED PARTS 51	7/15/02	NBM
D			ADDED SECTION E-E	7/25/02	KWS

26.0 DIA.
FLANGE O.D.
(PART 5C)

24.0 DIA.
CYLINDER O.D.
(PART 19)

SECTION B-B

SECTION C-C

TIG WELDING
(OUTSIDE)

BOTTOM STRAP PORT
2 PLACES

TIG WELDING
(OUTSIDE)
PUMP PORT

SECTION D-D

SURVEY TARGET POSITIONING HOLE
4 PLACES EVERY 90°
ON 2 FLANGES

Note:

1. Rough machine parts # 5, 2 instances, shown on D-6070-009-08
2. Insert Part #7 to part #19, with a fair clearance for easy moving part #7
3. Align Part #5B & #5C (before face cuts + o-ring groove) to Part #19, with the bolt holes aligned to the centerlines of the Part #19, level survey target flat surfaces on #5B & #5C
4. Weld rough machined parts #5B & 5C to part #19 with filler, leak check
5. Bore port holes on cylinder
6. Weld port tubes to cylinder, align part #10 and #51 carefully with fixture
7. Tack weld part #7 to #19
8. Final face-cut Part #5B sealing surfaces shown on D-6070-009-09
9. Final face-cut part #5C O-ring and sealing surfaces shown on D-6070-009-10
10. Weld flanges to ports
11. Final leak check

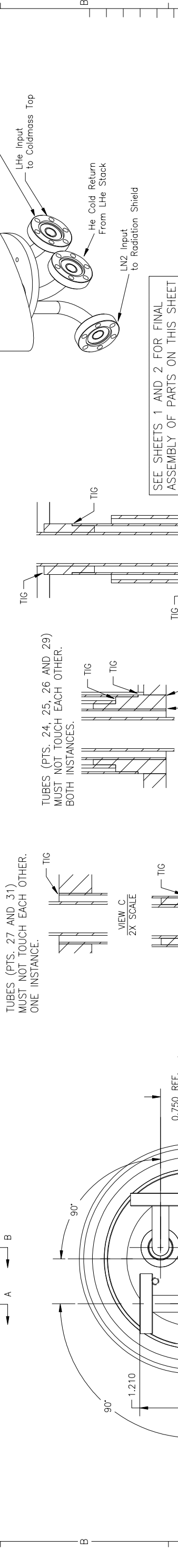
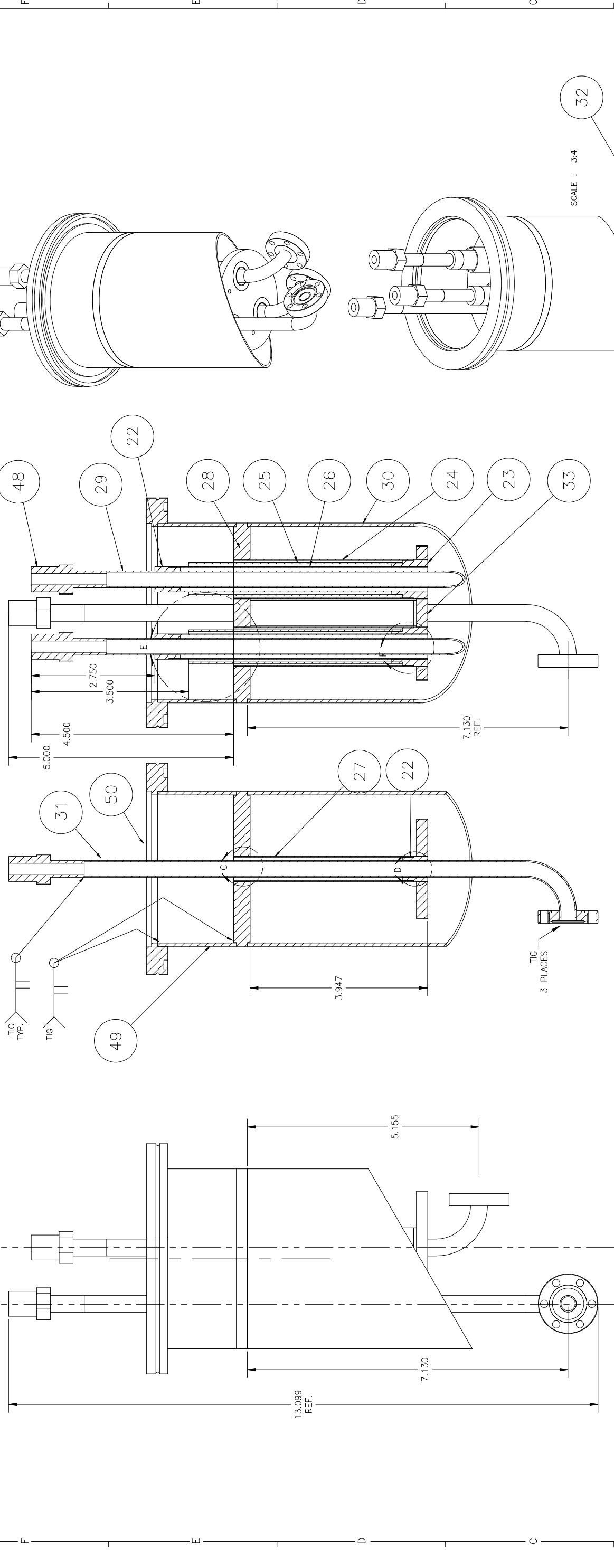
3 Long Vacuum Vessel Sub-assembly
D-6070-009-06
MATL.: 304L STN. STL.
QTY.: 1 REQD.

TIG WELDING W/ FILLER
2 PLACES
4X SCALE
VIEW E

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	PRINT DISTR.	PLOT DATE 2/18/03 CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Aem\Vac Vessel\Long Vessel\sub_assem_long_paper.dwg					
CR-1	6070-009	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5 ALL SURFACES ϕ					
		Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853 CESR-c 7-40 Wiggler Cryostat Vacuum Vessel Long Vacuum Vessel Sub-assembly					
REV.	APPROVED BY Yun HE	DRAWN BY Yun HE	DRAWN FOR E. Nordberg N. Mistry	DATE 01/13/02	SCALE 1:5	D 6070-009	REV. E

REVISIONS		SYN.	ZONE	DESCRIPTION	DATE	APP.
1		A		WAS SH.10 AND ADDED PARTS 48, 49 + 50	TKM 6/04/02	NBM



ITEM	DWG. NO.	DESCRIPTION	QUANTITY	REMARKS	REV.
PRINT DISTR.	6/06/02				
CR-1					
UNLESS OTHERWISE SPECIFIED:					
DIMENSIONS ARE IN INCHES					
TOLERANCES ON:					
FRACTIONS ±1/64					
DECIMALS ±0.005					
ANGLES ±0.5°					
ALL SURFACES BY					
CHECKED BY	Yun HE	DATE	01/13/02	SCALE	1:1
DRAWN BY	Yun HE	DATE	01/13/02	SCALE	1:1
APPROVED BY	Yun HE	DATE	01/13/02	SCALE	1:1

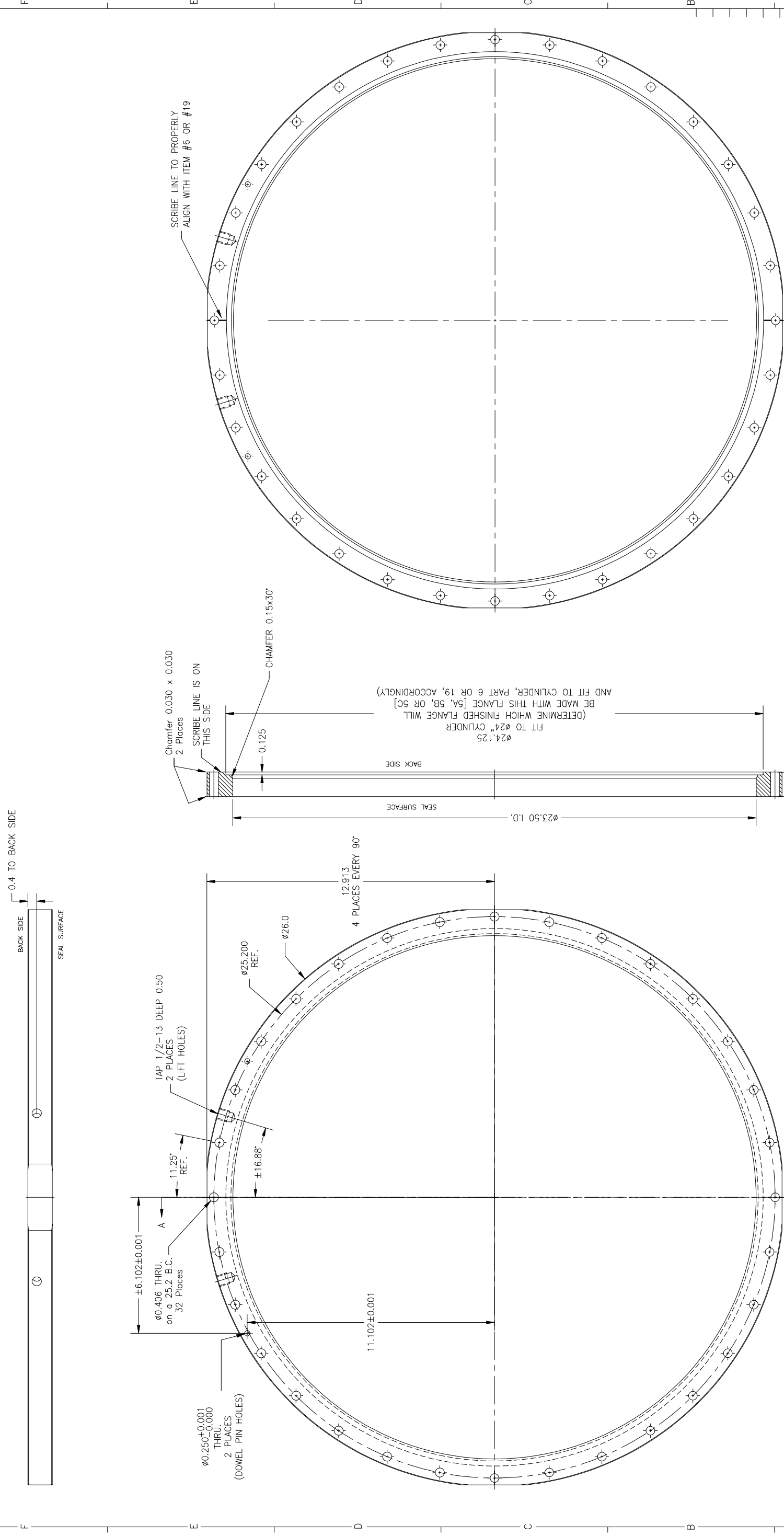
PRINT DISTR.	D	DWG. NO.	6070-009	DESCRIPTION	Cryogenic Triple Feedthru Sub-assembly
REV.	A	DATE	01/13/02	SCALE	1:1
<p>SEE SHEETS 1 AND 2 FOR FINAL ASSEMBLY OF PARTS ON THIS SHEET</p> <p>FOR MACHINING LUBRICANT USE ONLY ALKALINE DETERGENT LUBRICANT CIMSTAR 40 OR EQUIVALENT APPROVED BY CORNELL LNS.</p>					
<p>11 CRYOGENIC TRIPLE FEEDTHRU SUB-ASSEMBLY</p> <p>D-6070-009-07</p> <p>MAT'L: 304L STN. STL.</p> <p>QTY: 1 REQ'D.</p>					

REV.	A	DATE	01/13/02	SCALE	1:1
DRAWN BY	Yun HE	DATE	01/13/02	SCALE	1:1
APPROVED BY	Yun HE	DATE	01/13/02	SCALE	1:1

REV.	A	DATE	01/13/02	SCALE	1:1
DRAWN BY	Yun HE	DATE	01/13/02	SCALE	1:1
APPROVED BY	Yun HE	DATE	01/13/02	SCALE	1:1

REV.	A	DATE	01/13/02	SCALE	1:1
DRAWN BY	Yun HE	DATE	01/13/02	SCALE	1:1
APPROVED BY	Yun HE	DATE	01/13/02	SCALE	1:1

REVISIONS		DATE	APP.
1	WAS SHEET 6	TMK	
2			
3			
4			
5			
6			
7			
8			
9			



ITEM	DWG. NO.	DESCRIPTION	QUANTITY	REMARKS	REV.
PRINT DISTR.	6/06/02				
6070-009					
CR-1					
UNLESS OTHERWISE SPECIFIED					
DIMENSIONS ARE IN INCHES					
TOLERANCES ARE ON:					
FRACTIONS ±1/4					
DECIMALS ±0.005					
ANGLES ±0.5					
ALL SURFACES					
CHECKED BY YH					
APPROVED BY YH					
DATE	7/10/01				
SCALE	1:2				
DRAWN FOR	E. Nordberg				
YUN HE					
6070-009					
SH. NO. 8					
CONT. ON 9					

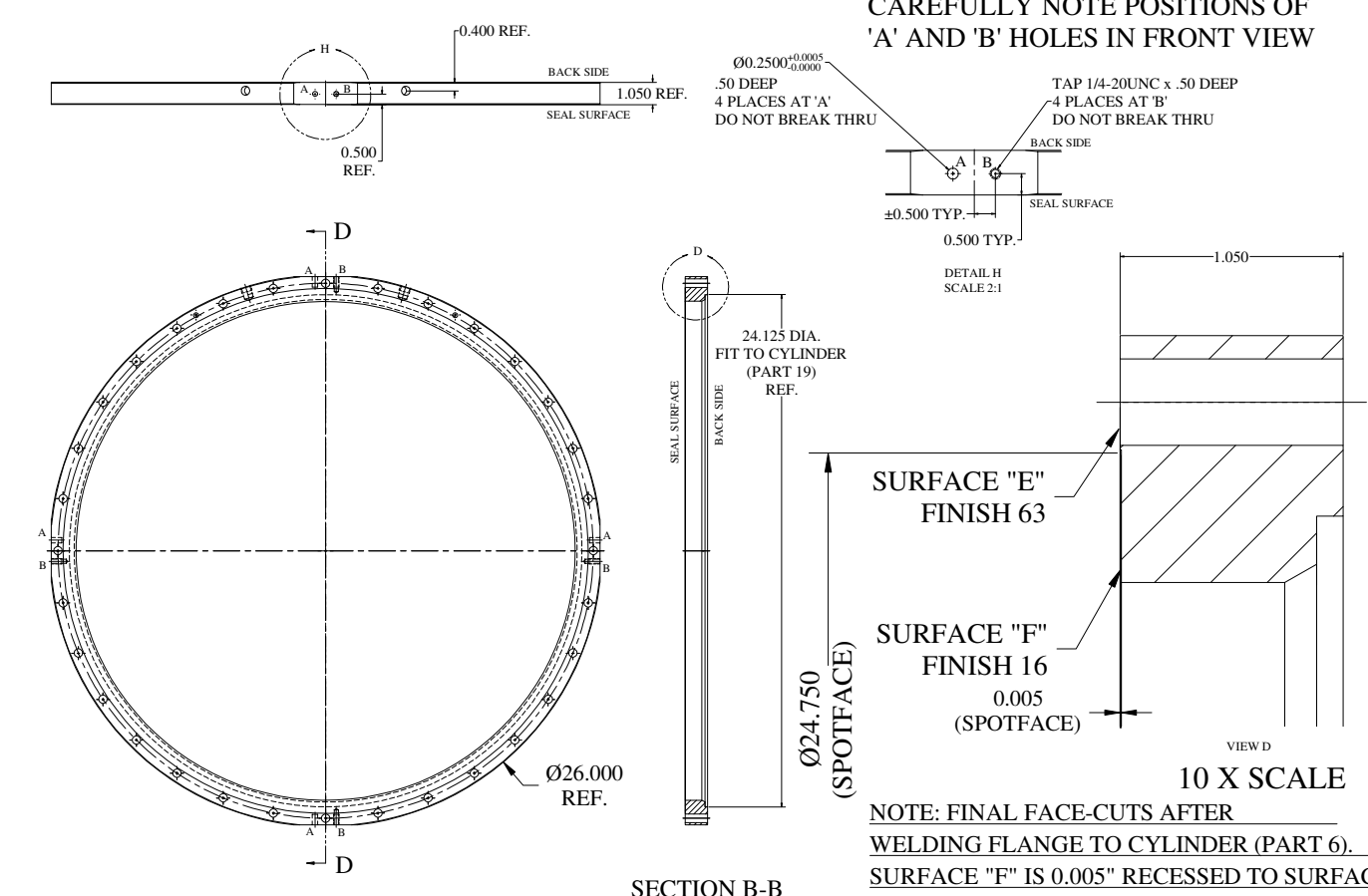
FOR MACHINING LUBRICANT USE ONLY
 ALKALINE DETERGENT LUBRICANT CIMSTAR 40
 OR EQUIVALENT APPROVED BY CORNELL LNS.

5
 Ø26" ROUGH MACHINED FLANGE
 AS DRAWN (FOR PARTS 5A, 5B & 5C)
 D-6070-009-08
 MAT'L.: 304L STN. STL. 1.125" THICK PLATE
 QTY.: 4 REQ'D. ONE EACH FOR PART 5A AND
 PART 5C AND TWO FOR PARTS 5B.
 SEE D-6070-009-09 & D-6070-009-10
 FOR FINISH MACHINING DIMENSIONS

Cornell University
 Floyd B. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853
 CESR-c 7-40 Wiggler Cryostat Vacuum Vessel
 Ø26" Flange Rough Machining Dimensions

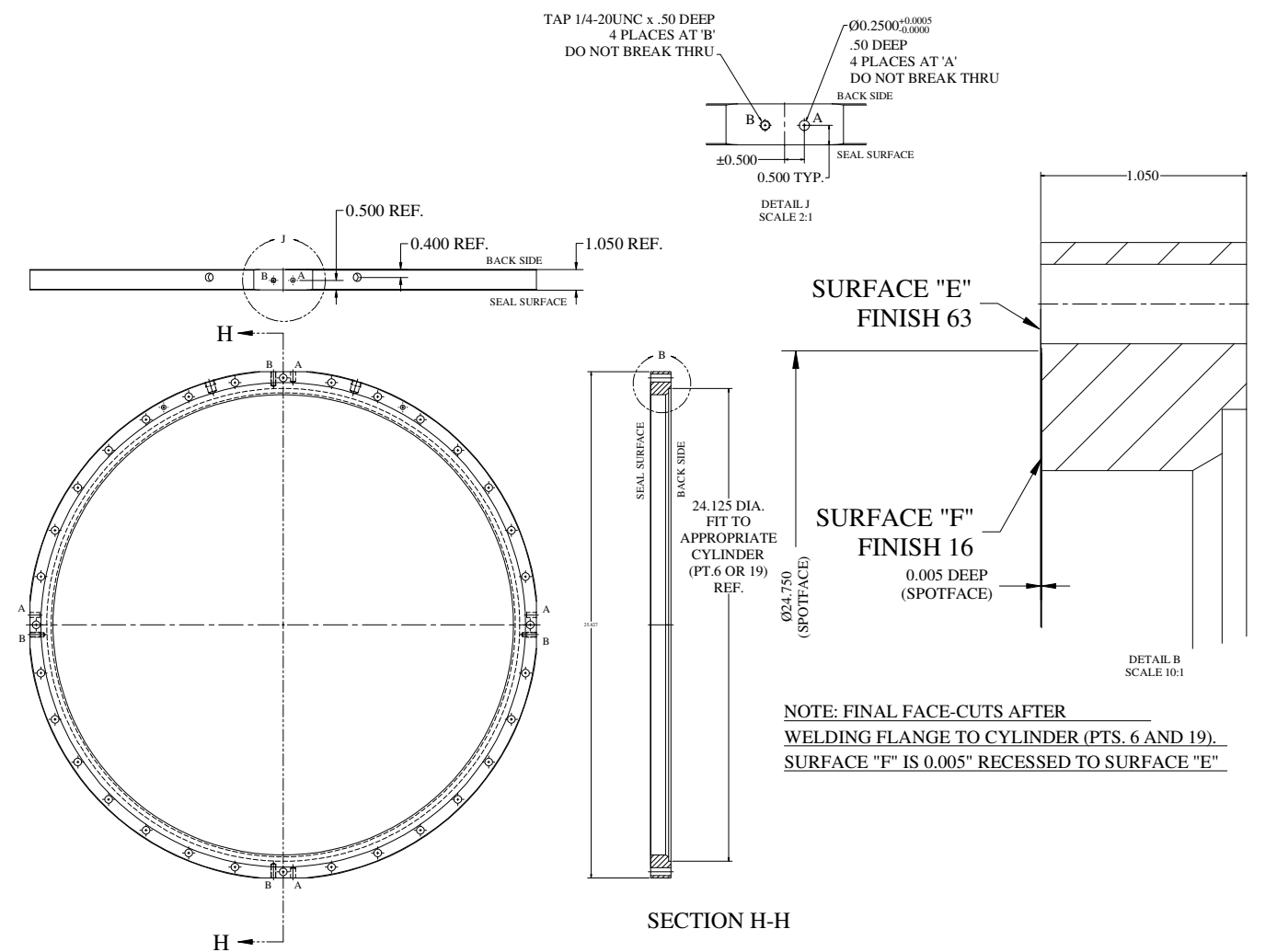
REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		MAJOR CHANGES	11/21/01	YH
B		WAS SH.5	6/04/02	NBM

CAREFULLY NOTE POSITIONS OF 'A' AND 'B' HOLES IN FRONT VIEW



5A Ø26" FLANGE-A
 D-6070-009-09
 MAT'L.: 304L STN. STL. MAKE FROM PART 5
 QTY.: 1 REQ'D.

CAREFULLY NOTE POSITIONS OF 'A' AND 'B' HOLES IN FRONT VIEW



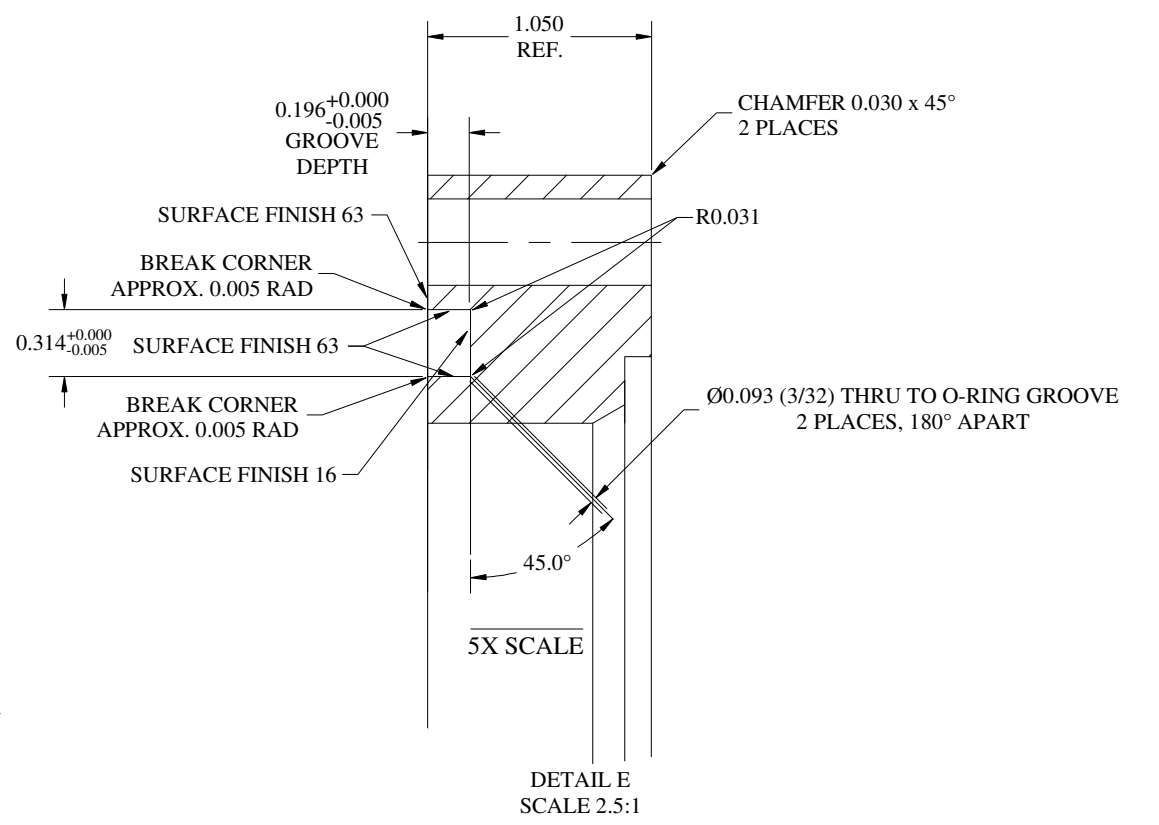
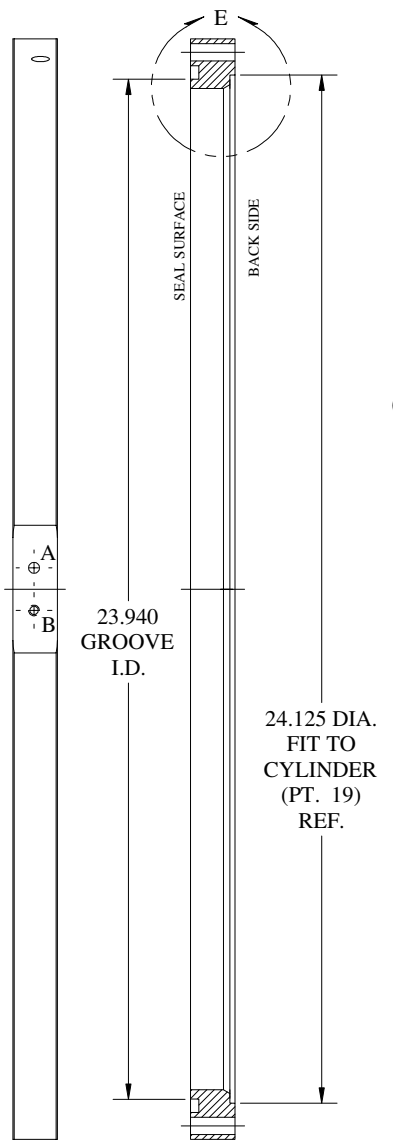
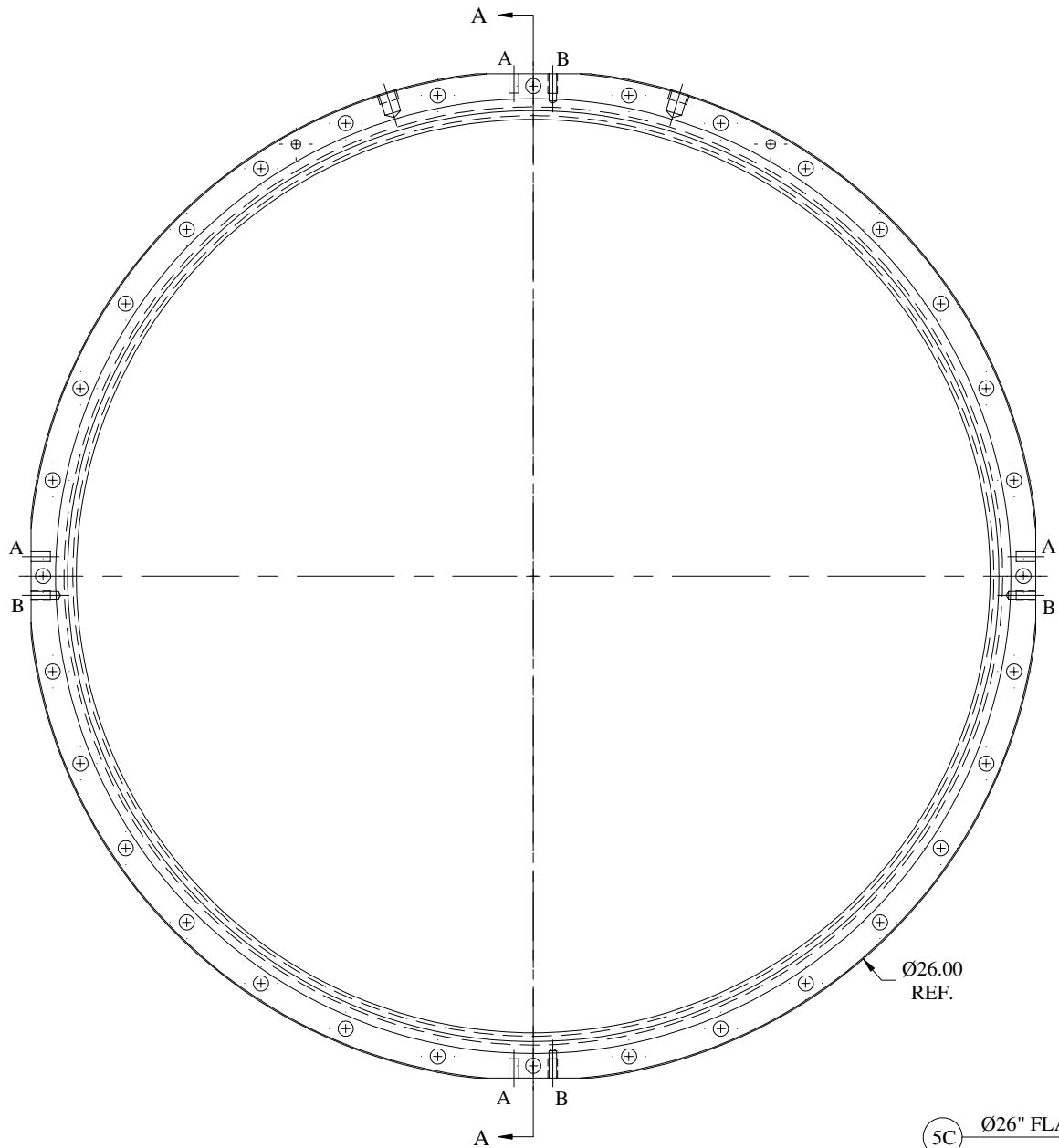
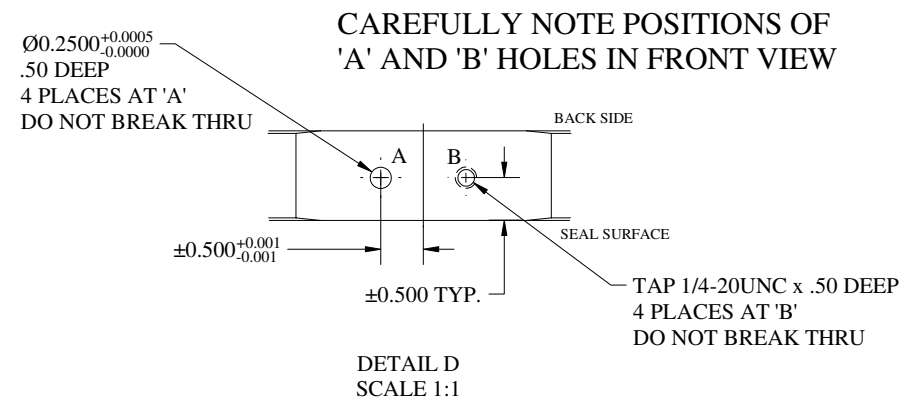
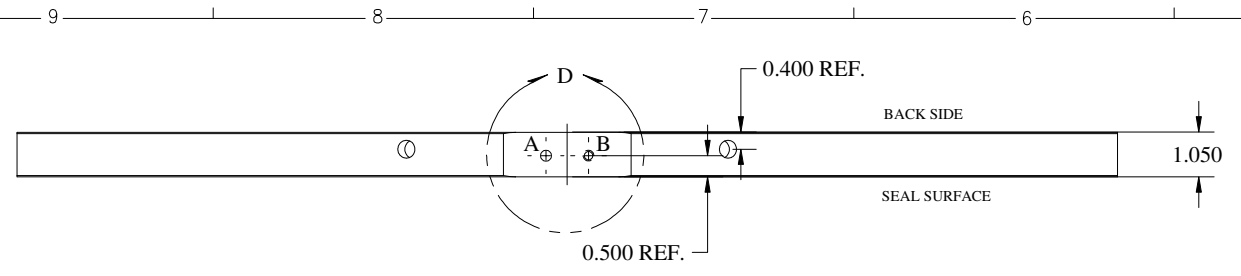
5B Ø26" FLANGE-B
 D-6070-009-09
 MAT'L.: 304L STN. STL. MAKE FROM PART 5
 QTY.: 2 REQ'D.

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	6070-009	CR-1					
PRINT DISTR.		PLOT DATE 6/06/02		CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Vac Vessel\Short Vessel\sub_009_short_paper.dwg			
UNLESS OTHERWISE SPECIFIED		DIMENSIONS ARE IN INCHES					
TOLERANCES ON:		.00 ± .010					
		.000 ± .005					
		FRACTIONS ± 1/64					
		ANGLES ± 0.5°					
		ALL SURFACES 63					
CHECKED BY YH		DRAWN BY Yun HE		DRAWN FOR E. Nordberg N. Mistry		DATE 01/13/02	
APPROVED BY YH		SCALE 1:4		D 6070-009		REV. B	
				SH. NO. 9 CONT. ON 10			

Cornell University
 Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853
 CESR-c 7-40 Wiggler Cryostat Vacuum Vessel
 Ø26" FLANGE (5A AND 5B)

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		WAS PART 20, WAS SHEET 13	TMK	6/04/02 NBM
B	C2	Ø 0.093 (3/32) WAS Ø 0.062 (T0C)		6/04/02 YH

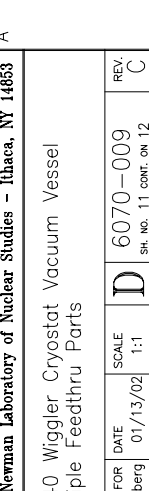
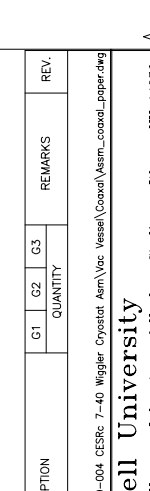
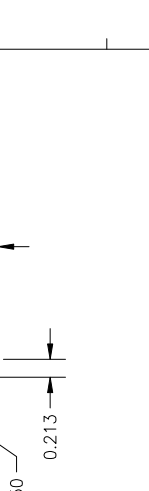
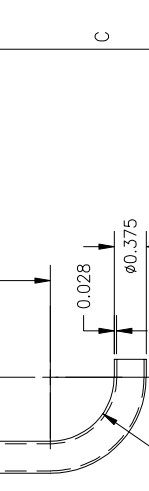
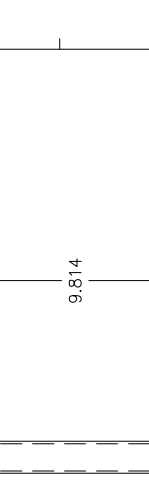
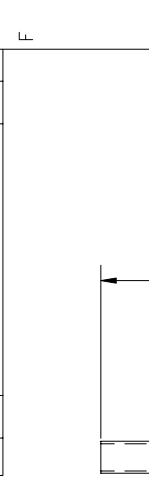
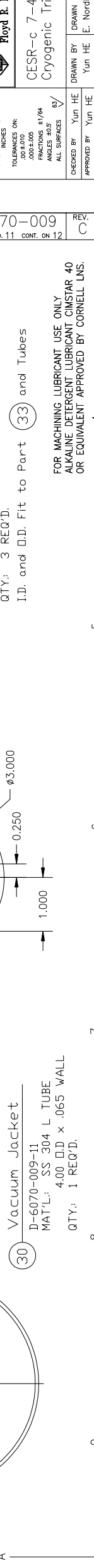
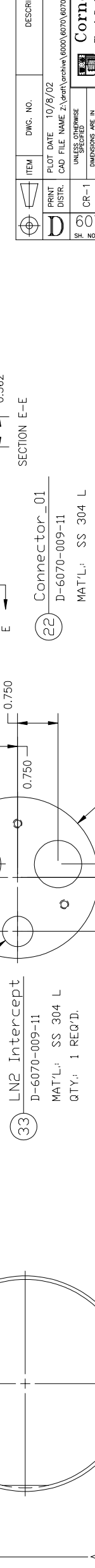
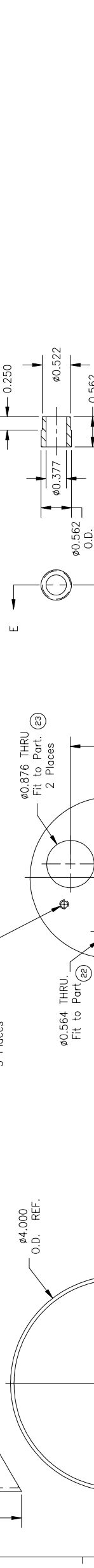
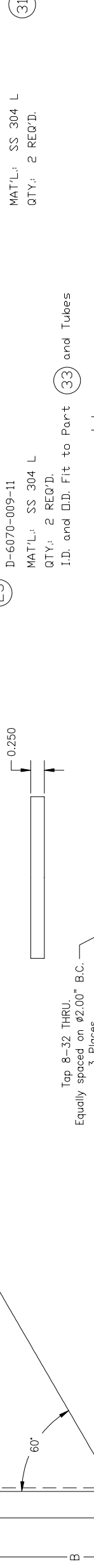
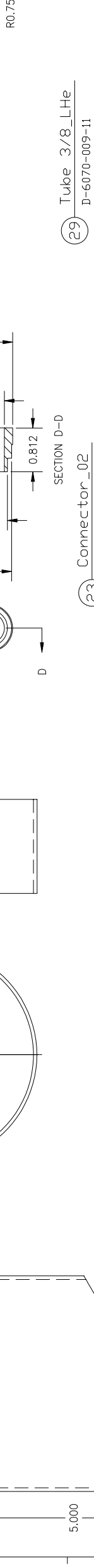
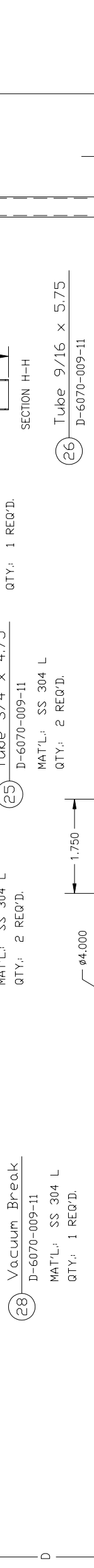
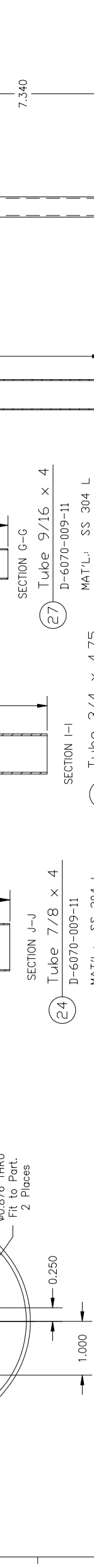
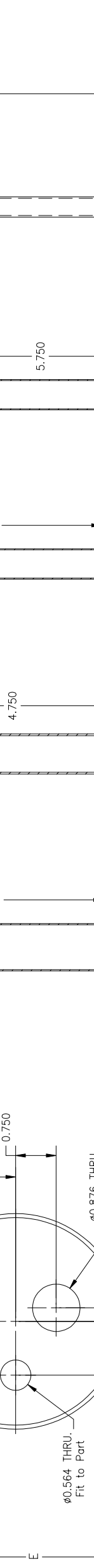
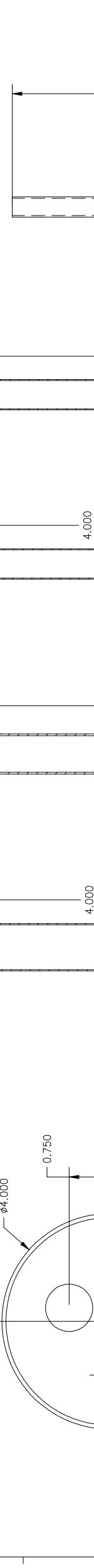
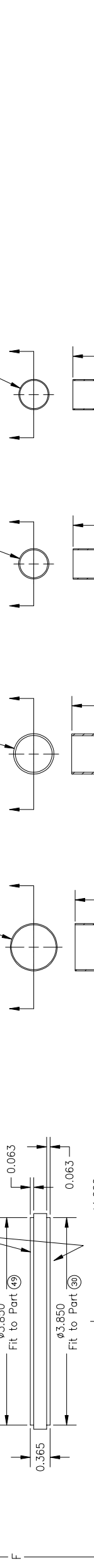
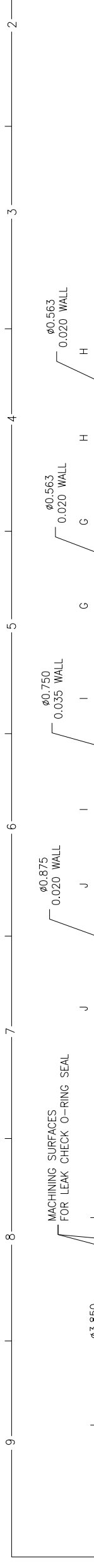


5C Ø26" FLANGE-C
 D-6070-009-10
 MAT'L.: 304L STN. STL. MAKE FROM PART 5
 QTY.: 1 REQ'D.
 O-RING SIZE: I.D. 23.940 ±0.110
 W. 0.275 ±0.006

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

REV.	ITEM	DWG. NO.	DESCRIPTION	G1	G2	G3	REMARKS	REV.
				QUANTITY				
D	PRINT DISTR.		PLOT DATE 8/26/02 CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Vac Vessel\Long Vessel\sub_asm_long_paper.dwg					
6070-009	CR-1		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES 63/					
				Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853				
				CESR-c 7-40 Wiggler Cryostat Vacuum Vessel Ø26" FLANGE-C				
B	CHECKED BY	Yun HE	DRAWN BY	Yun HE	DRAWN FOR	E. Nordberg N. Mistry	DATE	01/13/02
	APPROVED BY	Yun HE					SCALE	1:2
							D	6070-009
							SH. NO.	10 CONT. ON 11

REV. NO.		SYN.	ZONE	DESCRIPTION	DATE	APP.
A				SHORTENED LENGTHS OF PARTS 29 + 31	TMK 6/04/02	NBM
B				CHANGED WALL THK. OF PT.30	TMK 7/25/02	NWS
C				CHANGED PT.28 TO MAKE WITH NEW PT.30	TMK 10/08/02	TDC
				2.00" DA. B.C. W/S 1.0" DA. B.C. PH. #35		



ITEM	DWG. NO.	DESCRIPTION	QUANTITY	REMARKS	REV.
29	D-6070-009-11	Tube 3/8_LHe	2	MAT'L: SS 304 L QTY: 2 REQ'D.	
31	D-6070-009-11	Tube 3/8_LN2	1	MAT'L: SS 304 L QTY: 1 REQ'D.	
23	D-6070-009-11	Connector_02	2	MAT'L: SS 304 L QTY: 2 REQ'D. I.D. and O.D. Fit to Part (33) and Tubes	
22	D-6070-009-11	Connector_01	3	MAT'L: SS 304 L QTY: 3 REQ'D. I.D. and O.D. Fit to Part (33) and Tubes	
27	D-6070-009-11	Tube 9/16 x 4	1	MAT'L: SS 304 L QTY: 1 REQ'D.	
25	D-6070-009-11	Tube 3/4 x 4.75	2	MAT'L: SS 304 L QTY: 2 REQ'D.	
24	D-6070-009-11	Tube 7/8 x 4	2	MAT'L: SS 304 L QTY: 2 REQ'D.	
26	D-6070-009-11	Tube 9/16 x 5.75	2	MAT'L: SS 304 L QTY: 2 REQ'D.	
33	D-6070-009-11	LN2 Intercept	1	MAT'L: SS 304 L QTY: 1 REQ'D.	
30	D-6070-009-11	Vacuum Jacket	1	MAT'L: SS 304 L TUBE 4.00 O.D. x .065 WALL QTY: 1 REQ'D.	
49	D-6070-009-11	EXTENSION TUBE	1	MAT'L: SS 304 L QTY: 1 REQ'D.	
28	D-6070-009-11	Vacuum Break	1	MAT'L: SS 304 L QTY: 1 REQ'D.	

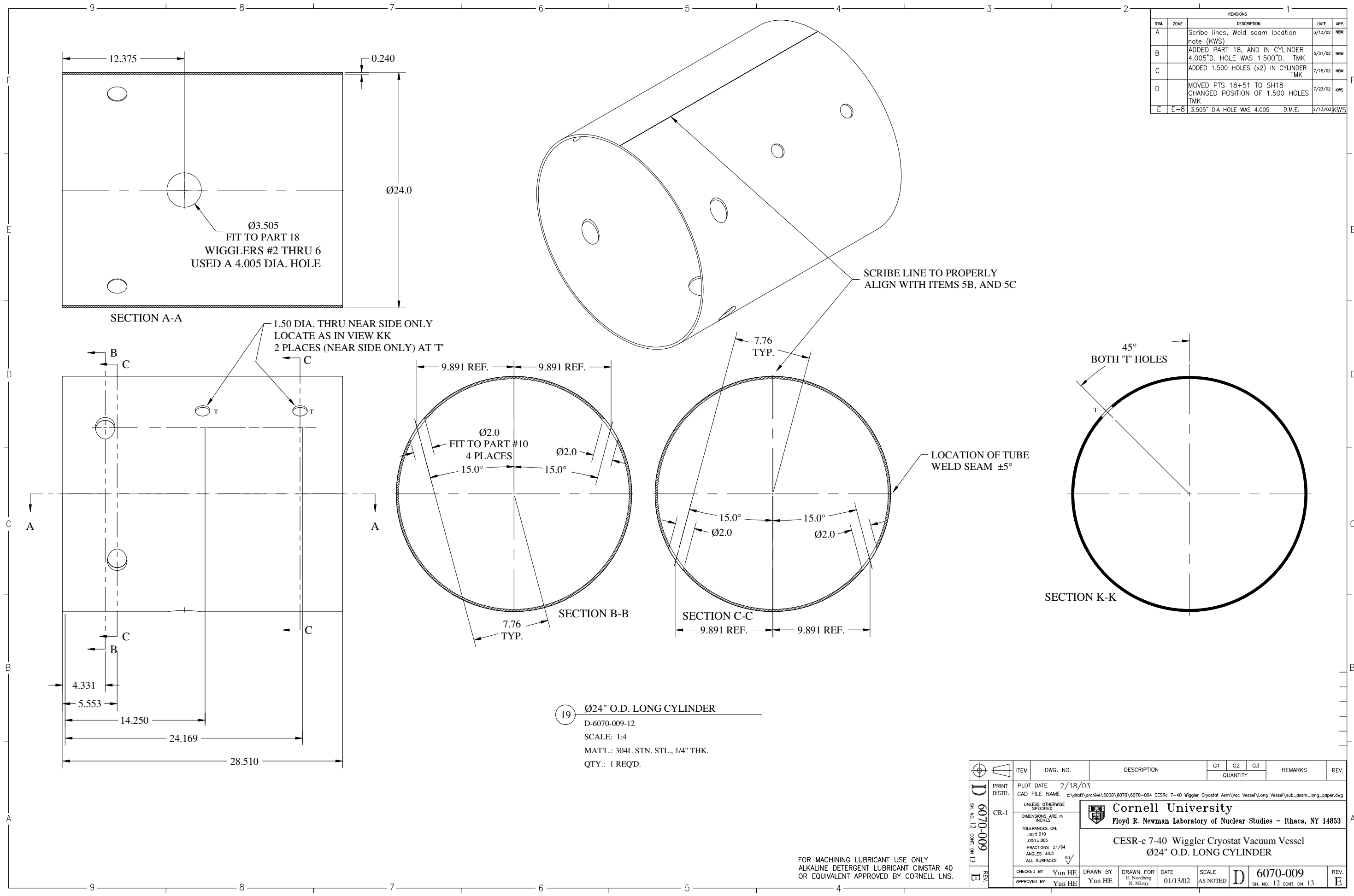
PRINT	DISTR.	ITEM	DWG. NO.	DESCRIPTION	QUANTITY	REMARKS	REV.
D	CR-1	6070-009	10/8/02	CESR-c 7-40 Wiggler Cryostat Vacuum Vessel			
11		11					
12		12					

DATE	BY	SCALE	REV.
01/13/02	E. Nordberg	1:1	D
			6070-009
			SH. NO. 11 CONT. ON 12

Cornell University
Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853
CESR-c 7-40 Wiggler Cryostat Vacuum Vessel
Cryogenic Triple Feedthru Parts

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

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		Scribe lines, Weld seam location note (KWS)	3/13/02	NBM
B		ADDED PART 18, AND IN CYLINDER 4.005"D. HOLE WAS 1.500"D. TMK	5/31/02	NBM
C		ADDED 1.500 HOLES (x2) IN CYLINDER TMK	7/15/02	NBM
D		MOVED PTS 18+51 TO SH18 CHANGED POSITION OF 1.500 HOLES TMK	7/23/02	KWS
E	E-B	3.505" DIA HOLE WAS 4.005 D.M.E.	2/13/03	KWS

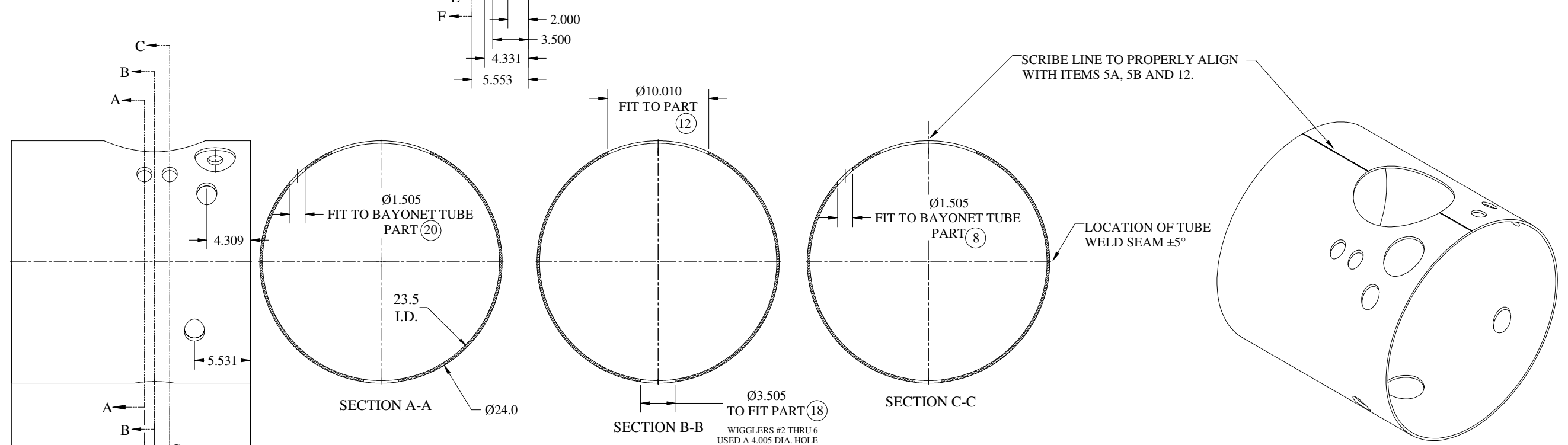
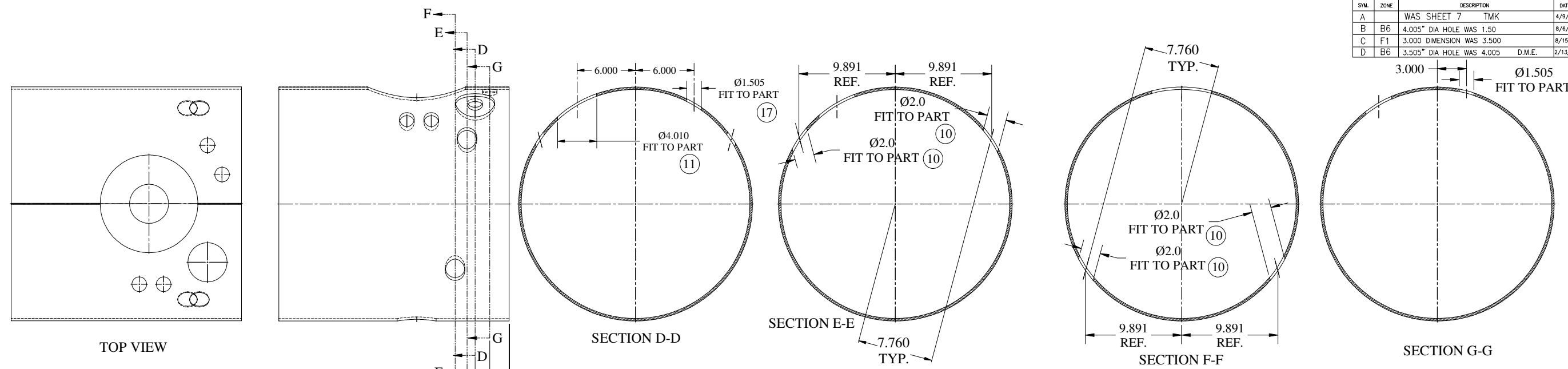


19 Ø24" O.D. LONG CYLINDER
 D-6070-009-12
 SCALE: 1:4
 MATL.: 304L STN. STL., 1/4" THK.
 QTY.: 1 REQD.

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

REV.	ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
				G1	G2	G3		
D	PRINT DISTR.		PLOT DATE 2/18/03 CAD FILE NAME z:\draft\archive\6000\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Vac Vessel\Long Vessel\sub_asm_long_paper.dwg					
6070-009	CR-1		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES 63/	 Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853			CESR-c 7-40 Wiggler Cryostat Vacuum Vessel Ø24" O.D. LONG CYLINDER	

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		WAS SHEET 7	TMK	4/9/02 NBM
B	B6	4.005" DIA HOLE WAS 1.50		8/6/02 KWS
C	F1	3.000 DIMENSION WAS 3.500		8/15/02 NBM
D	B6	3.505" DIA HOLE WAS 4.005	D.M.E.	2/13/03 KWS

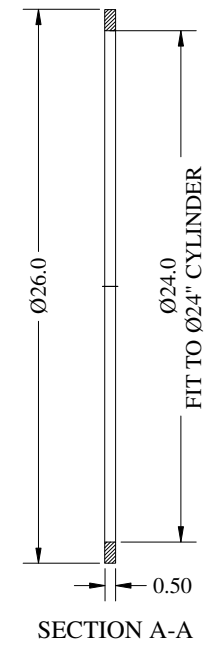
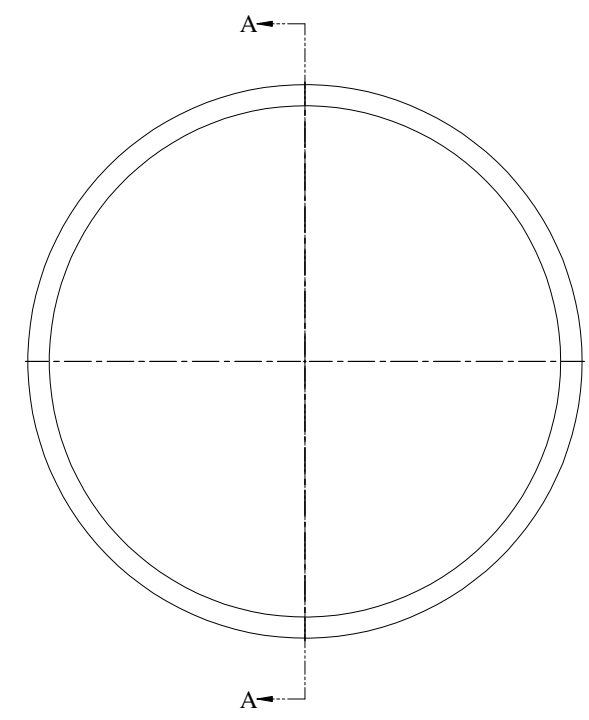


6 $\varnothing 24"$ O.D. SHORT CYLINDER
 D-6070-009-13
 MAT'L.: 304L STN. STL. 1/4" THK.
 QTY.: 1 REQD.

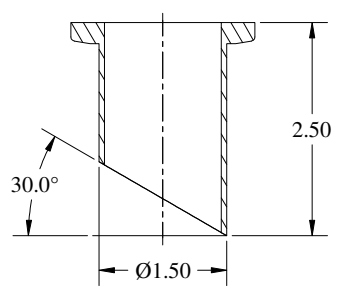
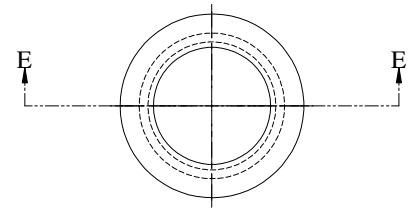
FOR MACHINING LUBRICANT USE ONLY
 ALKALINE DETERGENT LUBRICANT CIMSTAR 40
 OR EQUIVALENT APPROVED BY CORNELL LNS.

REV.	ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
				G1	G2	G3		
D	PRINT DISTR.		PLOT DATE 2/18/03 CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESR-c 7-40 Wiggler Cryostat Asm\Vac Vessel\Short Vessel\sub_asm_short_paper.dwg					
D	CR-1		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 \pm .010 .000 \pm .005 FRACTIONS $\pm 1/64$ ANGLES $\pm 0.5^\circ$ ALL SURFACES $\phi 3/$					
			 Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853 CESR-c 7-40 Wiggler Cryostat Vacuum Vessel $\varnothing 24"$ O.D. SHORT CYLINDER					
D	CHECKED BY YH	DRAWN BY Yun HE	DRAWN FOR E. Nordberg N. Mistry	DATE 01/13/02	SCALE 1:5	D	6070-009	REV. D
	APPROVED BY YH						SH. NO. 13 CONT. ON 14	

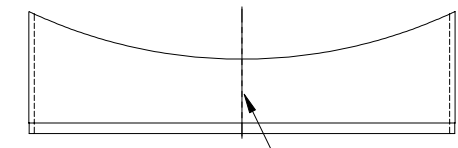
SYMBOL		ZONE	DESCRIPTION	DATE	APP.
A			GENERAL REVISIONS	Y.H.	3-26-02
B			WAS SH.8	TMK	6/04/02



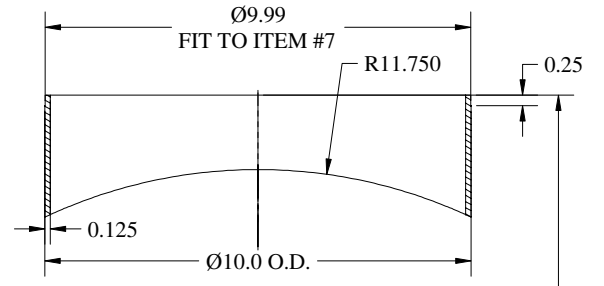
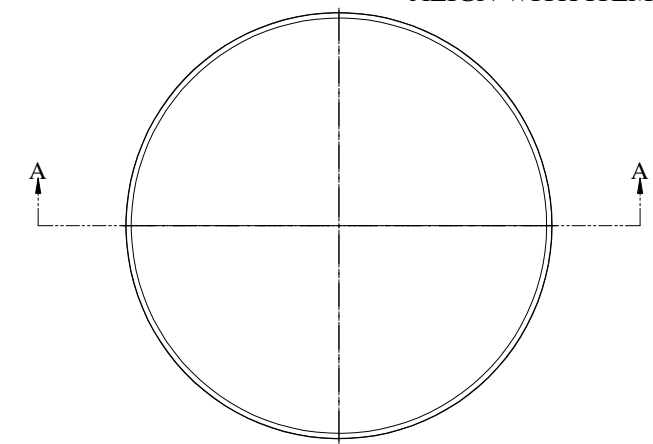
7 STIFFENING RING
 D-6070-009-14
 SCALE: 1:4
 MATL.: 304L STN. STL.
 QTY.: 3 REQ'D.



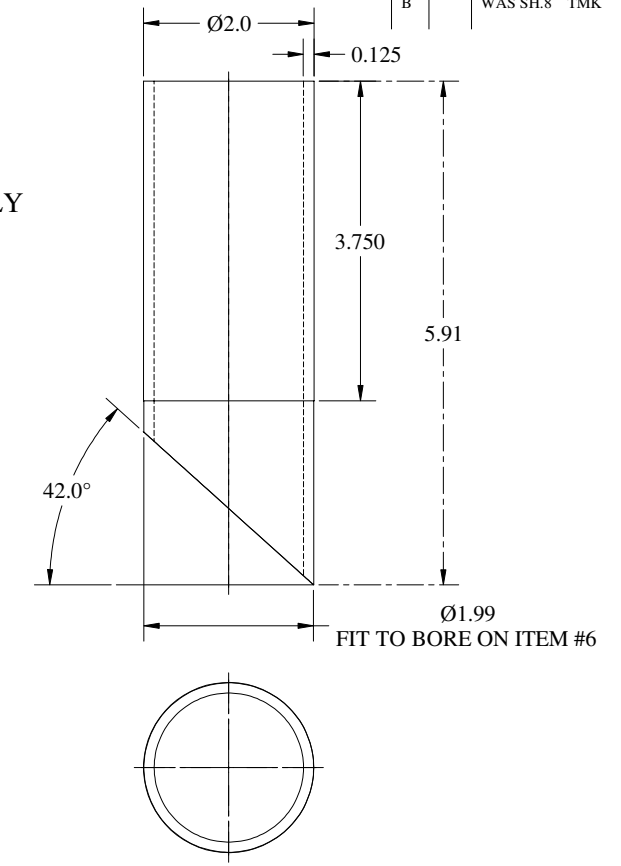
17 FEEDTHRU PORT KF NW40 NIPPLE
 D-6070-009-14
 SCALE: 1:1
 MATL.: 304L STN. STL.
 QTY.: 1 REQ'D. MODIFIED FROM MDC NIPPLE #720003



SCRIBE LINE TO PROPERLY ALIGN WITH ITEM 6



12 STACK PORT TUBE OD 10"
 D-6070-009-14
 SCALE: 1:2
 MATL.: 304L STN. STL.
 QTY.: 1 REQ'D.

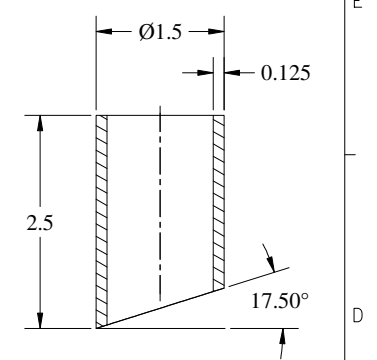
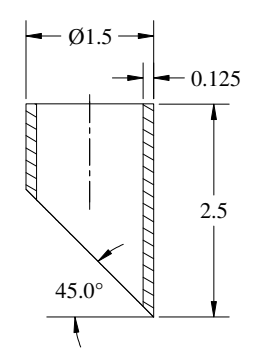
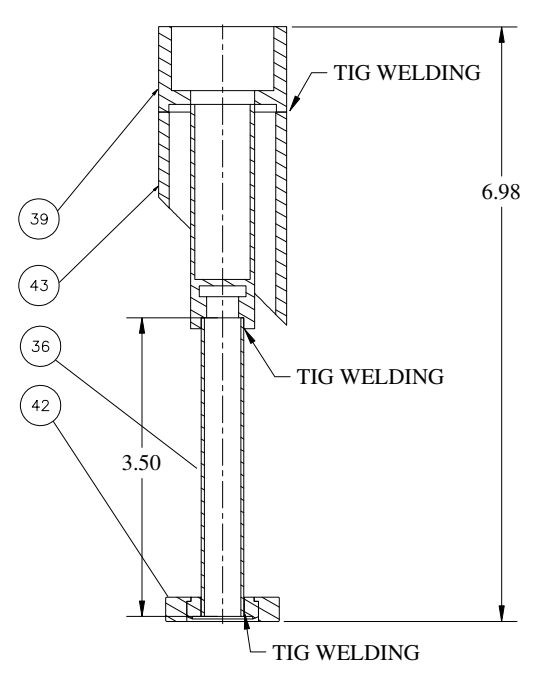
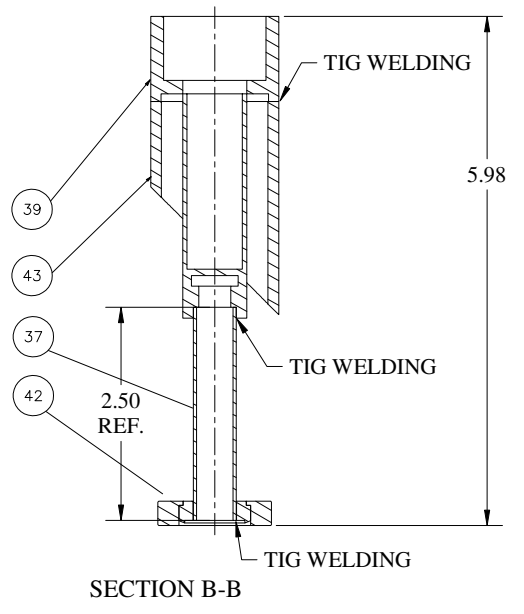
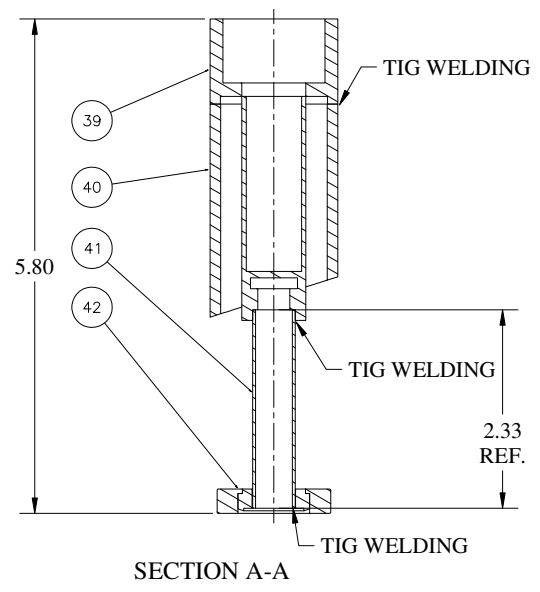
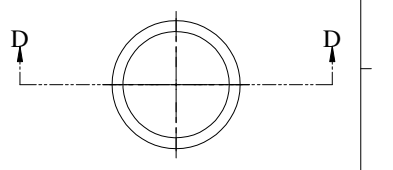
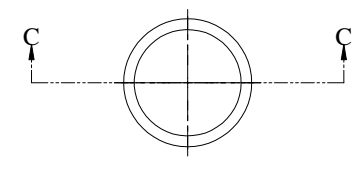
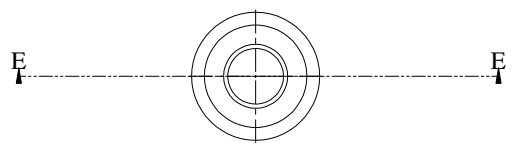
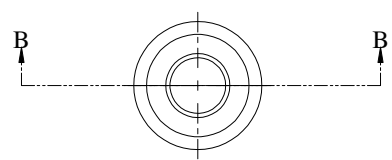
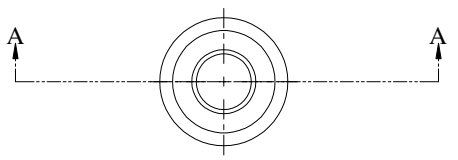


10 STRAP PORT TUBE OD 2"
 D-6070-009-14
 SCALE: 1:1
 MATL.: 304L STN. STL.
 QTY.: 8 REQ'D.
 MACHINE OFF A FEW THOUSANDTH ON TUBE O.D. TO FIT INTO BORE ON Ø24\"/>

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	6070-009	CR-1					
PLOT DATE: 6/06/02 CAD FILE NAME: z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Vac Vessel\Short Vessel\sub_assm_short_paper.dwg UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES 63/							
Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853 CESR-c 7-40 Wiggler Cryostat Vacuum Vessel PORT TUBES & STIFFENING RING							
CHECKED BY	YH	DRAWN BY	Yun HE	DRAWN FOR	E. Nordberg N. Mistry	DATE	01/13/02
APPROVED BY	YH	SCALE	1:4	D	6070-009	SH. NO. 14	CONT. ON 15

REVISIONS				
SYL.	ZONE	DESCRIPTION	DATE	APP.
A		Added sh. 16. KWS	3/22/02	NBM
B		ADDED ITEMS 20, 36 +37 TMK	6/04/02	NBM



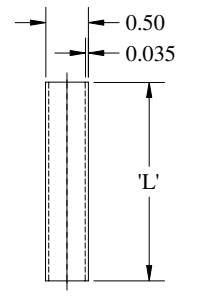
16 BAYONET SUB-ASSEMBLY-02
 D-6070-009-15
 SCALE: 1:1
 MAT'L.: 304L STN. STL.
 QTY.: 1 REQ'D.

8 BAYONET SUB-ASSEMBLY-01
 D-6070-009-15
 SCALE: 1:1
 MAT'L.: 304L STN. STL.
 QTY.: 1 REQ'D.

20 BAYONET SUB-ASSEMBLY-03
 D-6070-009-15
 SCALE: 1:1
 MAT'L.: 304L STN. STL.
 QTY.: 1 REQ'D.

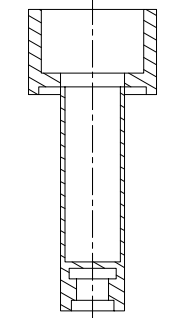
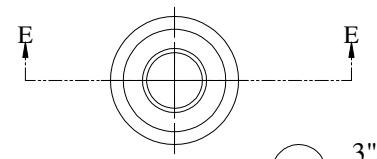
43 BAYONET TUBE-01
 D-6070-009-15
 SCALE: 1:1
 MAT'L.: 304L STN. STL.
 QTY.: 2 REQ'D.

40 BAYONET TUBE-02
 D-6070-009-15
 SCALE: 1:1
 MAT'L.: 304L STN. STL.
 QTY.: 1 REQ'D.



X BAYONET 1/2 TUBE
 D-6070-009-15
 SCALE: 1:1
 MAT'L.: 304L STN. STL.
 QTY.: 1 REQ'D.

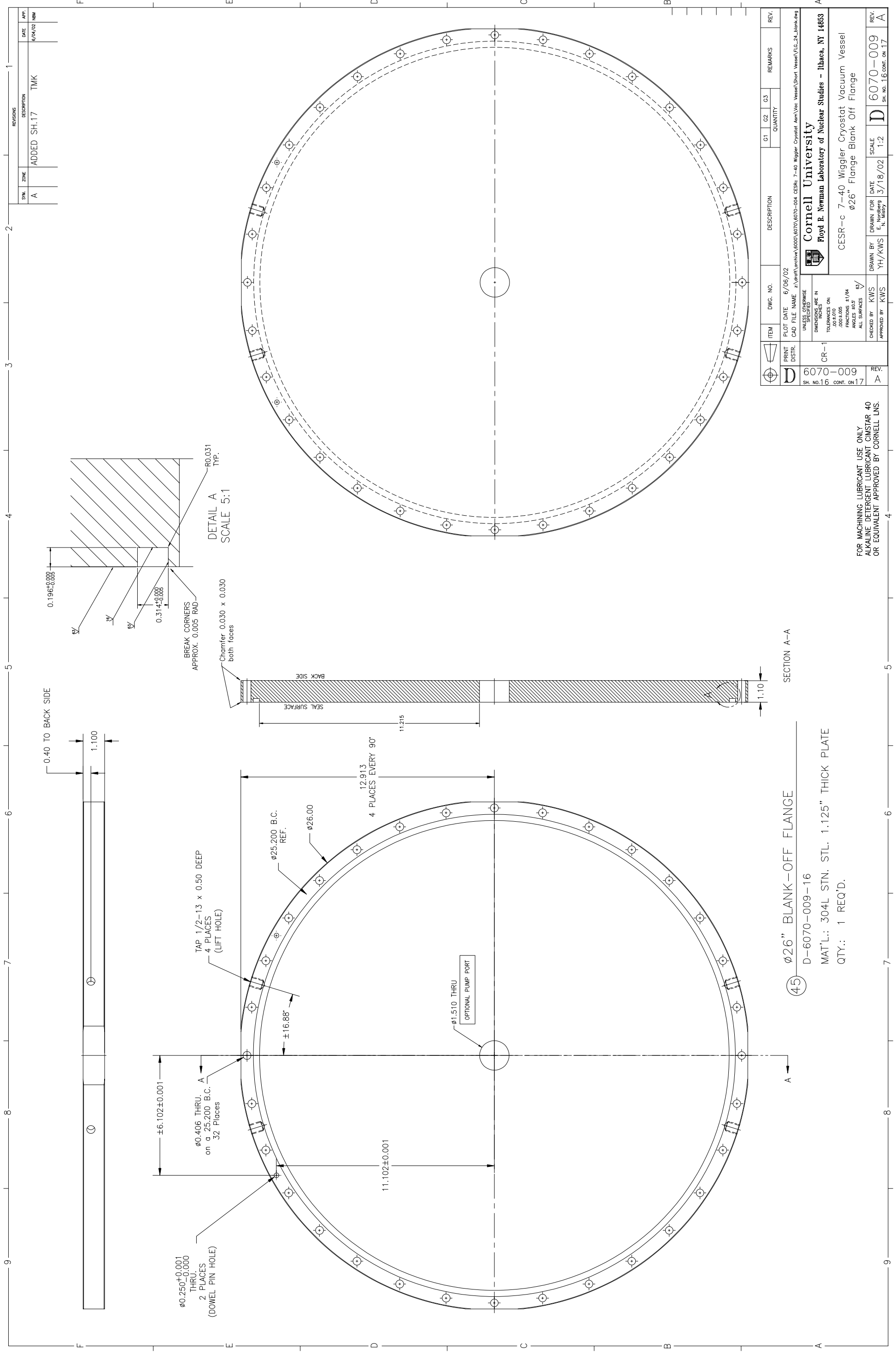
X	NAME	DIM. 'L'
36	BAYONET 1/2 TUBE -03 (COOLDOWN, LN2 INPUT)	3.50
37	BAYONET 1/2 TUBE -01 (COOLDOWN, LN2 OUTPUT)	2.50
41	BAYONET 1/2 TUBE -02 (He WARM RETURN)	2.33



39 3" BAYONET
 D-6070-009-15
 SCALE: 1:1
 MAT'L.: 304L STN. STL.
 QTY.: 3 REQ'D. PURCHASED FROM CRYOCOMP CB702-5F3 OR EQUIV.

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

REV.	ITEM	DWG. NO.	DESCRIPTION	QUANTITY			REMARKS	REV.
				G1	G2	G3		
D	PRINT DISTR.		PLOT DATE 6/06/02 CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Vac Vessel\Short Vessel\sub_asm_short_paper.dwg					
6070-009	CR-1		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES ϕ					
			Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853					
			CESR-c 7-40 Wiggler Cryostat Vacuum Vessel VACUUM VESSEL BAYONET SUB-ASSEMBLY & PARTS					
	CHECKED BY YH	DRAWN BY Yun HE	DRAWN FOR E. Nordberg N. Mistry	DATE 01/13/02	SCALE 1:1	D 6070-009	SH. NO. 15 CONT. ON 16	REV. B



REVISIONS		DATE	APP.
SYN.	ZONE		
A		ADDED SH.17	TMK
		#/04/02	NBM

ITEM	DWG. NO.	DESCRIPTION	QTY	G1	G2	G3	REMARKS	REV.
PRINT DISTR.	6/06/02							
CR-1								
UNLESS OTHERWISE SPECIFIED								
DIMENSIONS ARE IN INCHES								
TOLERANCES ON:								
FRACTIONS ±1/64								
DECIMALS ±0.005								
ANGLES ±0.5								
ALL SURFACES								
CHECKED BY	KWS	DATE	3/18/02					
DRAWN BY	YH/KWS	SCALE	1:2					
APPROVED BY	KWS	REV.	A					
D-6070-009			D 6070-009					
SH. NO. 16			SH. NO. 16 CONT. ON 17					

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

SECTION A-A

45 Ø26" BLANK-OFF FLANGE

D-6070-009-16

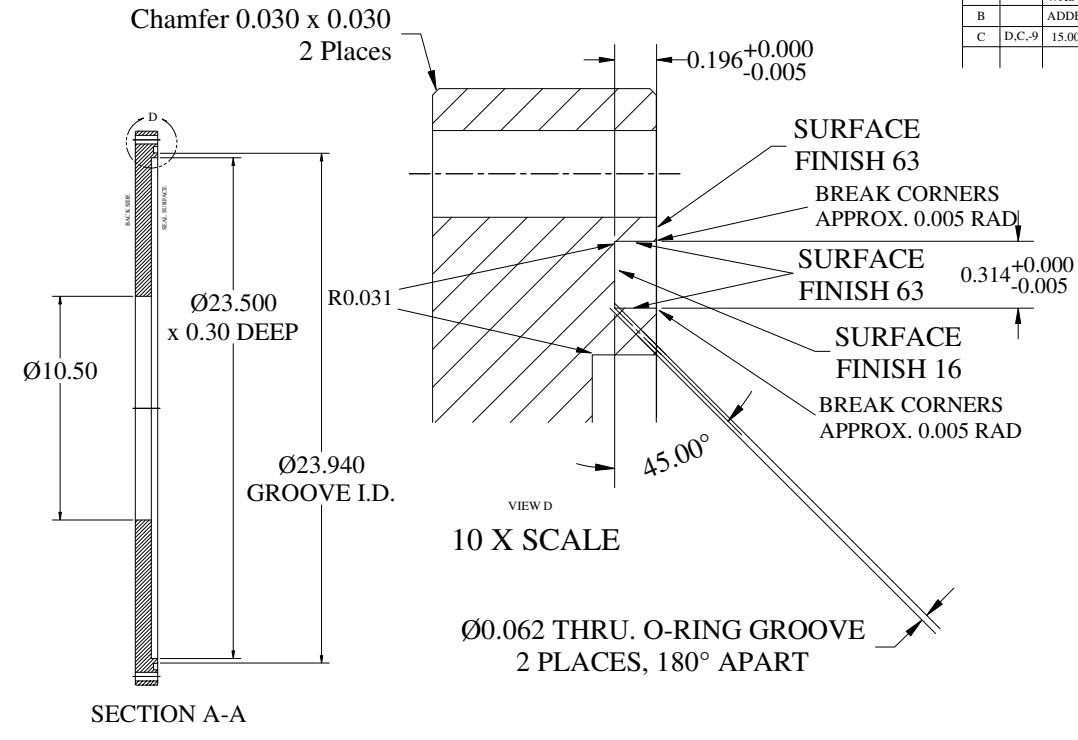
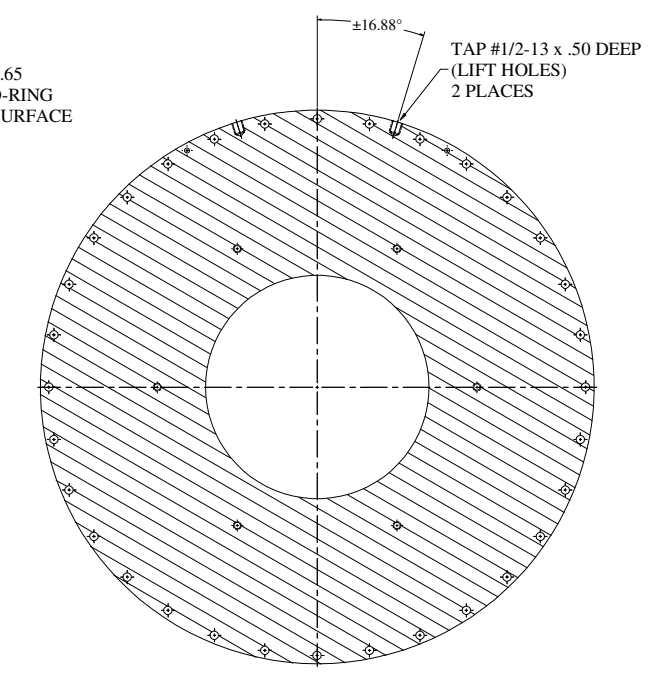
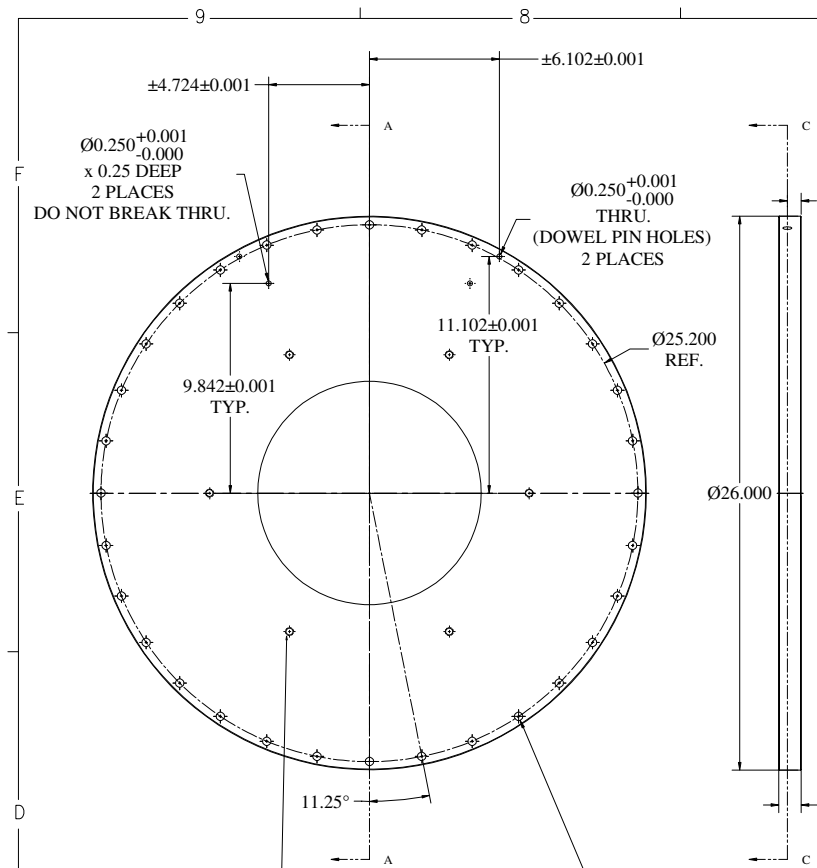
MAT'L: 304L STN. STL. 1.125" THICK PLATE

QTY: 1 REQ'D.

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

CESR-c 7-40 Wiggler Cryostat Vacuum Vessel
 Ø26" Flange Blank Off Flange

REVISIONS				
SYM.	ZONE	DESCRIPTION	DATE	APP.
A		ADDED 3/8 TAPPED HOLES WAS SHEET 17	7/23/02	KWS
B		ADDED C'BORE DIM	8/16/02	NBM
C	D.C.-9	15.000 B.C. WAS 13.000 B.C.	D.M.E.	2/13/03 KWS



3/8-16UNC x .50 DP.
6 PLACES ON AN 15.000 B.C.
LOCATED AS SHOWN
DO NOT BREAK THRU

WIGGLERS #2 THRU 6
USED A 13.000 DIA. B.C.

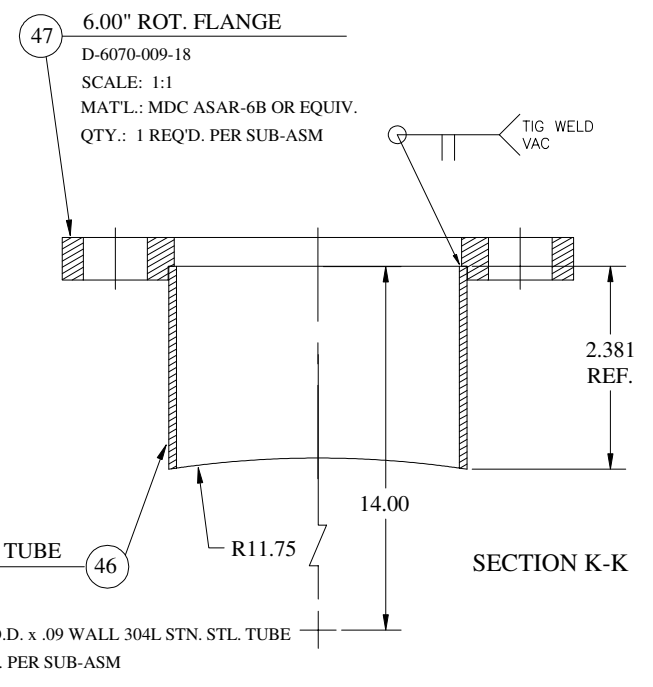
Ø0.406 THRU
ON A Ø25.200 B.C.
32 PLACES

4 Ø26" O-RING END FLANGE
D-6070-009-17
MAT'L.: 304L STN. STL.
QTY.: 2 REQ'D.
REQUIRED O-RING SIZE: I.D. 23.940 ±0.110
W. 0.275 ±0.006

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		
PRINT DISTR.		PLOT DATE 2/18/03 CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESR-c 7-40 Wiggler Cryostat Asm\Vac Vessel\Short Vessel\sub_asm_short_paper.dwg					
6070-009	CR-1	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES 63/					
		Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853					
		CESR-c 7-40 Wiggler Cryostat Vacuum Vessel O-RING END FLANGE					
CHECKED BY	NBM	DRAWN BY	Yun HE	DRAWN FOR	E. Nordberg N. Mistry	DATE	6/02/02
APPROVED BY	NBM	SCALE	1:4	REV.	D	6070-009	SH. NO. 17 CONT. ON 18

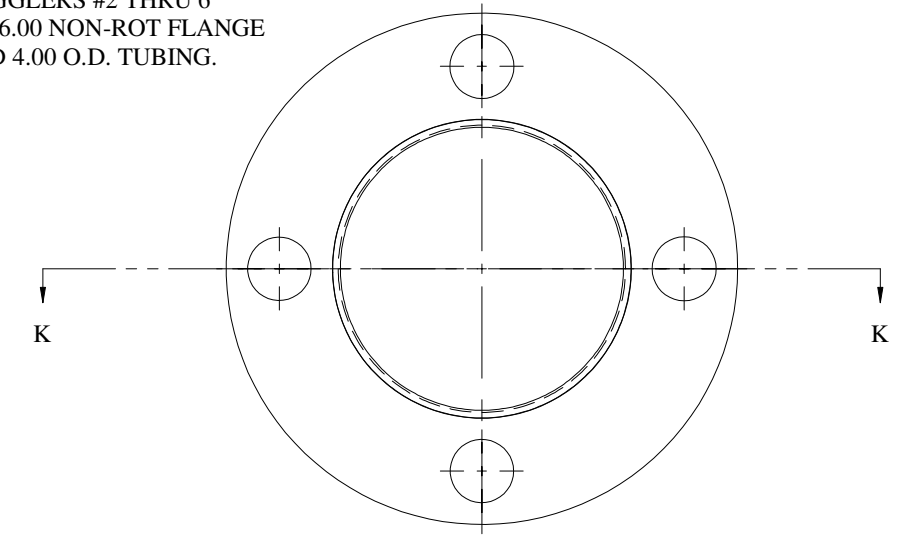
REVISIONS					
SYM.	ZONE	DESCRIPTION	DATE	APP.	
A		QTY 2 FOR ITEM #18 WAS QTY 1	D.M.E.	8/6/02	KWS
B		6" ROT. FLANGE WAS NON-ROT. 3.50 O.D. TUBE WAS 4.00 O.D.	D.M.E.	2/13/03	KWS



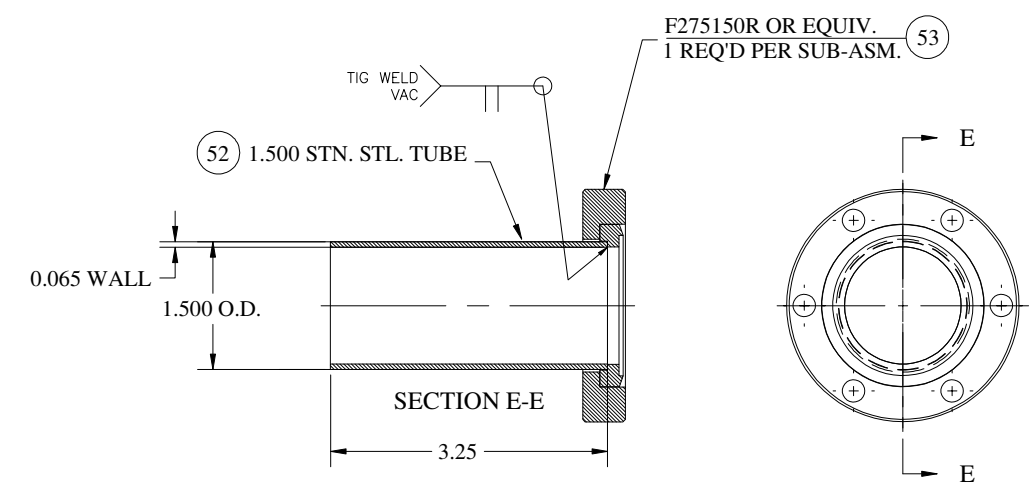
6.00" ROT. FLANGE
 D-6070-009-18
 SCALE: 1:1
 MATL.: MDC ASAR-6B OR EQUIV.
 QTY.: 1 REQ'D. PER SUB-ASM

3.50" O.D. TUBE
 D-6070-009-18
 SCALE: 1:1
 MATL.: 3.50" O.D. x .09 WALL 304L STN. STL. TUBE
 QTY.: 1 REQ'D. PER SUB-ASM

WIGGLERS #2 THRU 6
 USED A 6.00 NON-ROT FLANGE
 AND 4.00 O.D. TUBING.



3.5 INCH PUMP PORT, SUB-ASM.
 D-6070-009-18
 SCALE: 1:1
 MATL.: AS NOTED
 QTY.: 2 REQ'D. (1 for Long Vessel Sub-Asm and 1 for Short Vessel Sub-Asm)



2.75 FLANGE TUBE
 D-6070-009-18
 SCALE: 1:1
 MATL.: AS SHOWN
 QTY.: 2 REQ'D.

1.500 STN. STL. TUBE
 D-6070-009-18
 SCALE: 1:1
 MATL.: AS SHOWN
 QTY.: 1 REQ'D. PER SUB-ASM.

F275150R OR EQUIV.
 D-6070-009-18
 SCALE: 1:1
 MATL.: AS NOTED
 QTY.: 1 REQ'D. PER SUB-ASM.

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	PRINT DATE 2/18/03 CAD FILE NAME z:\draft\archive\6000\6070\6070-004 CESRc 7-40 Wiggler Cryostat Asm\Vac Vessel\Long Vessel\sub_asm_long_paper.dwg						
6070-009	CR-1	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .00 ±.010 .000 ±.005 FRACTIONS ±1/64 ANGLES ±0.5° ALL SURFACES 63/	Cornell University Floyd R. Newman Laboratory of Nuclear Studies - Ithaca, NY 14853			CESR-c 7-40 Wiggler Cryostat Vacuum Vessel FLANGE TUBE, SUB-ASSEMBLIES	
REV. B	CHECKED BY KWS APPROVED BY KWS	DRAWN BY TMK	DRAWN FOR E. Nordberg N. Mistry	DATE 7/23/02	SCALE AS NOTED	D 6070-009 SH. NO. 18 CONT. ON FIN	REV. B