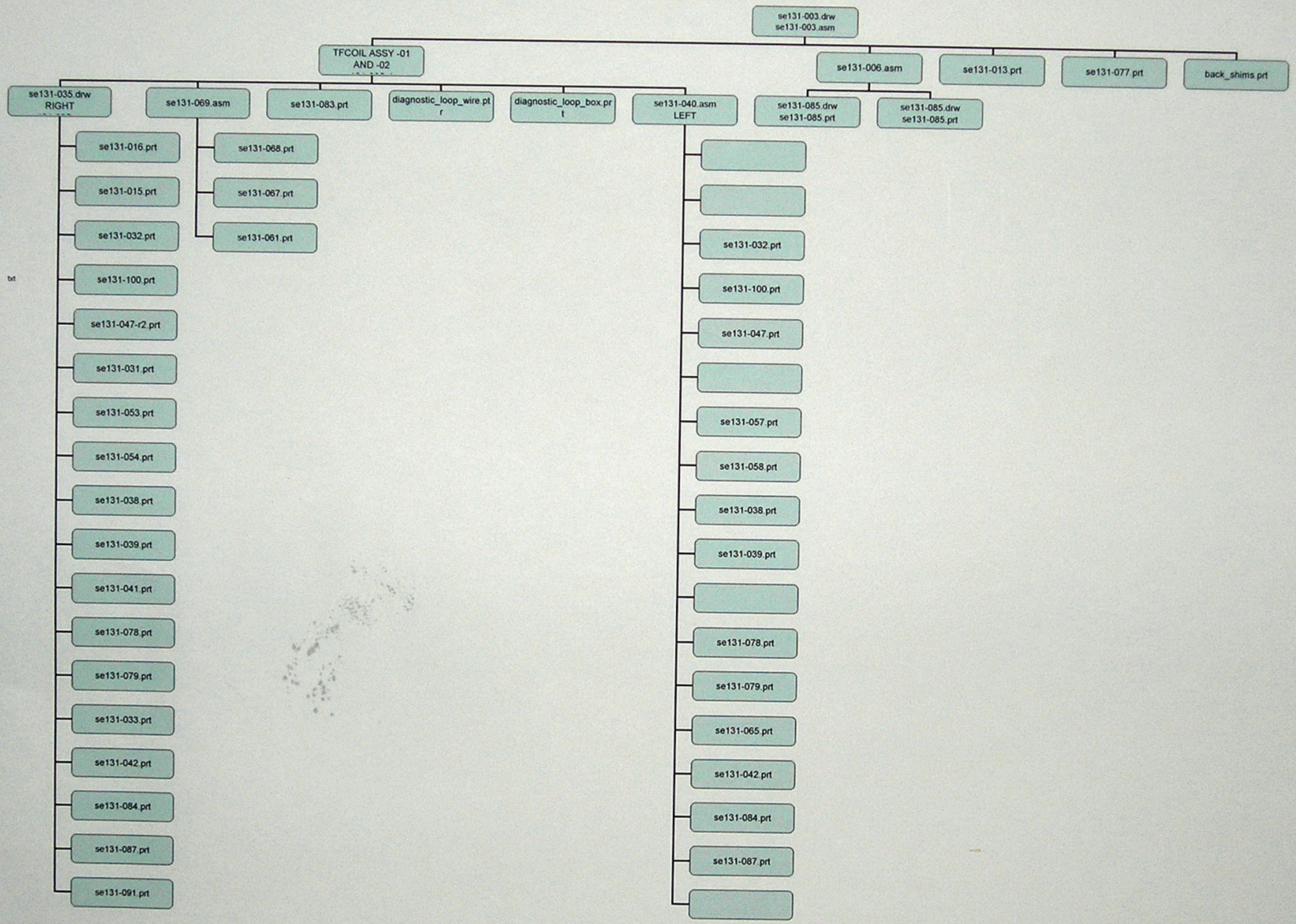
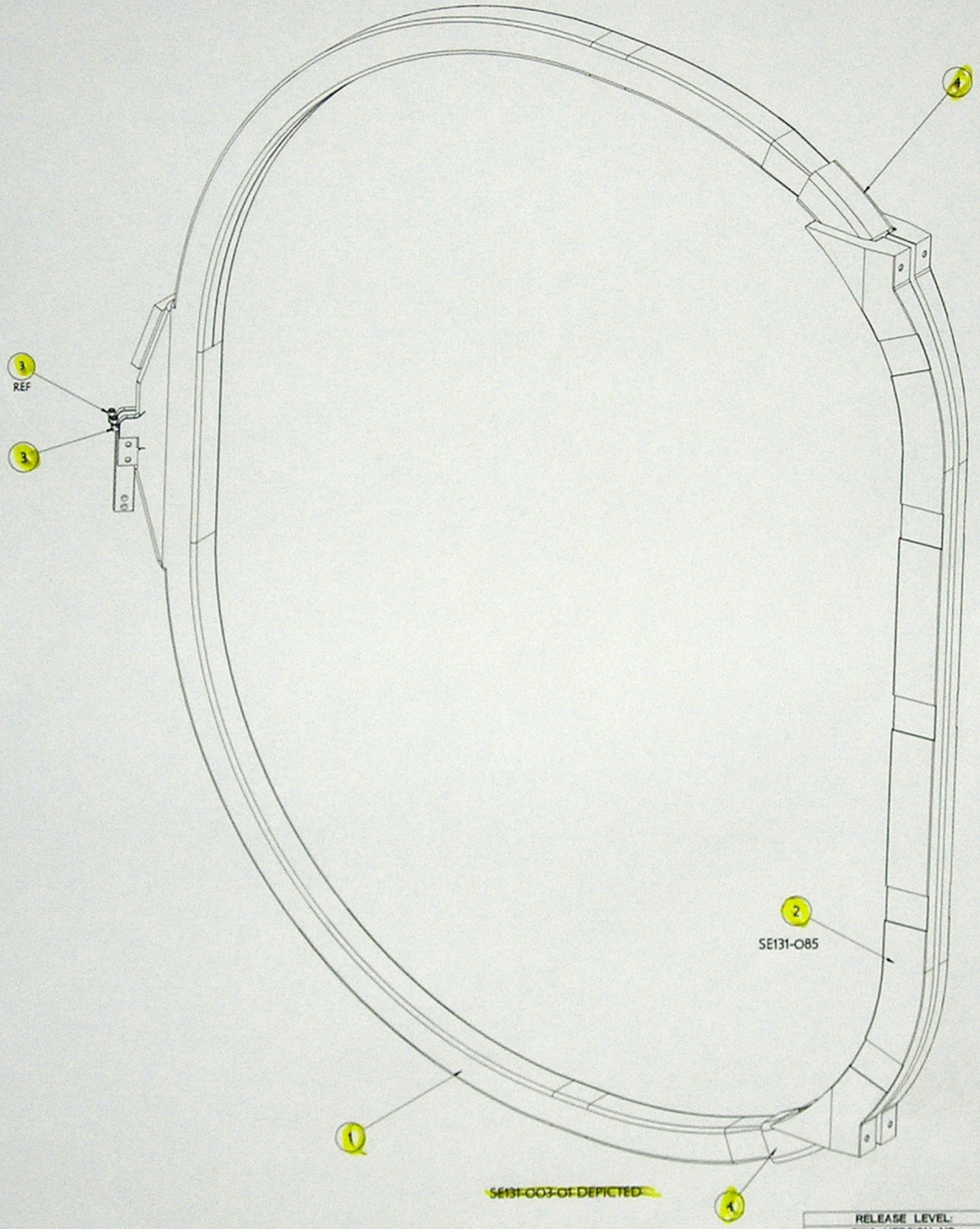

se131-003.drw
se131-003.asm
TFCOIL ASSY -01
AND -02
se131-006.asm
se131-013.prt
se131-077.prt
back_shims.prt
se131-035.drw
RIGHT
se131-069.asm
se131-083.prt
diagnostic_loop_wire.pt
r
diagnostic_loop_box.pr
t
se131-040.asm
LEFT
se131-085.drw
se131-085.prt
se131-085.drw
se131-085.prt
se131-016.prt
se131-015.prt
se131-032.prt
se131-100.prt
se131-047-r2.prt
se131-031.prt
se131-053.prt
se131-054.prt
se131-038.prt
se131-039.prt
se131-041.prt
se131-078.prt
se131-079.prt
se131-033.prt
se131-042.prt
se131-084.prt
se131-087.prt
se131-091.prt
se131-068.prt
se131-067.prt
se131-061.prt
se131-032.prt
se131-100.prt
se131-047.prt
se131-057.prt
se131-058.prt
se131-038.prt
se131-039.prt
se131-078.prt
se131-079.prt
se131-065.prt
se131-042.prt
se131-084.prt
se131-087.prt

NO.	REVISION	BY	CH	SUP	APPROVED	DATE



SE131-003-01 DEPICTED

NOTE

1. SEE SPECIFICATION NCSX-CSPEC-131-01-00 FOR ADDITIONAL INFORMATION AND/OR MATERIAL REQUIREMENTS
2. DIMENSIONS ARE IN INCHES
3. Drawings prepared in accordance with ASME Y14.100-2000
4. Interpret Dimensions & tolerances per ASME Y14.5M-1994.

I wasn't clear on what I was to do. This Drawing 005 would seem to be the right lead orientation only

SE131-003-01 FOR RIGHT LEAD ORIENTATION MADE FROM SE131-005-01 — 131-035

SE131-003-02 FOR LEFT LEAD ORIENTATION MADE FROM SE131-005-02

ADD THESE BOLDED FOR AGREEMENT

THIS WAS Model Part A drawing.

?

PART NO	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD
6		EPOXY	CTD-101 K	AS REQD
5		GLASS	GLASS	AS REQD
4	SE131-037	RESTRAINING COLLAR	GLASS/EPOXY	1
3	SE131-014	SWAGELOK SS-600-5-6M 3/8 TUBE/WELD FITTING	BRASS	2
2	SE131-004	TF COIL WINDG STRUCTURE-(SE131-005-LEFT/RIGHT- PAIR)	STN STL	1
1	SE131-005	TF COIL ASSEMBLY GROUNDWRAPPED (SE131-035-01 & SE131-035-02)	SEE DETAILS	1

PARTS LIST

WEIGHT: 1584.2 lbs	RELEASE LEVEL:	PRINCETON PLASMA PHYSICS LABORATORY, PRINCETON UNIVERSITY — NATIONAL COMPACT STELLARATOR EXPERIMENT
MODEL NAME: SE131-003	DWG VERSION NO:	STELLARATOR CORE — CONVENTIONAL COILS — TF COIL FINAL ASSEMBLY
NEXT ASSEMBLY		DRAWING NO: SE131-003 — SHEET 1 OF 5 — REV O

7A32156

NO.	REVISION	BY	CH	SUP	APPROVED	DATE

±.010?

1/2" THICK WET LAY-UP WITH GLASS-EPOXY TAPE FLUSH WITH NOSE CASTING TO THE START OF TAPERED GROUNDWRAP. TYP TOP & BOTTOM

Are you telling the dimension shall be 51.88 ± .01 and it shall be inspected giving the actual number or do you simply want the dimension inspected?

SEE NOTE 1

51.88
SEE NOTE 2

(124 5/16)

NOTE

1. RECESSES ARE WRAPPED WITH GLASS EPOXY PRIOR TO VPI OF ITEM 2 TO ITEM 3. GLASS TO REMAIN UNDER FLUSH WITHIN THE RECESSED AREA. TYP 5 PLACES.

2. THE VERTICAL LOCATION OF THE WEDGE STRUCTURE WITH RESPECT TO THE COIL CENTERLINE MUST BE INSPECTED AND DOCUMENTED.

Should notes be on Sht 1?

COIL CENTERLINE

A

A

-A-

(103 3/4)

(104 3/16)

±.135?

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD

PARTS LIST

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES MACHINE SURFACES TOLERANCES NON-CUMULATIVE DECIMAL ± INCH FRACTIONS	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT STELLERATOR CORE CONVENTIONAL COILS TF COIL FINAL ASSEMBLY
Pro E		DES: J. RUBINSKY 2/01/06 — DRAWING NO:
DO NOT MODIFY INFORMATION ST REALIZE DRAWING		CHK: M. KALISH/D. PAUL 2/01/06 — SE131-003
NEXT ASSEMBLY		ENGR: M. KALISH 2/01/06
WEIGHT 1584.2 lbs	MODEL NAME SE131-003	SUPV: J. SIEBEL 2/01/06 — SHEET 2 OF 5 REV 0
WELDING ENGINEER		

RELEASE LEVEL: WIP
DWG VERSION NO: 4

NCSX-SE131-003

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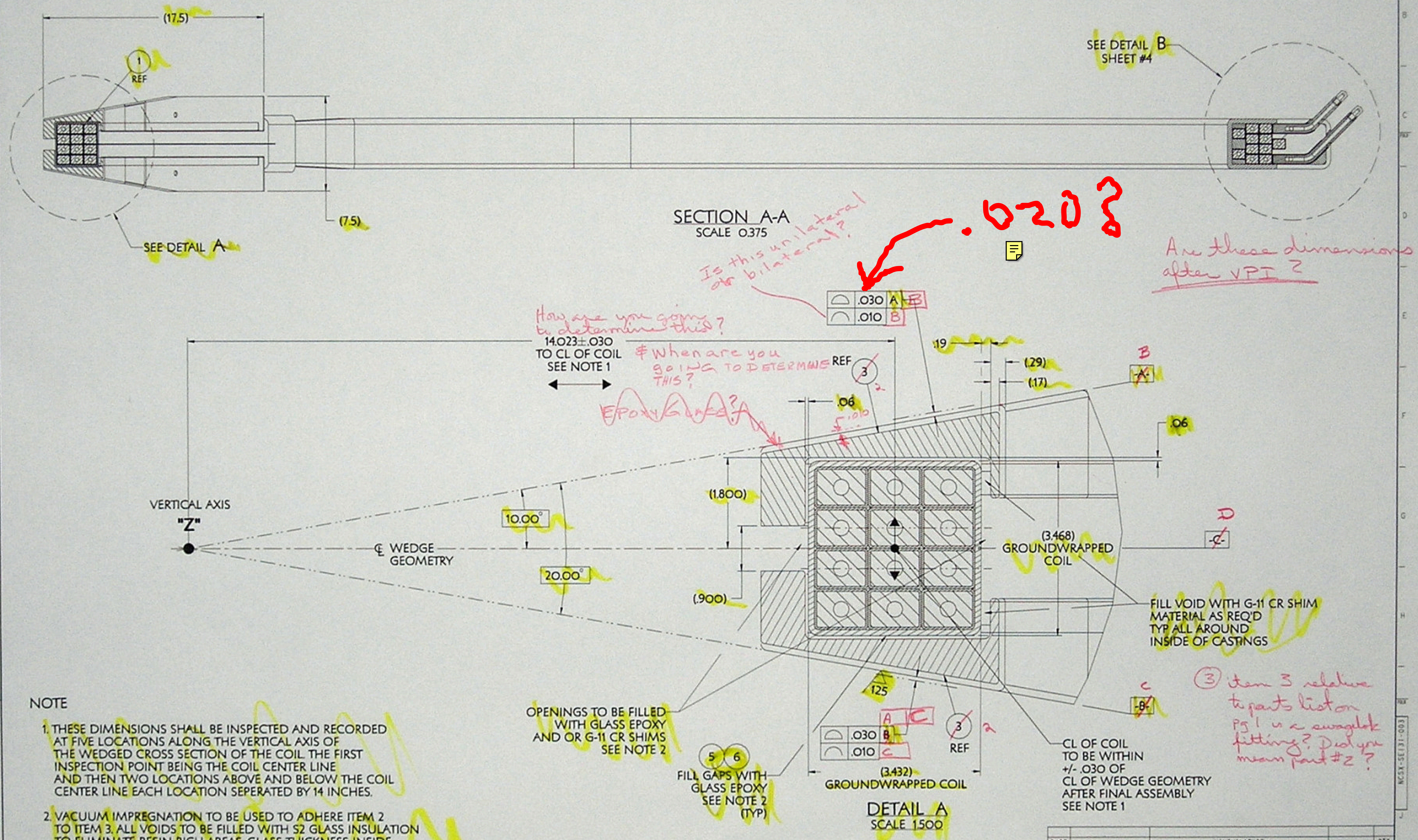


NOTE

1. THESE DIMENSIONS SHALL BE INSPECTED AND RECORDED AT FIVE LOCATIONS ALONG THE VERTICAL AXIS OF THE WEDGED CROSS SECTION OF THE COIL. THE FIRST INSPECTION POINT BEING THE COIL CENTER LINE AND THEN TWO LOCATIONS ABOVE AND BELOW THE COIL CENTER LINE EACH LOCATION SEPERATED BY 14 INCHES.
2. VACUUM IMPREGNATION TO BE USED TO ADHERE ITEM 2 TO ITEM 3. ALL VOIDS TO BE FILLED WITH S2 GLASS INSULATION TO ELIMINATE RESIN RICH AREAS. GLASS THICKNESS INSIDE WEDGE STRUCTURE TO BE ADJUSTED TO ACHIEVE REQUIRED DIMENSIONS WITHIN TOLERANCE.
3. ITEM 3 WEDGE STRUCTURE AND COIL SURFACE TO BE ROUGHENED BEFORE VPI TO ENSURE BEST POSSIBLE ADHESION.
4. POCKETS IN ITEM 3 ON MATING SURFACES TO BE FILLED WITH GLASS TAPE PRIOR TO VPI.

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD

PARTS LIST

RELEASE LEVEL: WIP
DWG VERSION NO: 4

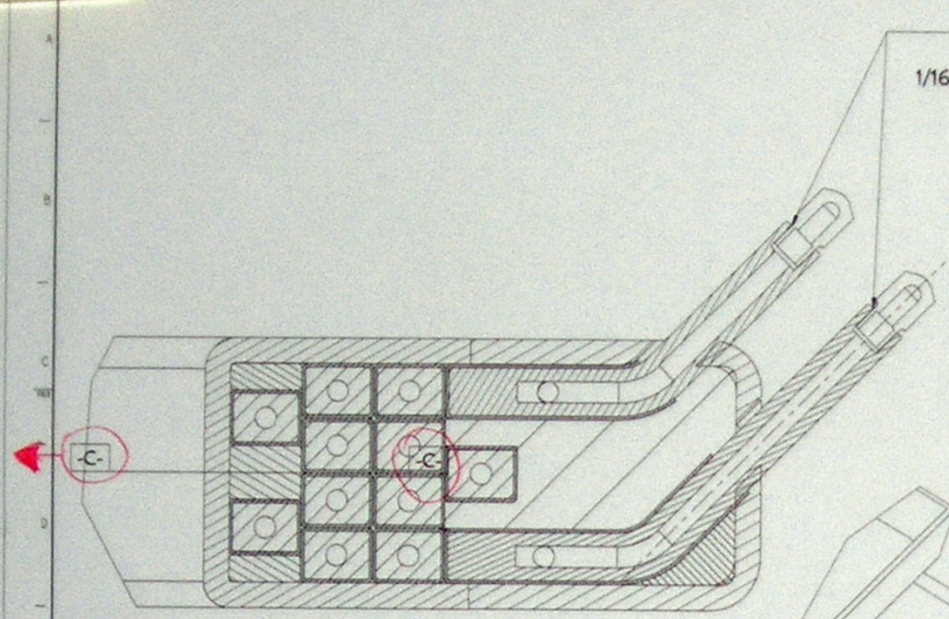
WEIGHT 1584.2 lbs
MODEL NAME SE131-003

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED
CENTRAL FILE:
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES NON-CUMULATIVE
NEXT ASSEMBLY

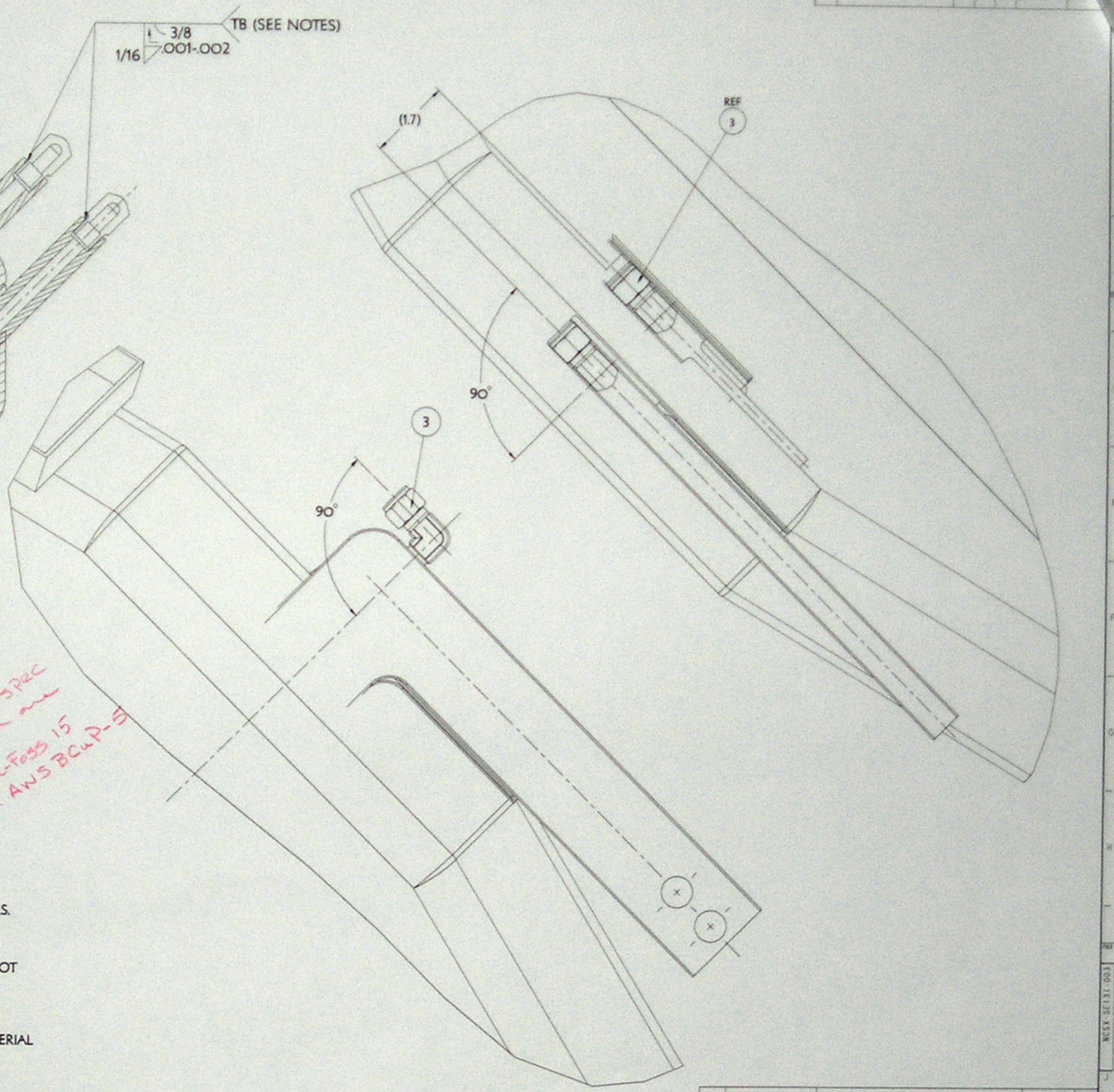
PRINCETON PLASMA PHYSICS LABORATORY
PRINCETON UNIVERSITY
NATIONAL COMPACT STELLARATOR EXPERIMENT
STELLARATOR CORE
CONVENTIONAL COILS
TF COIL FINAL ASSEMBLY

DSN: J. RUDNINSKI 2/01/06
CHK: M. KALISH/B. PAUL 2/01/06
ENGR: M. KALISH 2/01/06
SUPV: J. SIEGEL 2/01/06
DRAWING NO. SE131-003
SHEET 3 OF 5
REV 0

NO.	REVISION	BY	CK	SUP	APPROVED	DA



DETAIL B
SCALE 1.250



Sil. Fos is a trade name in fact "Handy#Hammer" make Sil Fos 1, 2 ... 15

If we can we should #4 Sil-Fos XX and Carry AWS BCuP-5

Ex. 2# Sil-Fos 15

From the SPEC I think you can using Sil-Fos 15 OR AWS BCuP-5

NOTES:

1. CLEAN THE JOINT AREAS (LEADS) WITH SCOTCH-BRITE, THEN WASH WITH ACETONE PRIOR TO INSTALLATION OF FITTINGS.
2. ASSEMBLE WITH CLEANED FITTINGS AND SIL-FOS WAFERS.
3. HEAT ASSEMBLED JOINT AREA WITH TORCH. CONTINUE TO HEAT THE AREA UNTIL THE SIL-FOS STARTS TO MELT, THEN ADD ADDITIONAL SIL-FOS AS NEEDED, AND DO NOT MOVE THE FITTING DURING BRAZING & COOLING.
4. FILE OR GRIND OFF EXCESS SIL-FOS FROM JOINT AREA. VISUAL INSPECTION OF BRAZE JOINT SHALL BE MADE TO INSURE THE COMPLETE FLOW OF SIL-FOS BRAZE MATERIAL INTO THE JOINTED AREA. JOINTS MUST BE FREE FROM CRACKS AND EXCESSIVE POROSITY.
5. PROTECT TURN AND GROUNDWRAP INSULATION FROM DAMAGE DURING ALL TORCH BRAZING OPERATIONS
6. SEE SPECIFICATION FOR QUALIFICATION AND TESTING REQUIREMENTS OF ALL BRAZE JOINTS.
7. FITTING (PART #4) TO BE BRAZED TO LEAD PRIOR TO GROUNDWRAP AND VPI.

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD
		PARTS LIST		

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED:	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT
Pro/E	DIMENSIONS ARE IN INCHES MACHINE SURFACES	STELLARATOR CORE CONVENTIONAL COILS TF COIL FINAL ASSEMBLY
DO NOT SCALE INFORMATION BY SCALING DRAWING	BREAK SHARP EDGES .005/.020	
NEXT ASSEMBLY	TOLERANCES NON-CUMULATIVE	DSN: J. KUSHINSKI 2/01/06 DRAWING NO
	DECIMAL: INCH FRACTIONS	CHK M. KALISH/B. PAUL 2/01/06 SE131-003
	.X ±.100 ±1°30' .XX ±.010 ±0°15' .XXX ±.005 ±0°05' ANGULAR ±1°	ENGR M. KALISH 2/01/06
		SUPV: J. SIEBEL 2/01/06 SHEET 4 OF 5 REV 0

WEIGHT	RELEASE LEVEL: WIP
1584.2 lbs	DWG VERSION NO: 4
MODEL NAME SE131-003	
WELDING ENGINEER	

NCSX_SE131-003

NCSX_ASSY_FORMAT_E

NO.	REVISION	BY	CH	SUP	APPROVED	DATE

NOTE

1. TOLERANCES FOR THE NOMINAL POSITION OF THE CURRENT CENTROID WITH RESPECT TO VERTICAL AXIS "Z" ARE AS FOLLOWS:

   a. FOR THE STRAIGHT LEG UNDER THE WEDGE STRUCTURE IT IS DEFINED IN DETAIL "A" ON SHEET 3.

   b. FOR THE FRONT HALF OF THE COIL EXCLUSIVE OF THE STRAIGHT LEG OF THE WEDGE STRUCTURE +/- .060 INCHES.

   c. FOR THE IN PLANE TOLERANCE ON THE BACK HALF (LEAD END) OF THE COIL +/- .12 INCHES.

   d. FOR THE OUT OF PLANE BACK HALF (LEAD END) OF THE COIL +/- .06 INCHES.

TOLERANCES INDICATED FOR THE COIL IN THE UN-RESTRAINED CONDITION.

with the coil standing up unsupported or laying down horizontal?
Before VPI or After?

VERTICAL AXIS "Z"

(14.023±.030)
SEE NOTE 1a

53.443

I don't think you can specify both the radius & horizontal dim once you have called out the 14.023 dim. One of them has to be a ref dim!

107.231±.120
SEE NOTE 1c & 1d

7.163

REF.

10.872

28.785

43.047

4.482

This one is okay because it does not go back to the ℄

R49.306±.120
SEE NOTE 1c & 1d
TYP

R29.024±.060
SEE NOTE 1b
TYP

R53.015±.060
SEE NOTE 1b
TYP

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD

PARTS LIST

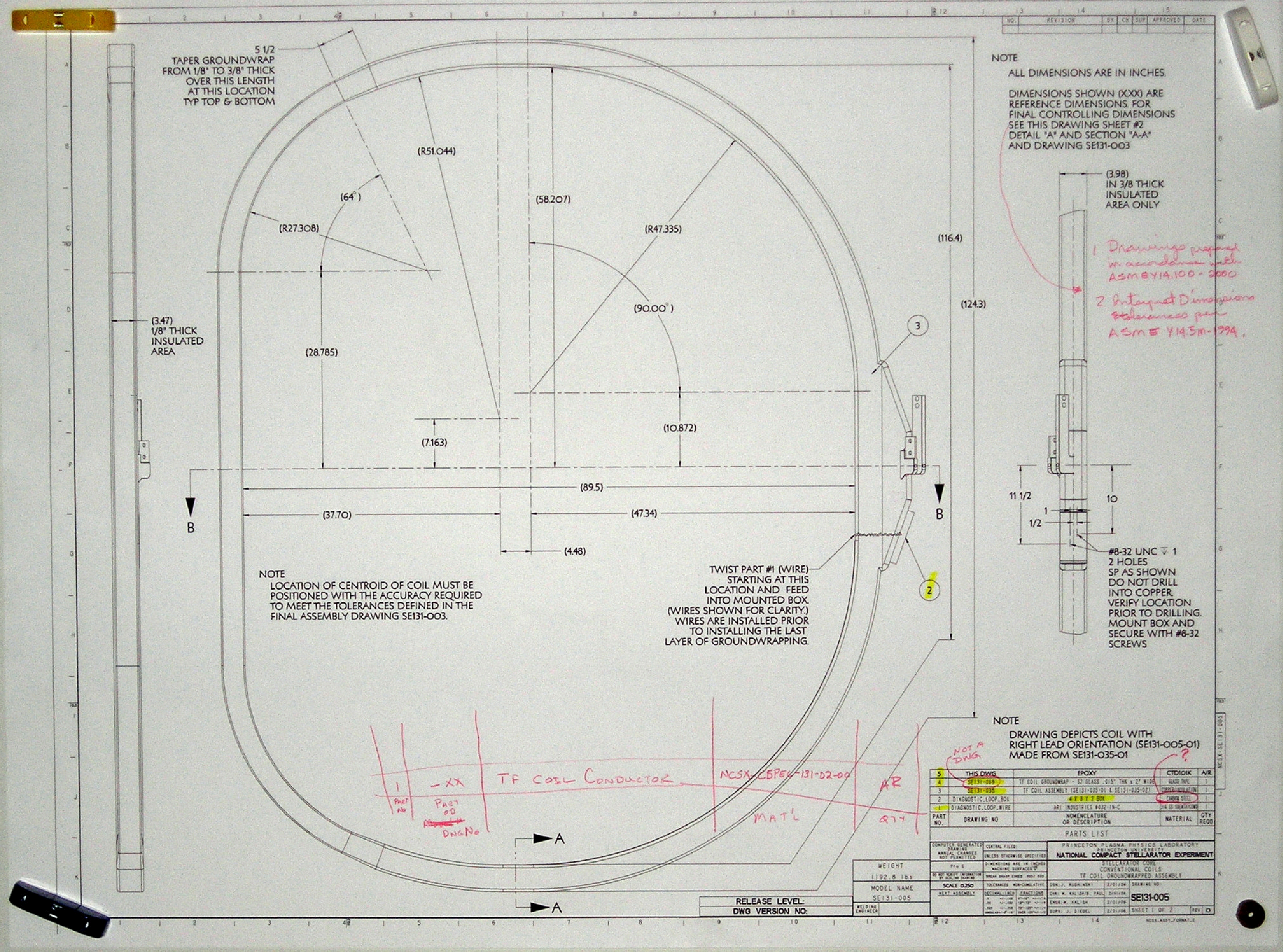
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT
DO NOT SCALE INFORMATION BY SCALING DRAWING	DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020 TOLERANCES NON-CUMULATIVE	STELLARATOR CORE CONVENTIONAL COILS TF COIL FINAL ASSEMBLY
NEXT ASSEMBLY	DECIMALS - INCH: .X ±.1 .XX ±.05 .XXX ±.010 ANGULAR ±1° FRACTIONS: ±1/32	DSN: J. RUSHINSKI 2/01/06 · CHK: M. KALISH 2/01/06 · ENGR: M. KALISH 2/01/06 · SUPV: J. SIEGEL 2/01/06 · DRAWING NO: SE131-003 · SHEET 5 OF 5 · REV 0

WEIGHT	MODEL NAME	WELDING ENGINEER
1584.2 lbs	SE131-003	

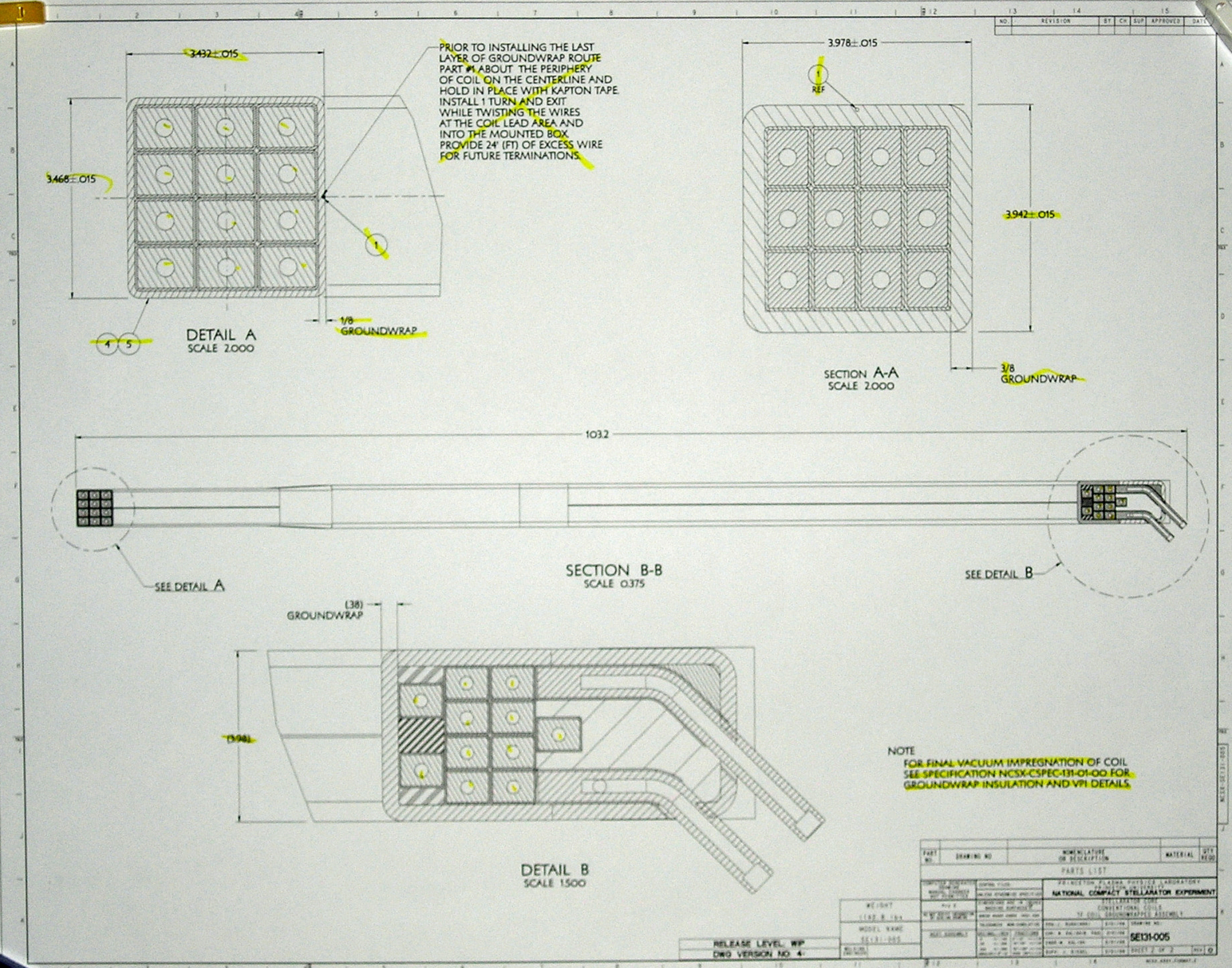
RELEASE LEVEL: WIP
DWG VERSION NO: 4

NCSX_ASSY_FORMAT_E

NCSX-SE131-003



5 1/2
TAPER GROUNDWRAP FROM 1/8" TO 3/8" THICK OVER THIS LENGTH AT THIS LOCATION TYP TOP & BOTTOM
(R51.044)
(64°)
(R27.308)
(58.207)
(R47.335)
(90.00°)
(28.785)
(10.872)
(7.163)
(116.4)
(124.3)
(3.47) 1/8" THICK INSULATED AREA
(89.5)
(37.70)
(47.34)
(4.48)
B
A
NOTE
ALL DIMENSIONS ARE IN INCHES.
DIMENSIONS SHOWN (XXX) ARE REFERENCE DIMENSIONS. FOR FINAL CONTROLLING DIMENSIONS SEE THIS DRAWING SHEET #2 DETAIL "A" AND SECTION "A-A" AND DRAWING SE131-003
(3.98) IN 3/8 THICK INSULATED AREA ONLY
11 1/2
10
1
1/2
#8-32 UNC ⊽ 1 2 HOLES SP AS SHOWN DO NOT DRILL INTO COPPER. VERIFY LOCATION PRIOR TO DRILLING. MOUNT BOX AND SECURE WITH #8-32 SCREWS
NOTE
LOCATION OF CENTROID OF COIL MUST BE POSITIONED WITH THE ACCURACY REQUIRED TO MEET THE TOLERANCES DEFINED IN THE FINAL ASSEMBLY DRAWING SE131-003.
TWIST PART #1 (WIRE) STARTING AT THIS LOCATION AND FEED INTO MOUNTED BOX. (WIRES SHOWN FOR CLARITY.) WIRES ARE INSTALLED PRIOR TO INSTALLING THE LAST LAYER OF GROUNDWRAPPING.
NOTE
DRAWING DEPICTS COIL WITH RIGHT LEAD ORIENTATION (SE131-005-01) MADE FROM SE131-035-01
5 | THIS DWG | EPOXY | CTD101K | A/R
4 | SE131-089 | TF COIL GROUNDWRAP - S2 GLASS .015" THK x 2" WIDE | GLASS TAPE | 1
3 | SE131-035 | TF COIL ASSEMBLY (SE131-035-01 & SE131-035-02) | COPPER/INSULATION | 1
2 | DIAGNOSTIC_LOOP_BOX | 4 X 8 X 2 BOX | CARBON STEEL | 1
1 | DIAGNOSTIC_LOOP_WIRE | ARI INDUSTRIES #032-IN-C | | 1
PART NO. | DRAWING NO | NOMENCLATURE OR DESCRIPTION | MATERIAL | QTY REQD
PARTS LIST
PRINCETON PLASMA PHYSICS LABORATORY
PRINCETON UNIVERSITY
NATIONAL COMPACT STELLARATOR EXPERIMENT
STELLARATOR CORE
CONVENTIONAL COILS
TF COIL GROUNDWRAPPED ASSEMBLY
SCALE 0.250
DSN: J. RUDNINSKI 2/01/06
CHK: M. KALISH/B. PAUL 2/01/06
ENGR: M. KALISH 2/01/06
SUPV: J. BIEBEL 2/01/06
DRAWING NO: SE131-005
SHEET 1 OF 2
REV 0
WEIGHT 1192.8 lbs
MODEL NAME SE131-005
RELEASE LEVEL:
DWG VERSION NO:
NCSX_ASSY_FORMAT_E
1 Drawings prepared in accordance with ASME Y14.100-2000
2 Interpret Dimensions & tolerances per ASME Y14.5M-1994.
NOT A DWG
?
1 | -XX | TF COIL CONDUCTOR | NCSX-CSPEC-131-02-00 | AR
PART NO
PART OR DWG NO
MAT'L
QTY



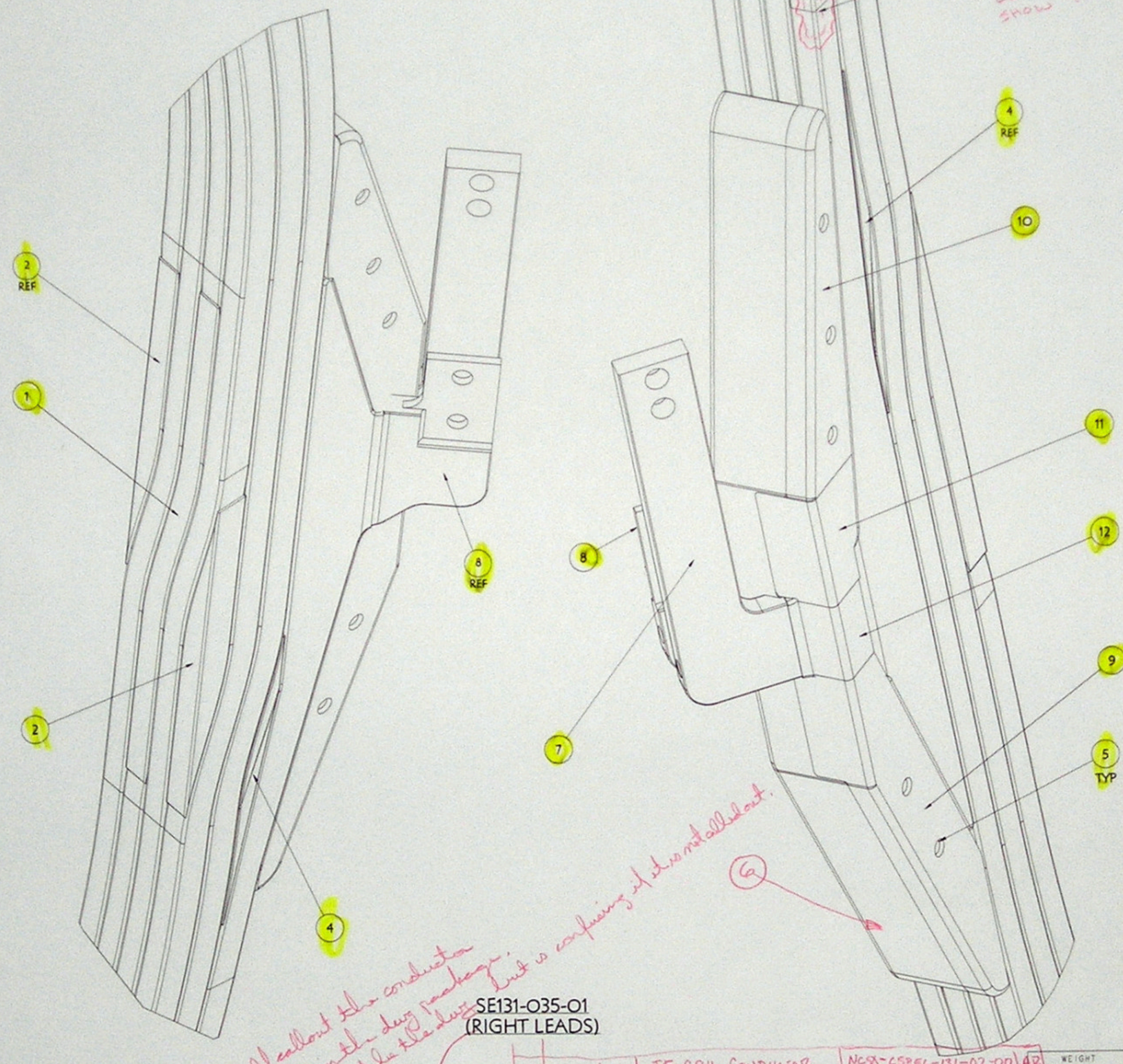
PRIOR TO INSTALLING THE LAST LAYER OF GROUNDWRAP ROUTE PART #1 ABOUT THE PERIPHERY OF COIL ON THE CENTERLINE AND HOLD IN PLACE WITH KAPTON TAPE. INSTALL 1 TURN AND EXIT WHILE TWISTING THE WIRES AT THE COIL LEAD AREA AND INTO THE MOUNTED BOX. PROVIDE 24' (FT) OF EXCESS WIRE FOR FUTURE TERMINATIONS.
3.432±.015
3.468±.015
1/8 GROUNDWRAP
DETAIL A
SCALE 2.000
3.978±.015
REF
3.942±.015
3/8 GROUNDWRAP
SECTION A-A
SCALE 2.000
103.2
SEE DETAIL A
SECTION B-B
SCALE 0.375
SEE DETAIL B
(.38) GROUNDWRAP
(3.98)
DETAIL B
SCALE 1.500
NOTE
FOR FINAL VACUUM IMPREGNATION OF COIL SEE SPECIFICATION NCSX-CSPEC-131-01-00 FOR GROUNDWRAP INSULATION AND VPI DETAILS.
PART NO.
DRAWING NO.
NOMENCLATURE OR DESCRIPTION
MATERIAL
QTY REQD
PARTS LIST
NATIONAL COMPACT STELLARATOR EXPERIMENT
WEIGHT
MODEL NAME
RELEASE LEVEL: WIP
DWG VERSION NO. 4
DRAWING NO.
SE131-005

NO	REVISION	BY	CH	SUP	APPROVED	DATE

(SEE SHT 4) Should not we ~~see~~ open the conductor to show the ferrule?

Notes
1. Drawing prepared in accordance with ASME Y14.100-2000
2. Interpret Dimensions & Tolerances per ~~ANSI Y14.5M-1994~~ ASME Y14.5M-1994

NOTE
ALL DIMENSIONS SHOWN IN INCHES.



why does alt 2 have a separate parts list? why would it you just add 16 & 17 to alt 1?

SHEET #1 DEPICTS COIL ASSEMBLY WITH RIGHT LEAD ORIENTATIONS.

SEE SHEET #2 FOR LEFT LEAD ORIENTATIONS AND B/M PARTS.

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD
15	THIS DWG	S2 GLASS INSULATION 1" WIDE X .007 THK	———	A/R
14	THIS DWG	KAPTON INSULATION 1" WIDE X .005 THK WITH ADHESIVE	KAPTON	A/R
13	SE131-091	TF COIL FRONT TRANSITION FILLER DETAIL	G-11 CR	1
12	SE131-087	SPACER FILLER BLOCK	G-11 CR	1
11	SE131-084	LEAD LOCKING BLOCK SMALL	G-11 CR	1
10	SE131-079	LEAD SUPPORT BLOCK LOCKING	G-11 CR	1
9	SE131-078	LEAD SUPPORT LOCKING BLOCK TYPE "A"	G-11 CR	1
8	SE131-054	TF COIL LEAD SHORT BENT RIGHT	COPPER C107	1
7	SE131-053	TF COIL LEAD LONG BENT RIGHT	COPPER C107	1
6	SE131-047-92	TF COIL LEAD LOCKING BLOCK CENTRAL	G-11 CR	1
5	SE131-042	DOWEL PIN 1/2 DIA. X 3" LONG	G-11	5
4	SE131-041	LEAD FILLER	G-11 CR	2
3	SE131-033	FERRULE TFIS OD X SIZE ID X 1 1/2 LG	OFHC COPPER	5
2	SE131-032	TF COIL TRANSITION FILLER LEFT+RIGHT	G-11 CR	2
1	SE131-031	TF COIL TRANSITION FILLER CENTER	G-11 CR	1

PARTS LIST

SE131-035-01
(RIGHT LEADS)

I would callout the conductor somewhere in the dwg package. This may not be the best but is confusing if it is not called out.

ITEM NO	QTY	PART OR DWG NO	DESCRIPTION	MATERIAL
1	-1		TF COIL CONDUCTOR	NCSX-CSPEC-131-02-00 A2

Very Confusing

MAT'L

WEIGHT 1054.7 lbs

MODEL NAME SE131-035

RELEASE LEVEL:
DWG VERSION NO:

COMPUTER GENERATED DRAWING
MANUAL CHANGES NOT PERMITTED

CENTRAL FILE:
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
MACHINE SURFACES
BREAK SHARP EDGES .005"-.020"
DO NOT SCALE DRAWING
SCALE: 1.000
NEXT ASSEMBLY
TOLERANCES: NON-CUMULATIVE
DECIMALS ANGLES FRACTIONS

PRINCETON PLASMA PHYSICS LABORATORY
PRINCETON UNIVERSITY
NATIONAL COMPACT STELLARATOR EXPERIMENT
STELLARATOR CORE
CONVENTIONAL COILS
TF COIL WINDING ASSEMBLY/DETAILS

DSN: J. RUSHINSKY	2/01/06	DRAWING NO:
CHK: M. KALISH, PAUL	2/01/06	SE131-035
ENGR: M. KALISH	2/01/06	
SUPV: J. DIESEL	2/01/06	SHEET 1 OF 6 REV O

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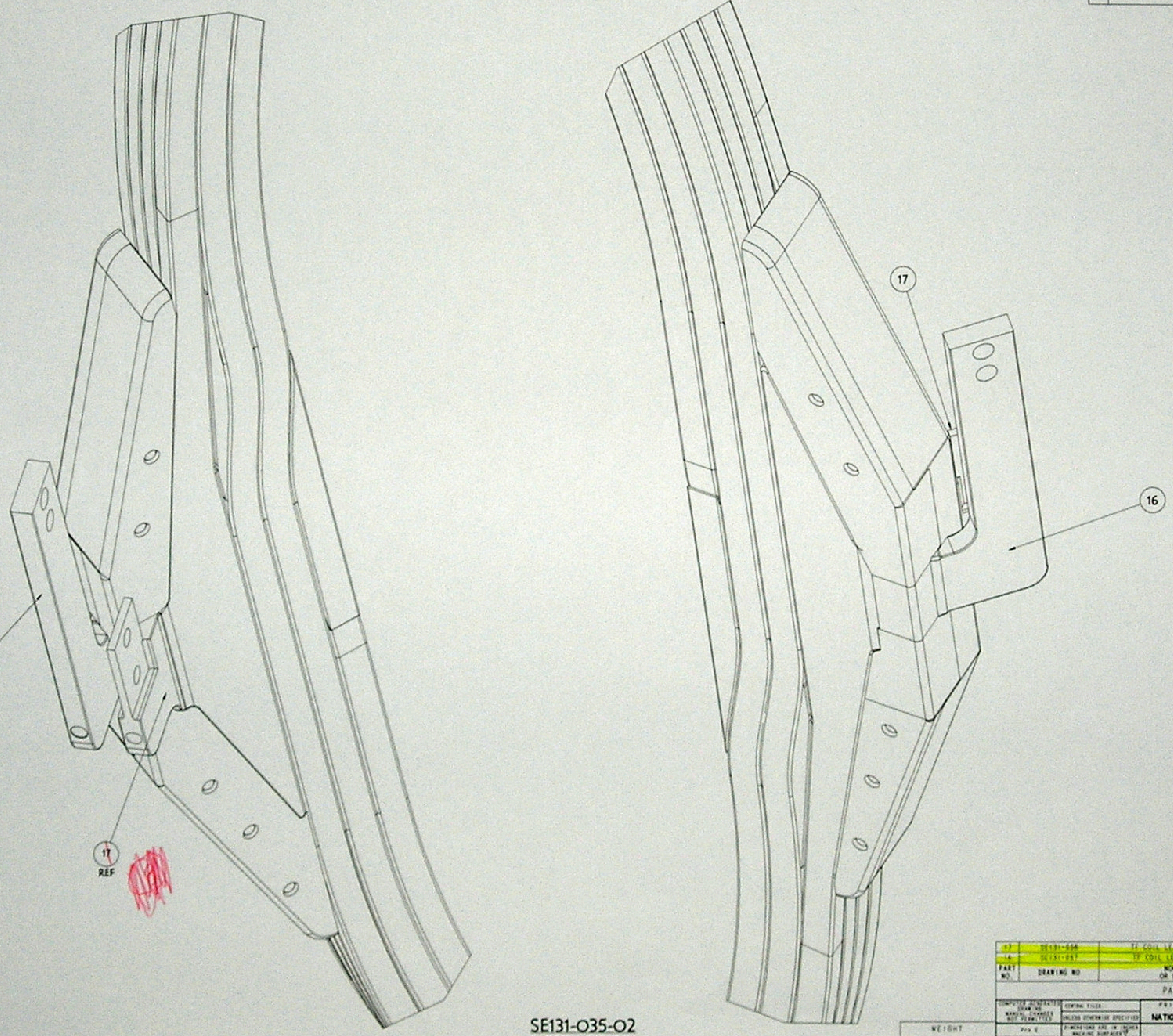


SE131-035-02
(LEFT LEADS)

It appears left/right based on the way the leads exit very confusing!

NO.	REVISION	BY	CH	SUP	APPROVED	DATE

PART NO	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD
17	SE131-056	TF COIL LEAD SHORT BENT LEFT	COPPER C-101	1
16	SE131-057	TF COIL LEAD LONG BENT LEFT	COPPER C-101	1

PARTS LIST

PRINCETON PLASMA PHYSICS LABORATORY
PRINCETON UNIVERSITY
NATIONAL COMPACT STELLARATOR EXPERIMENT

STELLARATOR CORE
CONVENTIONAL COILS
TF COIL WINDING ASSEMBLY/DETAILS

COMPUTER GENERATED DRAWING
MANUAL CHANGES NOT PERMITTED

CONTROL FILES:
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
BREAK SHARP EDGES

SCALE 1.000
NEXT ASSEMBLY
TOLERANCES NON-CUMULATIVE
DECIMAL INCH
FRACTIONS

DSN: J. RUSHINSKI — 2/01/06
CHK: M. KALISH/B PAUL — 2/08/06
ENGR: M. KALISH — 2/01/06
SUPV: J. EDWARDS — 2/01/06

DRAWING NO.
SE131-035

SHEET 2 OF 6
REV 0

WEIGHT
1054.7 lbs

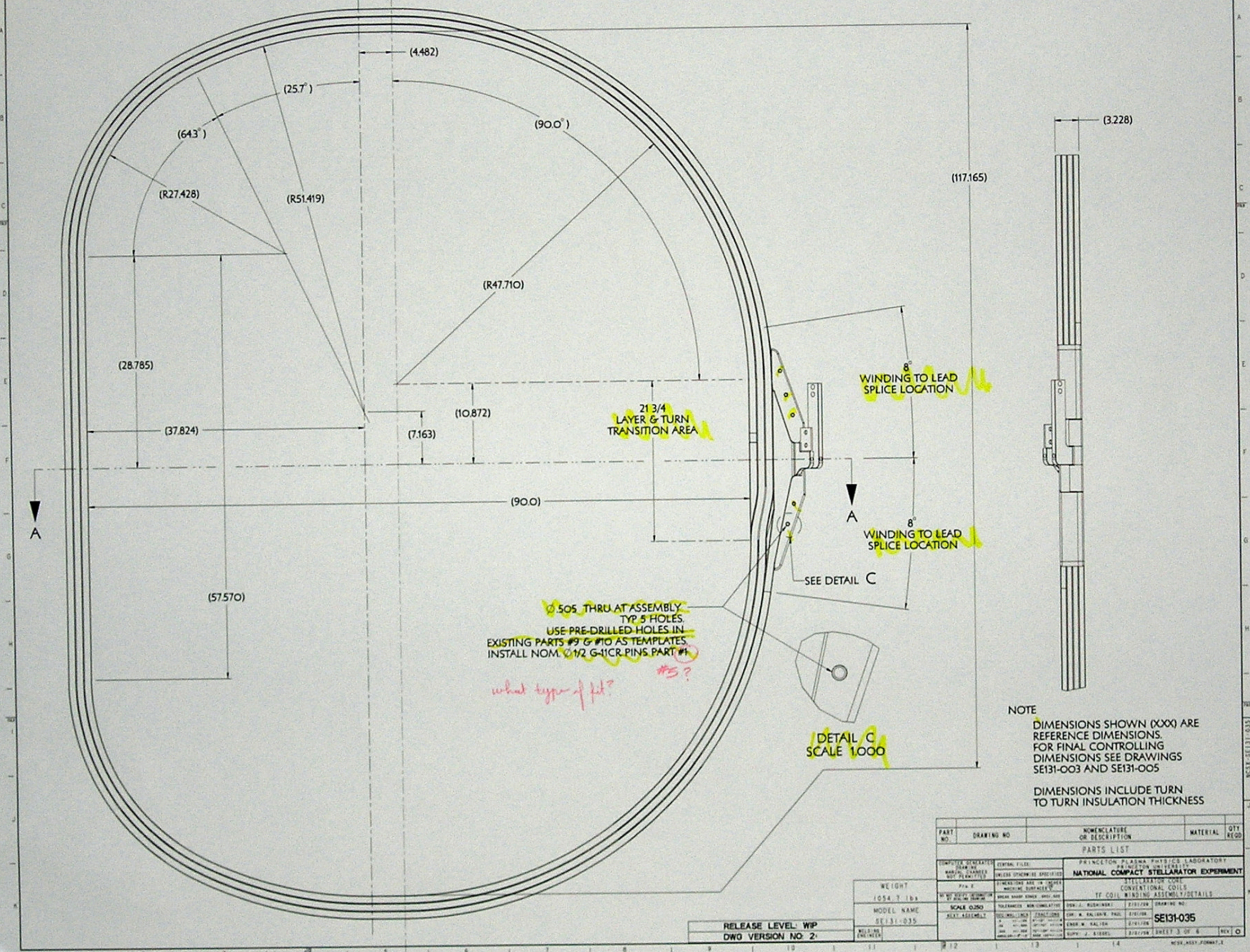
MODEL NAME
SE131-035

RELEASE LEVEL: WIP
DWG VERSION NO: 2

NCSX-SE131-035

NCSX_ASSY_FORMAT_E

NO.	REVISION	BY	CH	SUP	APPROVED	DATE



NOTE

1. DIMENSIONS SHOWN (XXX) ARE REFERENCE DIMENSIONS. FOR FINAL CONTROLLING DIMENSIONS SEE DRAWINGS SE131-003 AND SE131-005

2. DIMENSIONS INCLUDE TURN TO TURN INSULATION THICKNESS

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD

PARTS LIST

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT
Pro E	DIMENSIONS ARE IN INCHES MACHINE SURFACES	STELLARATOR CORE CONVENTIONAL COILS TF COIL WINDING ASSEMBLY/DETAILS
DO NOT SCALE DRAWING SCALE 0.250	TOLERANCES NON-CUMULATIVE	DSN: J. RUSHINSKI 2/01/08
NEXT ASSEMBLY	DECIMALS FRACTIONS	CHK: M. KALISH/E. PAUL 2/01/08
		ENGR: M. KALISH 2/01/08
		SUPV: J. KESSEL 2/01/08

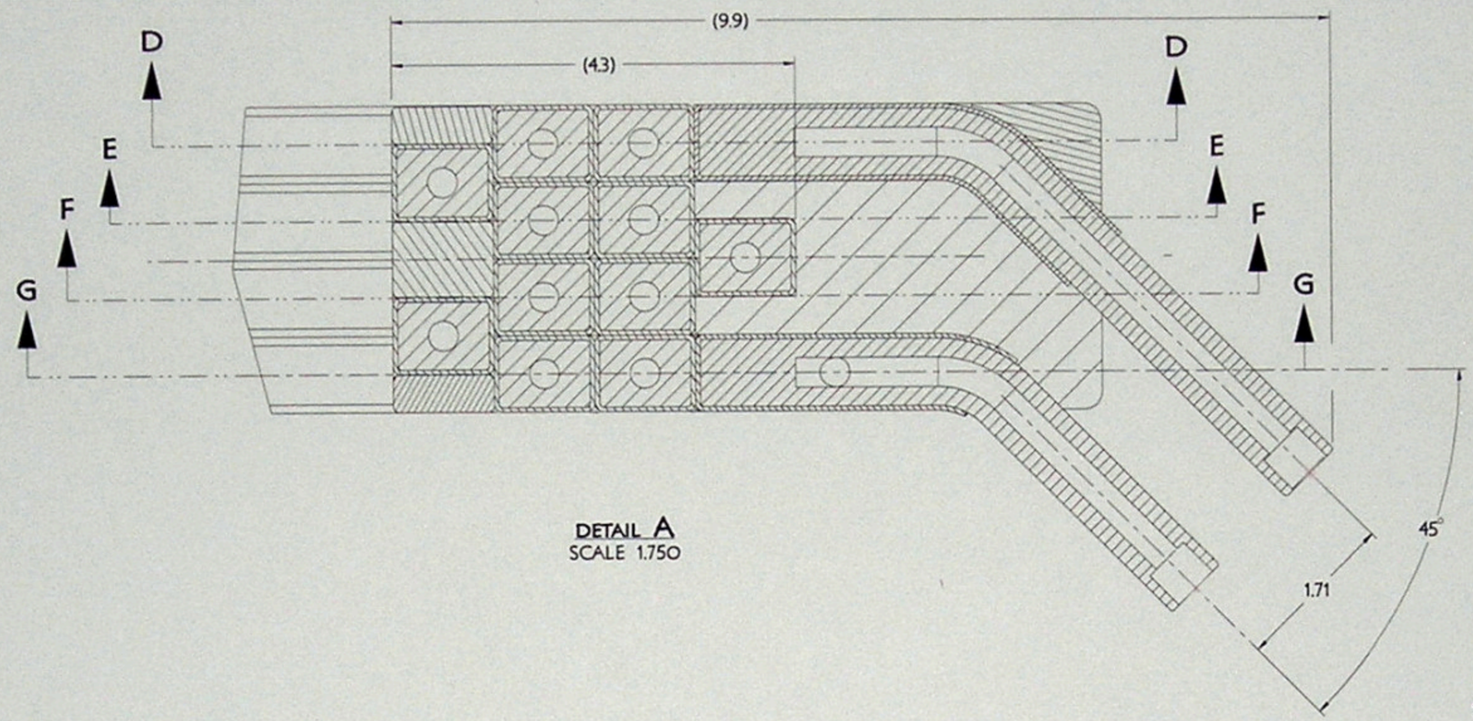
DRAWING NO: SE131-035

SHEET 3 OF 6 REV O

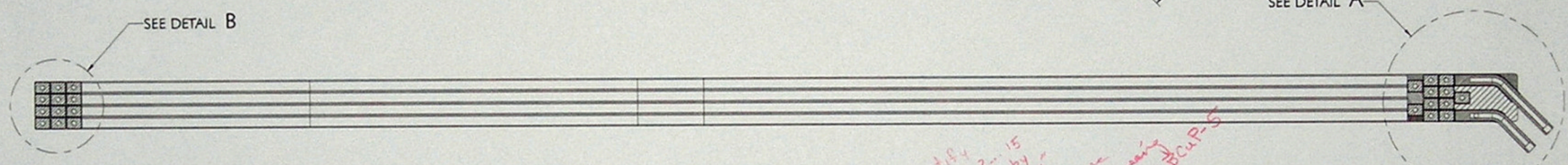
WEIGHT	RELEASE LEVEL: WIP
1054.7 lbs	DWG VERSION NO: 2
MODEL NAME	
SE131-035	
WELDING ENGINEER	

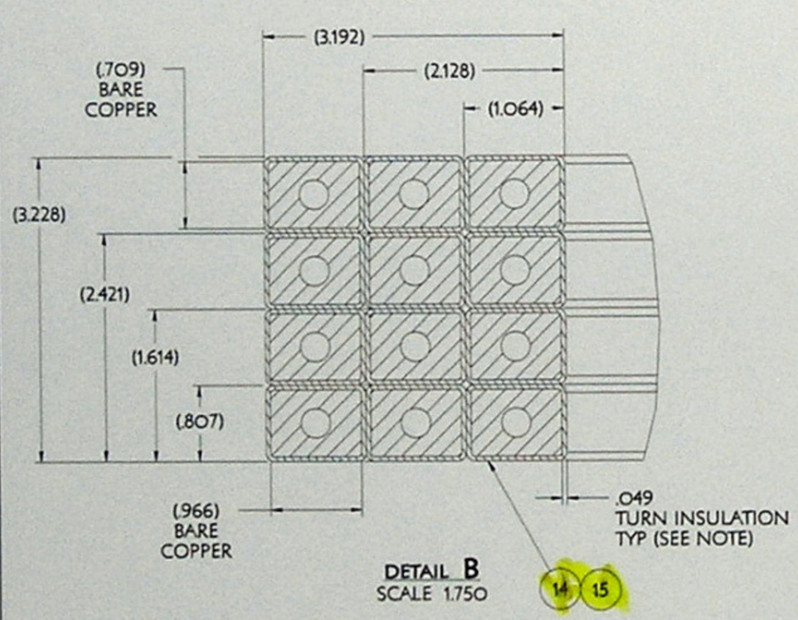
NCSX_ASSY_FORMAT_E

NO.	REVISION	BY	CH	SUP	APPROVED	DATE



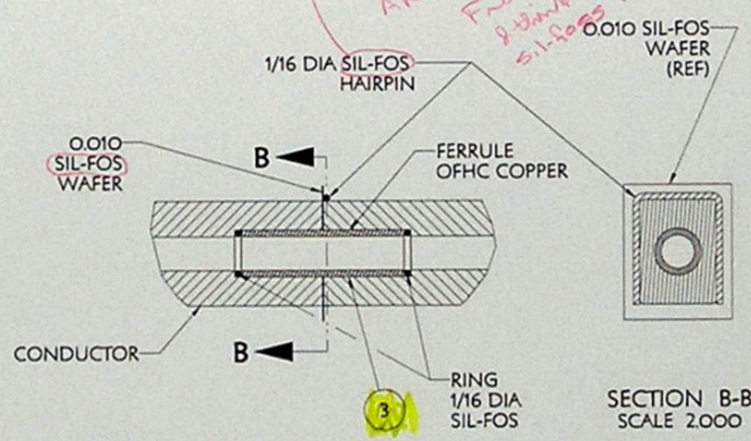
DETAIL A
SCALE 1.750





DETAIL B
SCALE 1.750

SECTION A-A
SCALE 0.375



SECTION A-A
TYP CONDUCTOR
BRAZE JOINT DETAIL
SCALE 2.000

SECTION B-B
SCALE 2.000

Identify
SIL-Fos 1, 2, 15
or specify by
AWS BCuP-x
From the spec
think you can use
Sil-fos 15 or AWS BCuP-5

BRAZE NOTES

THE BRAZE JOINT SHALL CONSIST OF A OXYGEN-FREE (OFHC) COPPER FERRULE. (2) SIL-FOS RINGS AT THE END OF THE FERRULE, A SIL-FOS WAFER AND A SIL-FOS HAIRPIN TO SUPPLY ADDITIONAL BRAZE MATERIAL DURING THE PROCESS. THE HAIRPIN MAY BE REPLACED WITH HAND FED SIL-FOS MATERIAL.

THE COPPER FERRULE SHALL MAINTAIN THE ID OF THE COOLANT PATH IN THE CONDUCTOR. THE CLEARANCE HOLE IN THE CONDUCTOR END SHALL BE DRILLED TO ALLOW A 0.003 TO 0.005 INCH CLEARANCE BETWEEN THE FERRULE OUTER DIAMETER AND THE COUNTER BORED CONDUCTOR INNER DIAMETER

SEE SPECIFICATION NCSX-CSPEC-131-01-00 FOR FURTHER BRAZE DETAILS AND REQUIRED QUALIFICATIONS

BRAZED JOINTS SHALL BE VISUALLY EXAMINED FOR COMPLETE FILING OF THE JOINT AND FREEDOM FROM CRACKS.

NOTE

TURN INSULATION (APPROX .049" THICK)

1 (1/2 LAPPED) LAYER KAPTON/ADHESIVE TAPE
3 (1/2 LAPPED) LAYERS GLASS TAPE

SEE SPECIFICATION NCSX-131-01-00 FOR TURN TO TURN INSULATION DETAILS.

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD

PARTS LIST

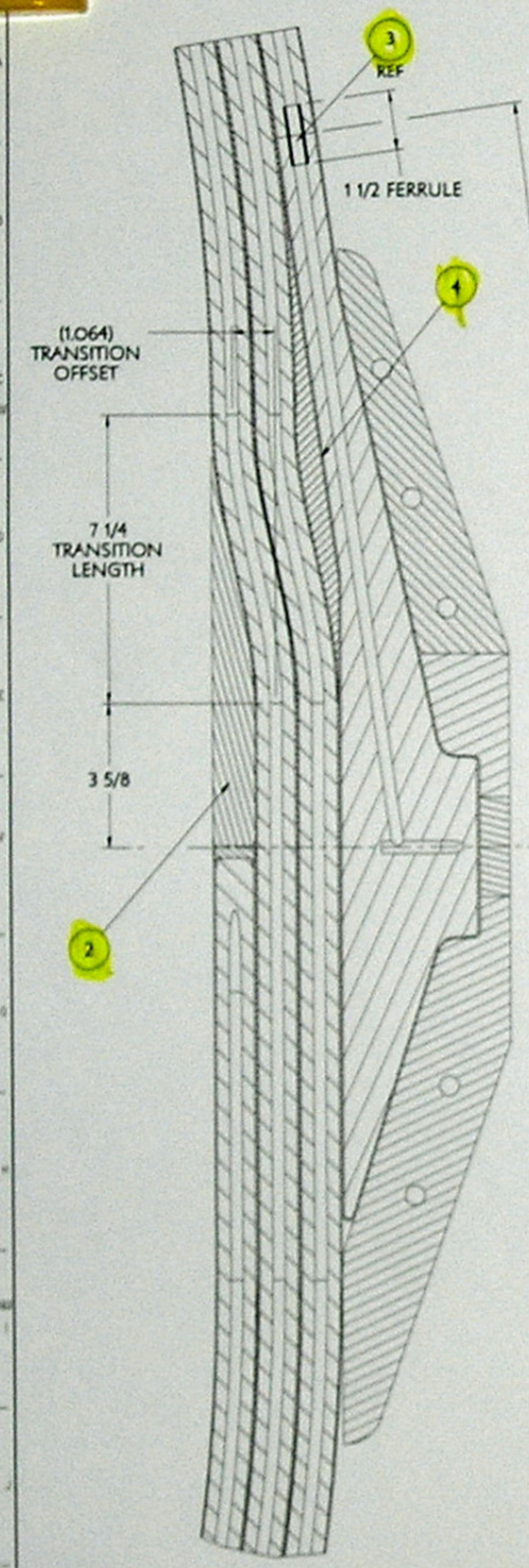
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED: Pro E; DIMENSIONS ARE IN INCHES; MACHINE SURFACES; DO NOT REMOVE INFORMATION BY REVISING DRAWING; BREAK SHARP EDGES .005/.020; TOLERANCES NON-CUMULATIVE; DECIMAL / INCH / FRACTIONS; NEXT ASSEMBLY	PRINCETON PLASMA PHYSICS LABORATORY, PRINCETON UNIVERSITY; NATIONAL COMPACT STELLARATOR EXPERIMENT; STELLARATOR CORE; CONVENTIONAL COILS; TF COIL WINDING ASSEMBLY/DETAILS; DSN: J. ROBINSON 2/01/06; DRAWING NO: SE131-035; CHK: M. KALISH/R. PAUL 2/01/06; ENG: M. KALISH 2/01/06; SUPV: J. SIEGEL 2/01/06; SHEET 4 OF 6; REV O
WEIGHT 1054.7 lbs; MODEL NAME SE131-035; WELDING ENGINEER		

RELEASE LEVEL: WIP
DWG VERSION NO: 2

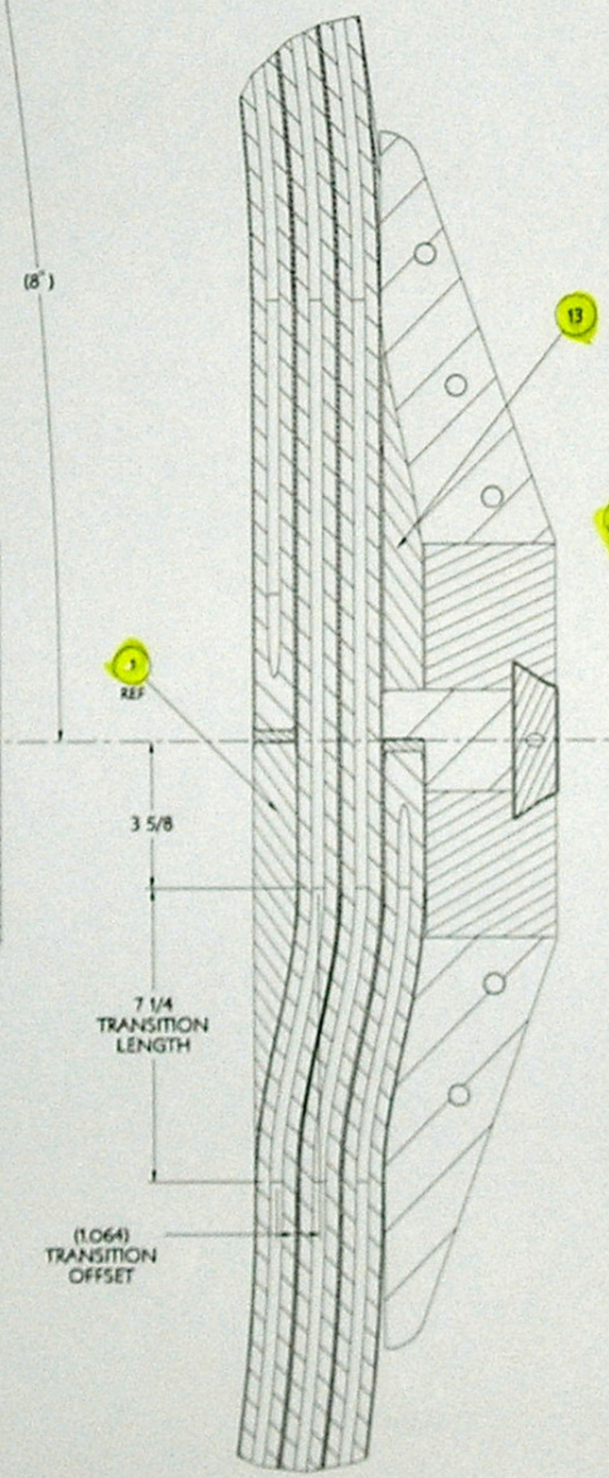
NCSX-SE131-035

NCSX_A1.1_FORMAT_E

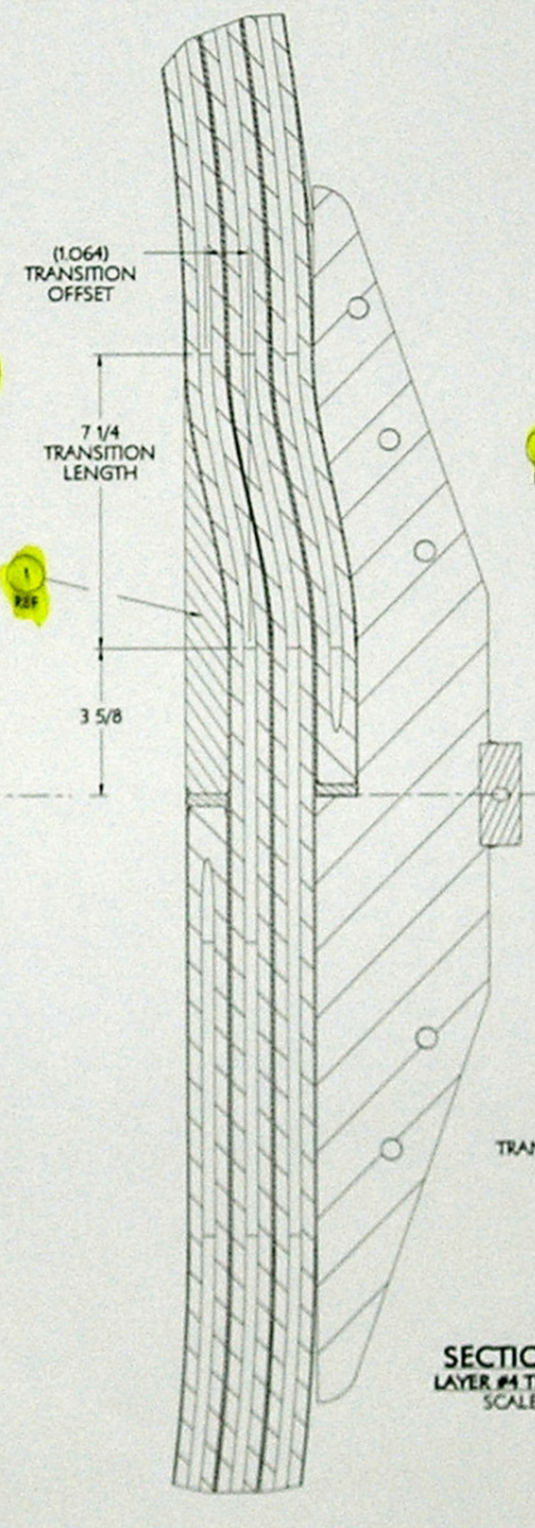
NO.	REVISION	BY	CH	SUP	APPROVED	DATE



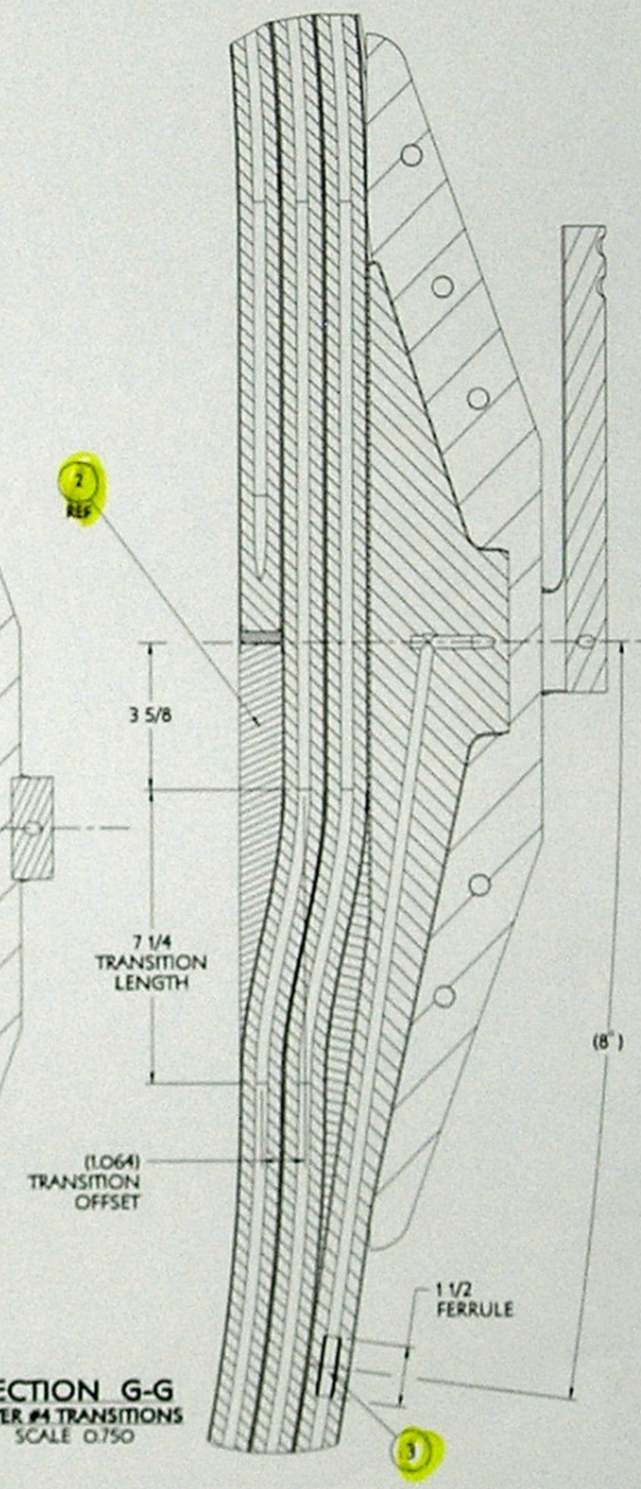
SECTION D-D
LAYER #1 TURN TRANSISTIONS
SCALE 0.750



SECTION E-E
LAYER #2 TURN TRANSITIONS
SCALE 0.750



SECTION F-F
LAYER #3 TRANSITIONS
SCALE 0.750

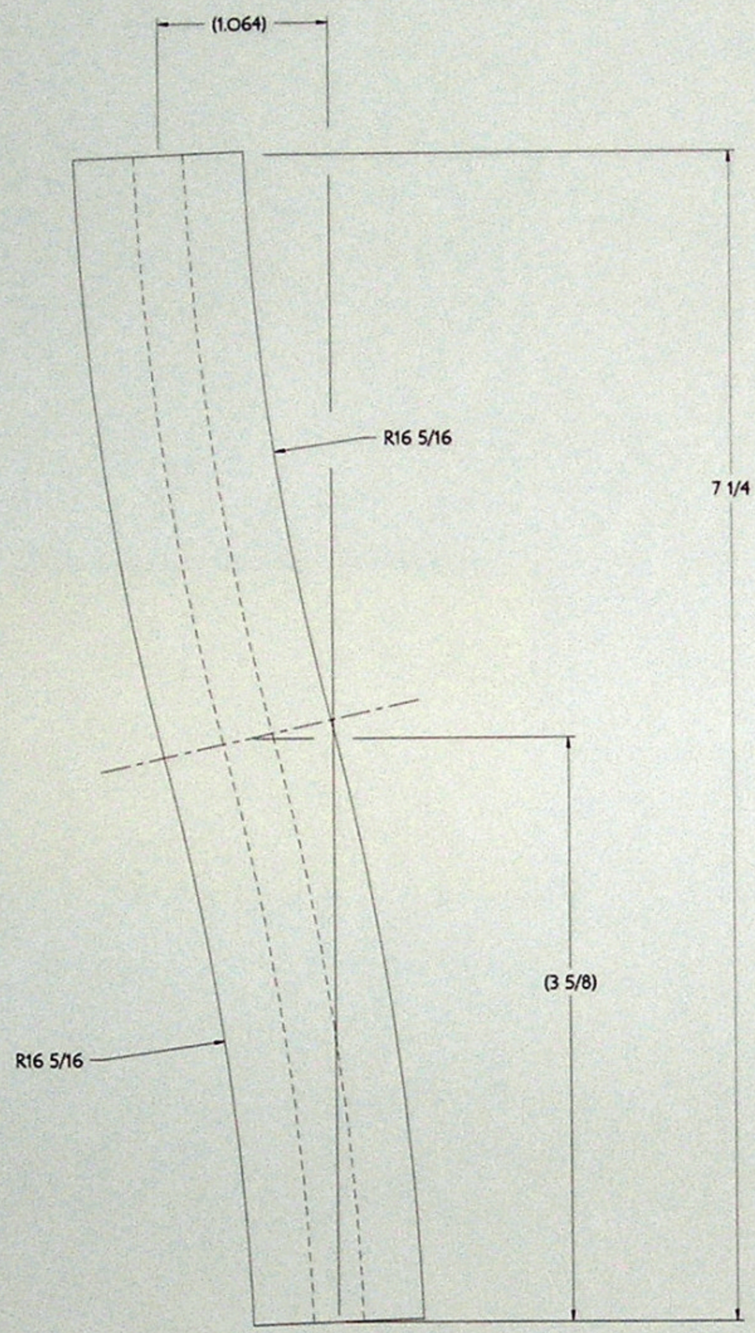


SECTION G-G
LAYER #4 TRANSITIONS
SCALE 0.750

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD

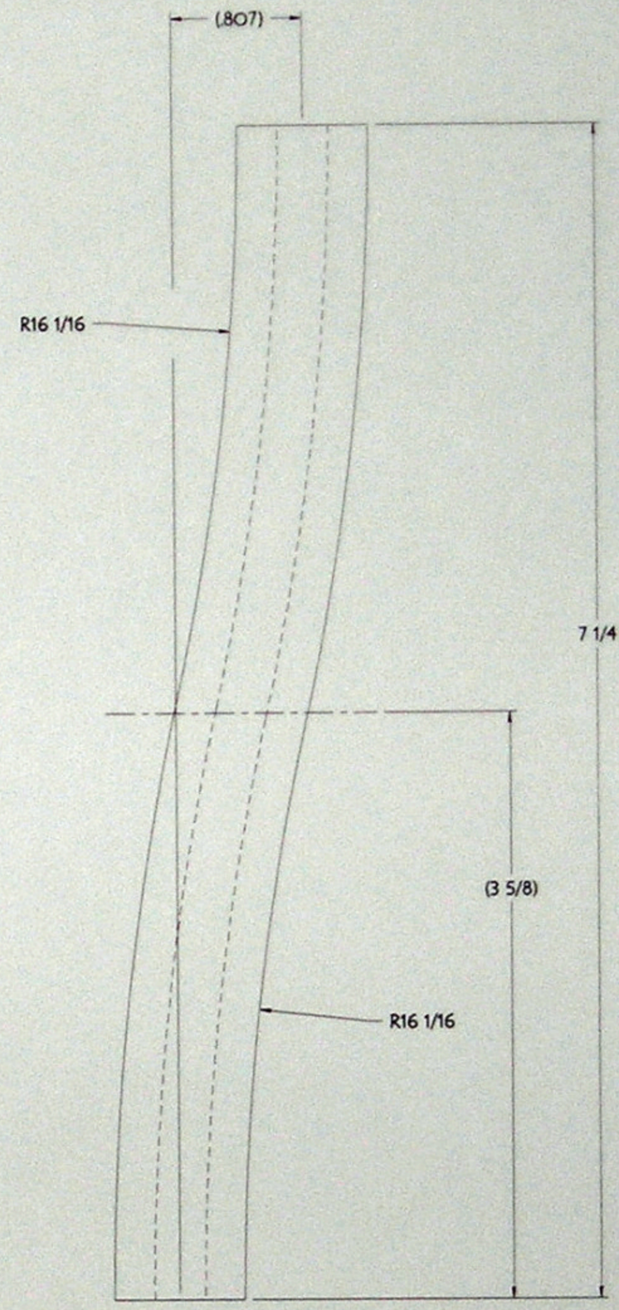
PARTS LIST

WEIGHT	PRINCETON PLASMA PHYSICS LABORATORY	
MODEL NAME SE131-035	NATIONAL COMPACT STELLARATOR EXPERIMENT	
RELEASE LEVEL WIP	CONVENTIONAL COILS TF COIL WINDING ASSEMBLY DETAILS	
DWG VERSION NO. 2	DRAWING NO. SE131-035	
	SHEET 5 OF 6	REV 0



TYP TURN TO TURN TRANSITION

SCALE 3.000



TYP LAYER TO LAYER TRANSITION

SCALE 3.000

REVISION	BY	CH	SUP	APPROVED	DATE

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD
		PARTS LIST		

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED

CENTRAL FILE:
UNLESS OTHERWISE SPECIFIED:
Pre E
DIMENSIONS ARE IN INCHES MACHINE SURFACES
BREAK SHARP EDGES .005/.020
TOLERANCES NON-CUMULATIVE
DECIMAL-INCH FRACTIONS

PRINCETON PLASMA PHYSICS LABORATORY
PRINCETON UNIVERSITY
NATIONAL COMPACT STELLARATOR EXPERIMENT
STELLARATOR CORE
CONVENTIONAL COILS
TF COIL WINDING ASSEMBLY/DETAILS

DSN: J. HUSKINS
CHK: M. KALISH, PAUL
ENGR: M. KALISH
SUPV: J. SIEBEL
2/01/06

DRAWING NO: SE131-035
SHEET 6 OF 6
REV O

WEIGHT

MODEL NAME
SE131-035

NEXT ASSEMBLY

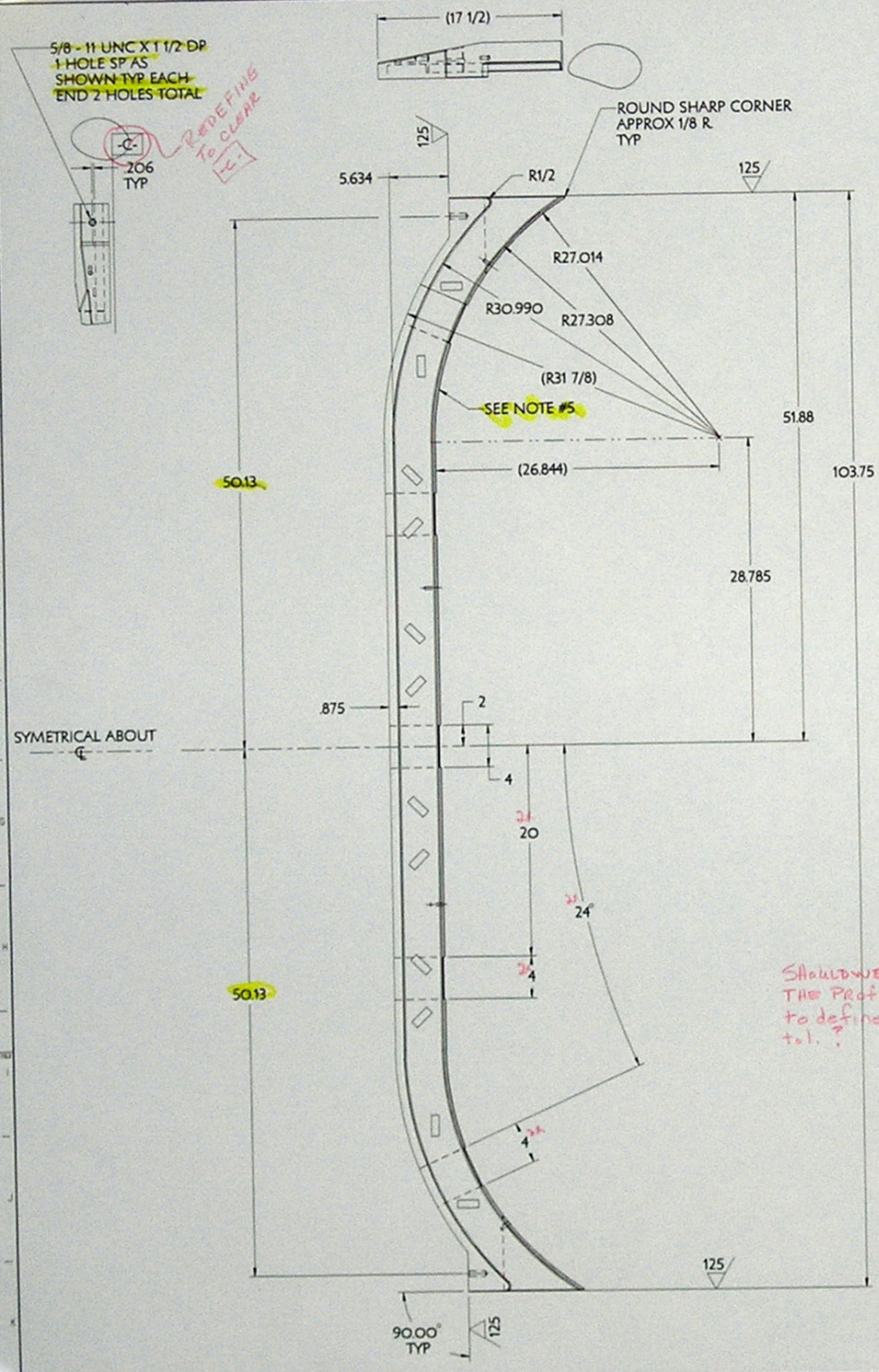
WELDING ENGINEER

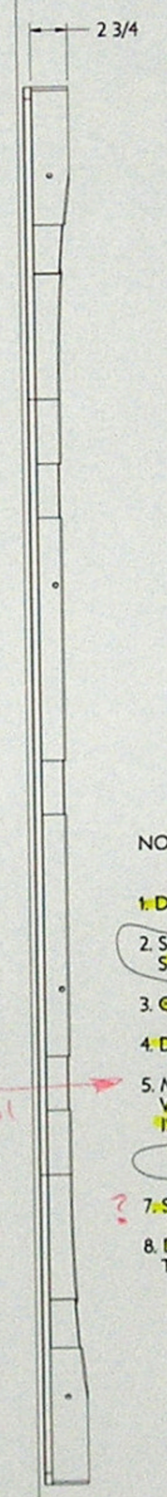
RELEASE LEVEL- WIP
DWG VERSION NO: 2+

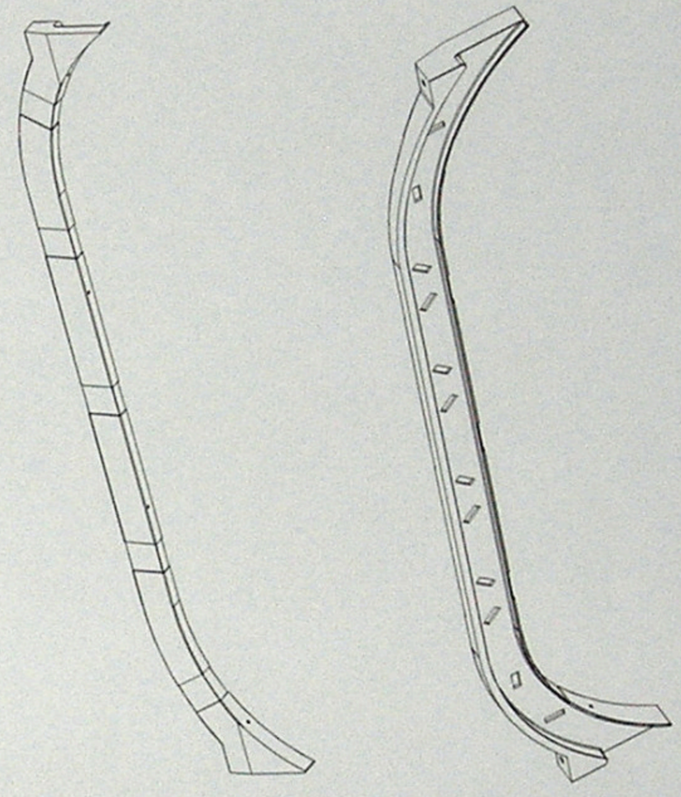
NCSX_SE131-035

NCSX_ASSY_FORMAT_E

NO.	REVISION	BY	CH	SUP	APPROVED	DATE
1	REVISED PER ECN #5073	JDR	MK	JS	M. KALISH	2/03/06







NOTES:

1. DIMENSIONS ARE IN INCHES
2. SEE SPECIFICATION, NCSX-CSPEC-131-03 IF CASTING PROCESS IS USED TO MANUFACTURE. SEE SPECIFICATION NCSX-CSPEC-131-04 IF WELDMENT PROCESS IS USED TO MANUFACTURE.
3. GEOMETRY IS DEFINED IN PRO ENGINEER CAD MODELS/FILES SE131-085.PRT
4. DRAWING AND CAD MODEL COMBINED DEFINE PART.
5. MACHINED FINISHED SURFACES TO CAD DATA. PROFILE TO BE WITHIN .020 UNLESS OTHERWISE SPECIFIED. PROFILE TOLERANCE IS BILATERAL ie 0.010 EITHER SIDE OF THE REFERENCED SURFACE.

Should we use the Profile Symbol to define the tol.?

7. SPOTFACE MIN. DIA/DEPTH AS REQ'D.
8. DIMENSIONS APPLY AT ROOM TEMPERATURE. OPERATING TEMPERATURE 80° K.

UNS31600 or specified in Spec or...

Dwg should be saved with layers blanked

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD
1	SE131-085	TF COIL WEDGE STRUCTURE	STN STL	36

PARTS LIST

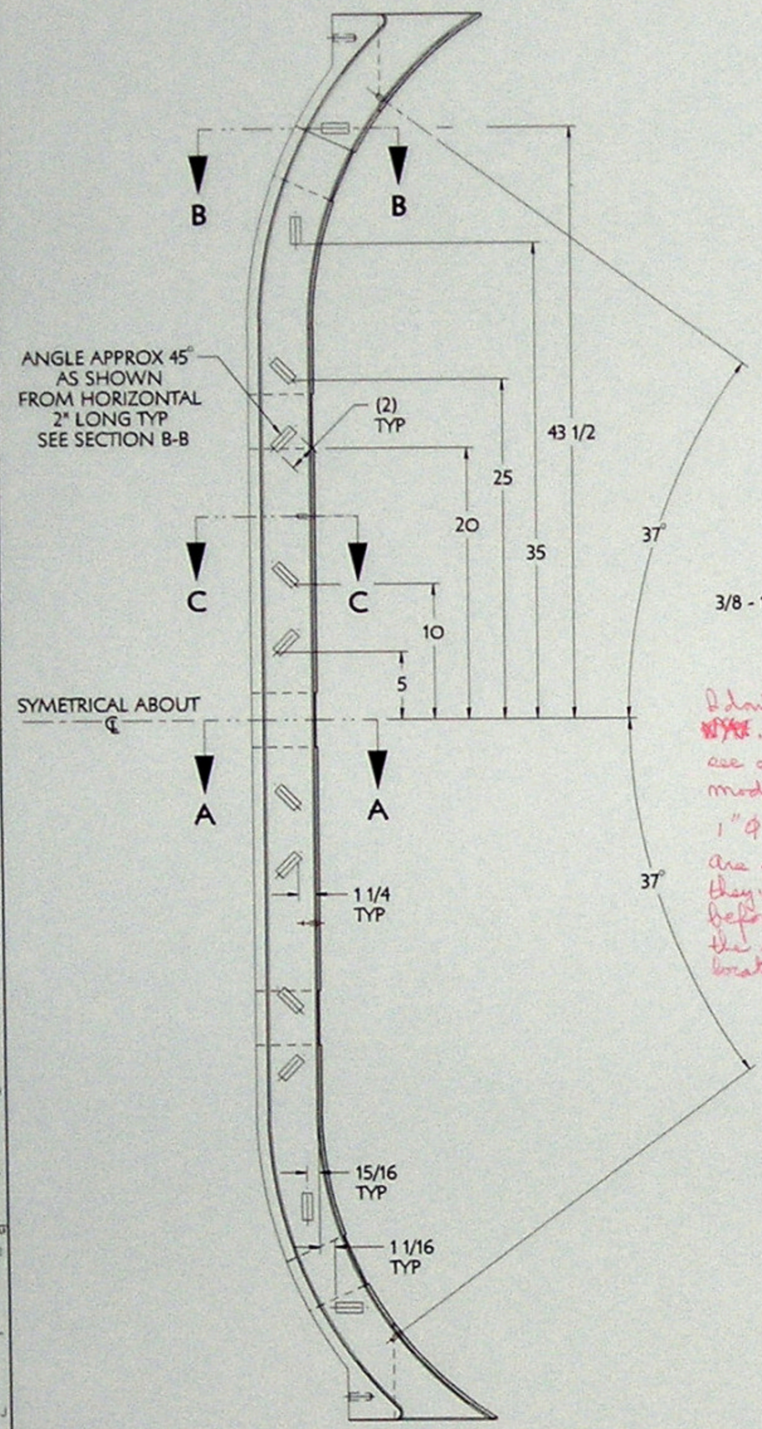
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT
FINISH	DIMENSIONS ARE IN INCHES MACHINE SURFACES	STELLARATOR CORE CONVENTIONAL COILS TF COIL WEDGE STRUCTURE DETAIL
DO NOT SCALE DRAWING OR BEARING SURFACES	BREAK SHARP EDGES .XXX/.XX	
SCALE 0.250	TOLERANCES NON-CUMULATIVE	DES: J. RUDAKOV 8/01/05 DRAWING NO. SE131-085
NEXT ASSEMBLY	DECIMAL: 1 PLACE ± .1 / 2 PLACE ± .01 / 3 PLACE ± .005 / FRACTIONS ± 1/64 / ANGULAR ± 1°	CHK: M. KALISH 8/01/05
WELDING ENGINEER		ENGR: M. KALISH 8/01/05 SHEET 1 OF 2 REV 1
WEIGHT 192.4 lbs	MODEL NAME SE131-085	SUPV: J. DIEBOLD 8/01/05

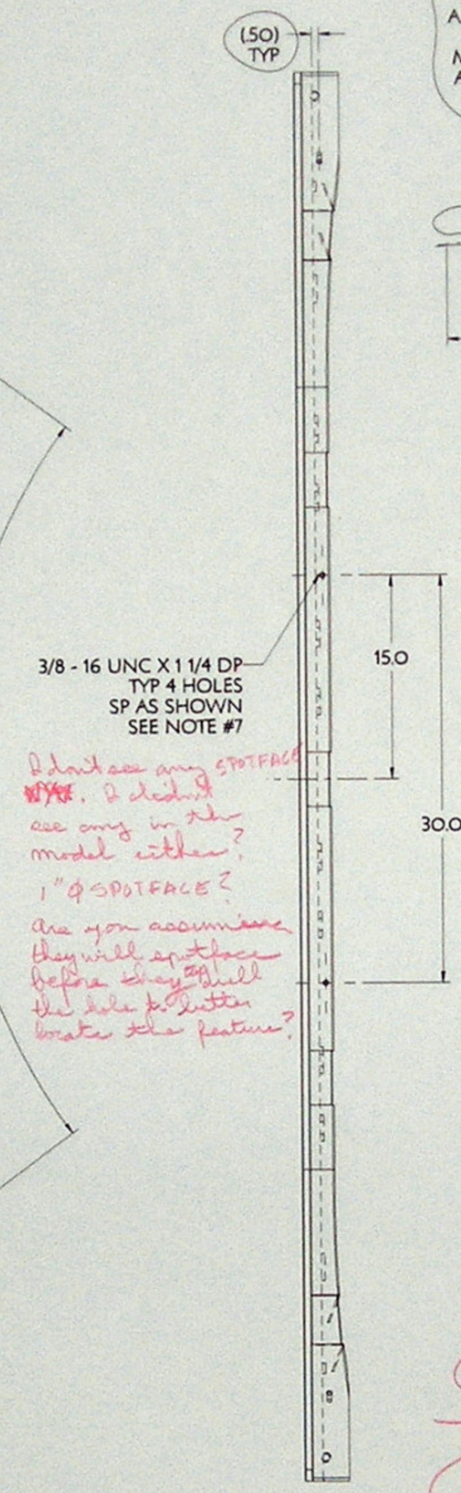
NCSX_PART_FORMAT.C

RELEASE LEVEL: WIP
DWG VERSION NO: 2

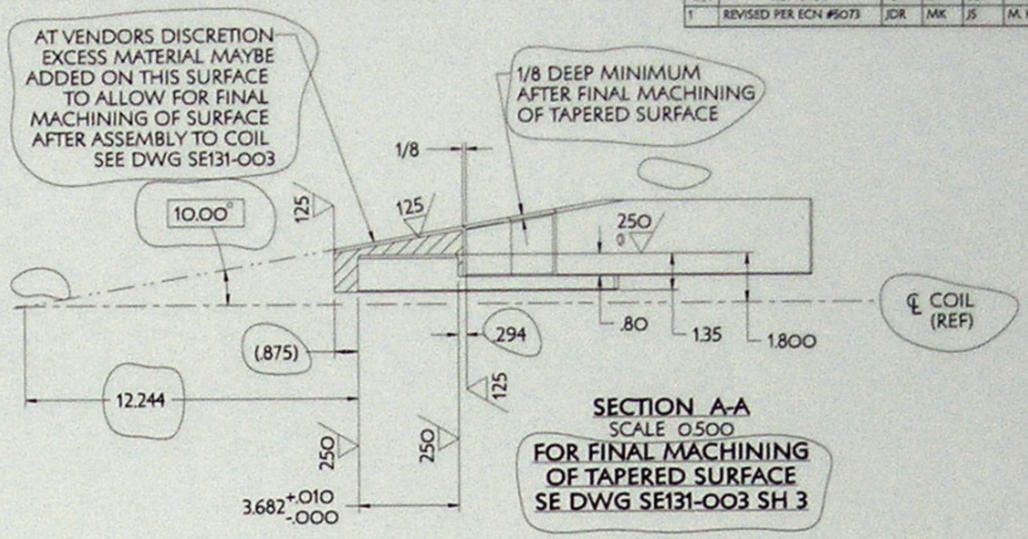
NCSX-SE131-085

NO.	REVISION	BY	CH	SUP	APPROVED	DATE
1	REVISED PER ECN #5073	JDR	MK	JS	M. KALISH	2/03/06

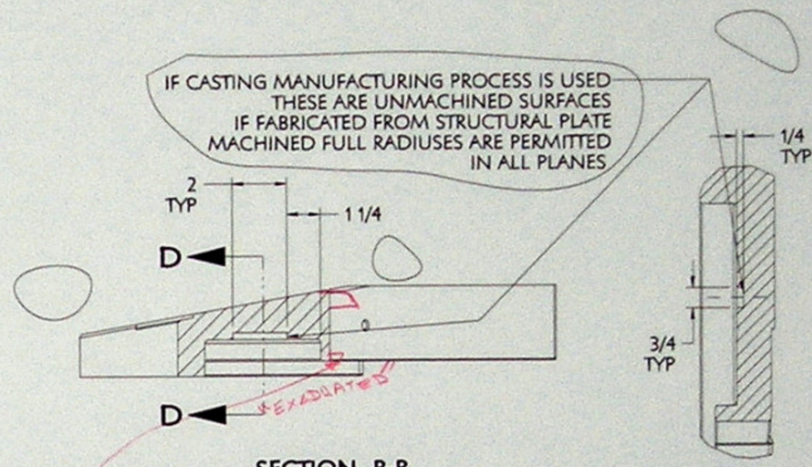




I don't see any SPOTFACE. I don't see any in the model either? 1" ⌀ SPOTFACE? Are you assuming they will spotface before they drill the hole to flutter locate the feature?



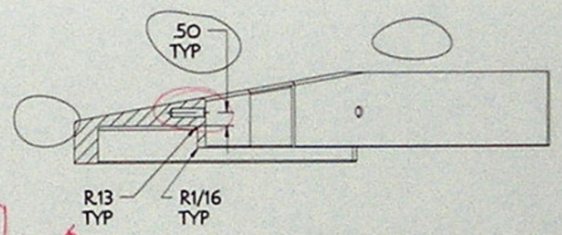
SECTION A-A
SCALE 0.500
FOR FINAL MACHINING OF TAPERED SURFACE SE DWG SE131-003 SH 3



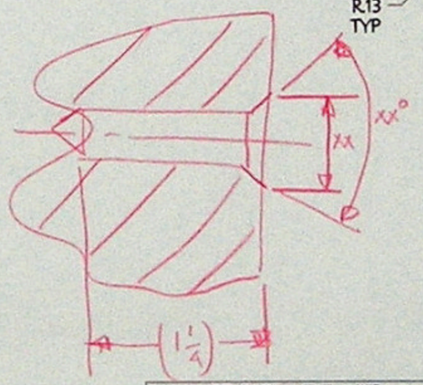
SECTION B-B
SCALE 0.500

This section and the model are a little different. A surface in the model looks like this sweeps a bit a little

SECTION D-D
SCALE 0.500



SECTION C-C
SCALE 0.500



PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQD
		PARTS LIST		

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CONTRAL FILES: UNLESS OTHERWISE SPECIFIED:	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT
Pro E	DIMENSIONS ARE IN INCHES MACHINE SURFACES	STELLARATOR CORE CONVENTIONAL COILS TF COIL WEDGE STRUCTURE DETAIL
DO NOT SCALE INFORMATION BY SCALING DRAWING	BREAK SHARP EDGES .005/.020	
SCALE 0.250 NEXT ASSEMBLY	TOLERANCES NON-CUMULATIVE	DEN: J. RUSHINSKI 8/01/05 — DRAWING NO:
	DECIMAL=INCH FRACTIONS	CHK: M. KALISH 8/01/05 — SE131-085
		ENGR: M. KALISH 8/01/05
		SUPV: J. SIEBEL 8/01/05 — SHEET 2 OF 2 — REV: 1

WEIGHT	MODEL NAME	WELDING ENGINEER
192.4 lbs	SE131-085	

RELEASE LEVEL: WIP
DWG VERSION NO: 2

NCSX_SE131-085

NCSX_PART_FORMAT_E