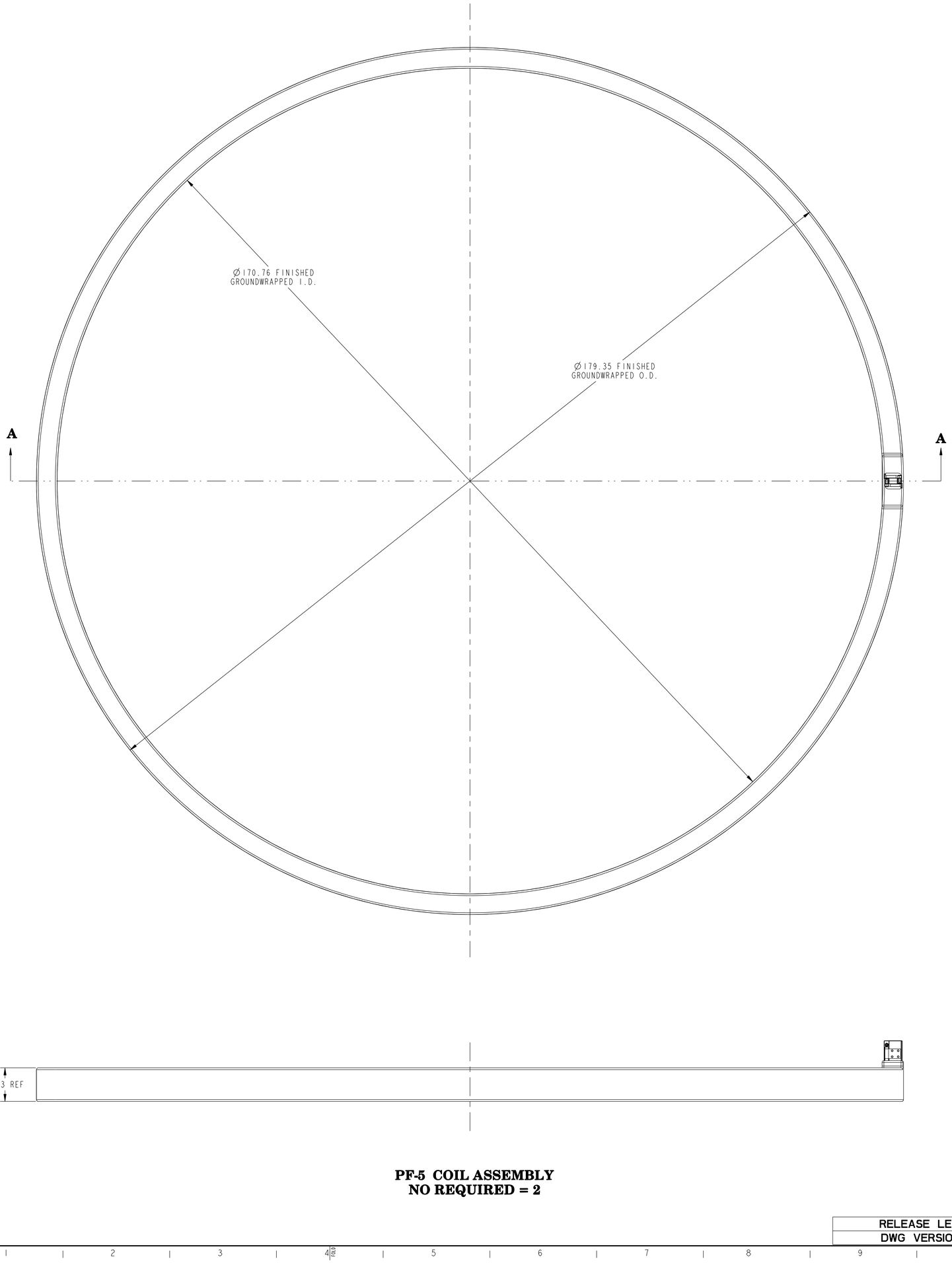
NO.	REVISION	BY	CH	SUP	APPROVED	DATE



PF-5 COIL ASSEMBLY
NO REQUIRED = 2

GENERAL NOTES:

1. TURN INSULATION (APPROX .049") THICK
   1 (1/2 LAPPED) LAYER KAPTON/ADHESIVE TAPE
   2 (1/2 LAPPED) LAYERS GLASS TAPE
   SPEC. NO. NCSX-CSPEC-132-02 FOR TURN TO TURN DETAILS

2. LONGITUDINAL SPLICING OF CONDUCTOR TO BE PREFORMED PER SPECIFICATION NO. NCSX-CSPEC-132-02 AND DRAWING SC132-039.

3. VOIDS IN COIL AREAS BETWEEN CONDUCTORS GREATER THAN 1/8" TH'K ARE TO BE FILLED WITH G-11CR SPACE FILLERS PART NO. 11, ALL OTHER AREAS LESS THAN 1/8" TO BE FILLED WITH GLASS OR GLASS EPOXY.

4. ONE LAYER OF GLASS TAPE TO BE APPLIED BETWEEN MATING G-11CR PARTS / SURFACES.

6. DIAGNOSTIC-LOOP-WIRE PART NO. 12 TO BE INSTALLED PER SECTION A-A SHOWN ON SHEET 2 & ENGINEERING INSTRUCTION PRIOR TO LAST LAYER OF GROUND WRAP.

7. FOR GROUND WRAP INSULATION AND VACUUM IMPREGNATION OF COIL SEE SPECIFICATION NO. NCSX-CSPEC-132-02

PART NO,	DRAWING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQ'D
14	COMM	EPOXY	SEE NOTE 7	AR
13	COMM	GROUND WRAP S2 GLASS .015" TH'K X 2" WIDE (3/8" TOTAL THICKNESS)	SEE NOTE 7	AR
12	DIANOSTIC-LOOP-WIRE	ARI INDUSTRIES #32-IN-C	316SS SHEATH/COND	AR
11	THIS DWG	SPACE FILLERS SIZED BY VENDOR SEE NOTE 2	G-11 CR	AR
10	THIS DWG	FLAG LEAD INSULATION BLOCK (SEE DETAIL)	G-11 CR	1
9	THIS DWG	1/8" TH'K X 1-1/2" WD X LG TO SUIT BEND TO CONFORM TO 6 OR 7	G-11 CR	1
8	THIS DWG	Ø.50 NOM PIN LG TO SUIT	G-11 CR	4
7	THIS DWG	OUTER LEAD LOCK BLOCK (SEE DETAIL)	G-11 CR	1
6	THIS DWG	INNER LEAD LOCK BLOCK (SEE DETAIL)	G-11 CR	1
5	THIS DWG	2" X 2" X 1/2" NUT PLATE (SEE DETAIL)	316SS	2
4	THIS DWG	LEAD FLAG (SEE DETAIL)	ETP110	2
3	SE131-013	COOLANT FITTING SEE DRAWING FOR DETAILS	SEE DWG	2
2	THIS DWG	.049 TURN TO TURN INSUL. SEE NOTE 1	SEE NOTE 1	AR
1	SE132-010	PF-5 CONDUCTOR APPROX. LENGTH = 1101 Ft.	SEE DWG	AR

PARTS LIST

NCSX-SE132-050

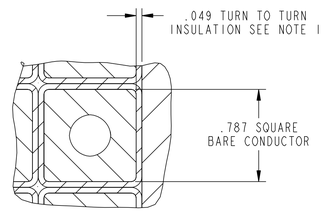
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT	
Pro E	DIMENSIONS ARE IN INCHES MACHINE SURFACES $\sqrt{}$	STELLARATOR CORE CONVENTINAL COILS PF-5 COIL WINDING ASSEMBLY / DETAILS	
DO NOT VERIFY INFORMATION BY SCALING DRAWING	BREAK SHARP EDGES .005/.020		
	TOLERANCES NON-CUMULATIVE	DSN: B.PAUL 2/12/08	DRAWING NO:
NEXT ASSEMBLY	DECIMAL-INCH: .X +/-.100, .XX +/-.030, .XXX +/-.005, ANGULAR +/-0°-15' / FRACTIONS: 0°-12° +/-1/16, 12°-72° +/-1/8, 72°-120° +/-1/4, OVER 120°+/-1/2	CHK: M.KALISH 2/12/08	SE132-050
		ENGR: J.CHRZANOWSKI 2/12/08	
		SUPV: J. SEIGEL 2/12/08	SHEET 1 OF 4 REV 0

WEIGHT	MODEL NAME	WELDING ENGINEER
3.1 lbs	SE132-039	L.DUDEK 2/12/08

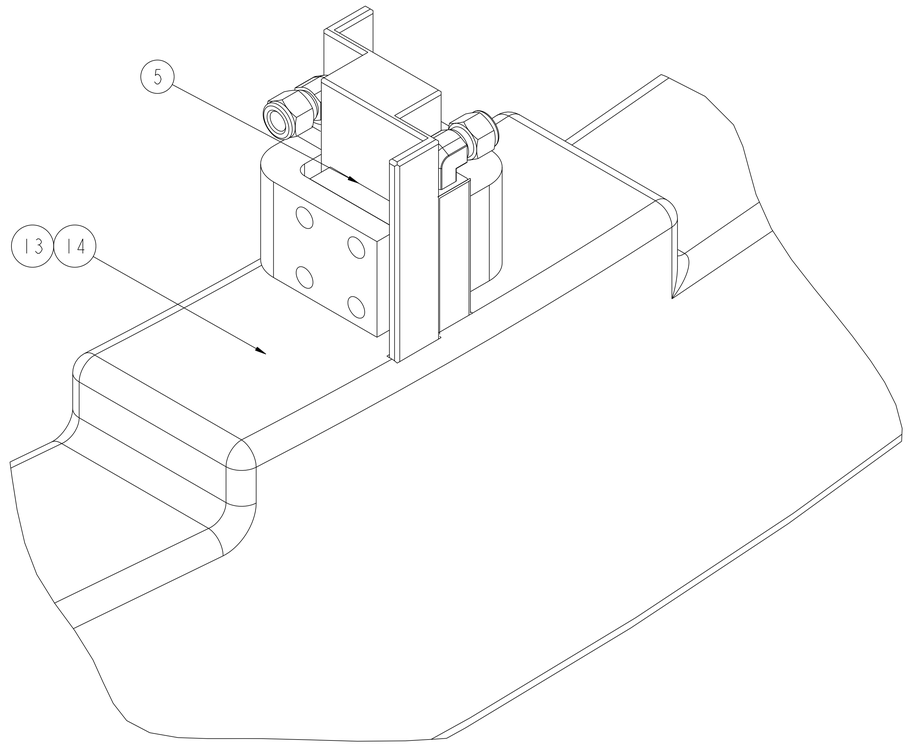
RELEASE LEVEL: WIP
DWG VERSION NO: 2

NCSX_ASSY_FORMAT_E

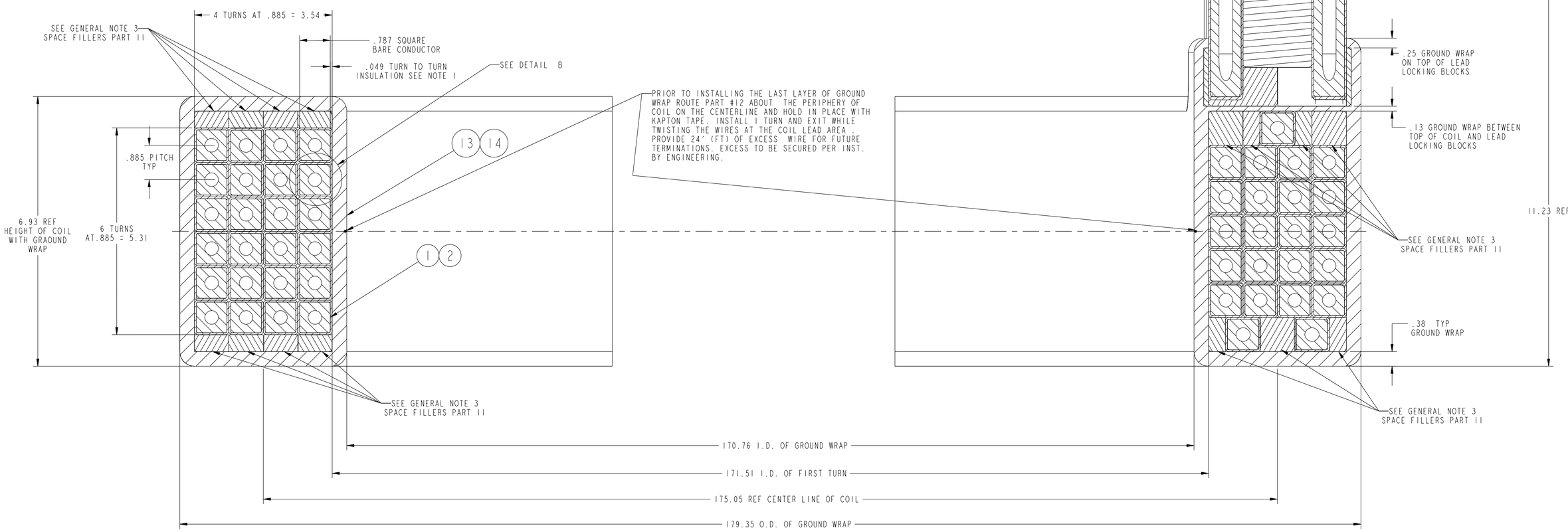
NO.	REVISION	BY	CH	SUP	APPROVED	DATE



DETAIL B
SCALE 2.000



ISOMETRIC VIEW
COMPLETED LEAD AREA



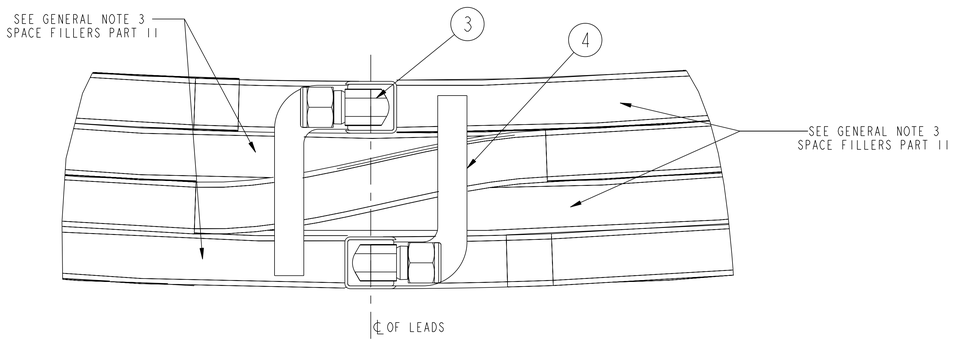
SECTION A-A

NCSX-SE132-050

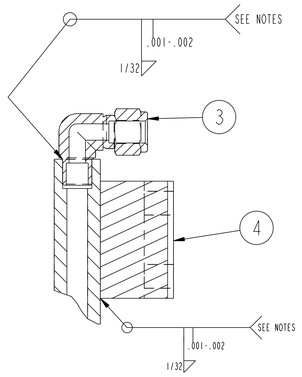
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT	
Pro E	DIMENSIONS ARE IN INCHES MACHINE SURFACES	STELLARATOR CORE CONVENTIAL COILS PF-5 COIL WINDING ASSEMBLY / DETAILS	
DO NOT VERIFY INFORMATION BY SCALING DRAWING	BREAK SHARP EDGES .005/.020		
WEIGHT 3.1 lbs	TOLERANCES NON-CUMULATIVE	DSN: B.PAUL	2/12/08
MODEL NAME SE132-039	NEXT ASSEMBLY	CHK: M. KALISH	2/12/08
WELDING ENGINEER L.DUDEK 2/12/08	DECIMAL-INCH: .X +/-.100, .XX +/-.030, .XXX +/-.005, ANGULAR +/-0°-15' / FRACTIONS: 0°-12° +/-1/16, 12°-72° +/-1/8, 72°-120° +/-1/4, OVER 120° +/-1/2	ENGR: J.CHRZANOWSKI	2/12/08
RELEASE LEVEL: WIP DWG VERSION NO: 2		SUPV: J.SEIGEL	2/12/08
		DRAWING NO: SE132-050	
		SHEET 2 OF 4	REV 0

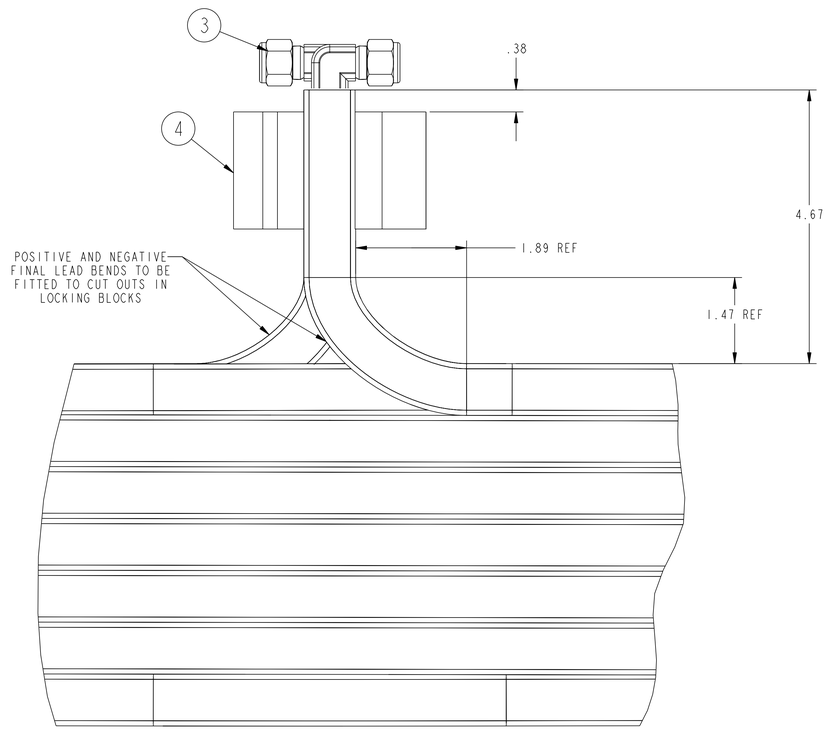
NCSX_ASSY_FORMAT_E

NO.	REVISION	BY	CH	SUP	APPROVED	DATE



PLAN VIEW

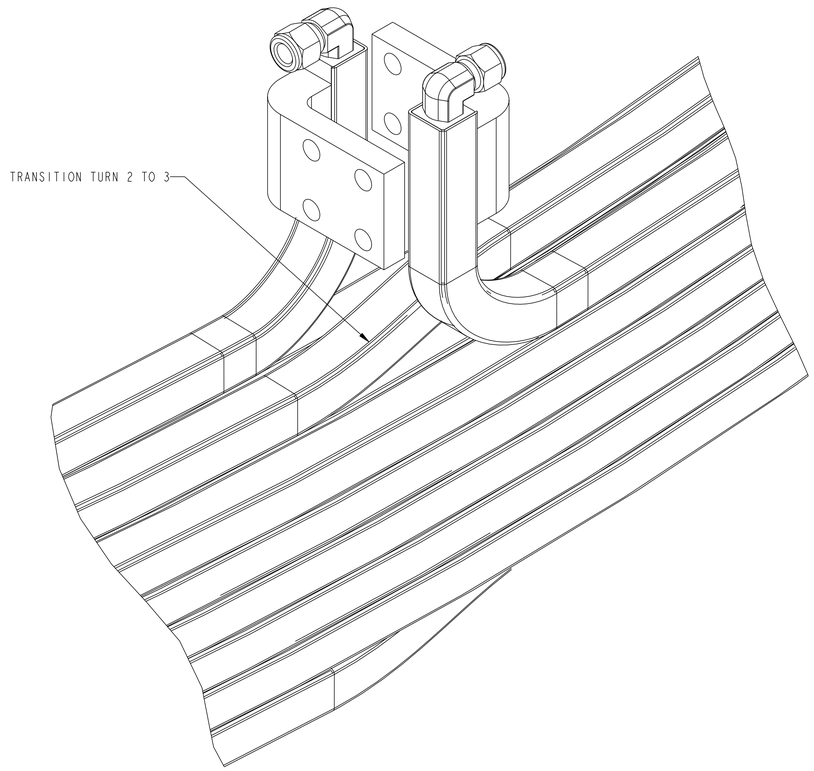




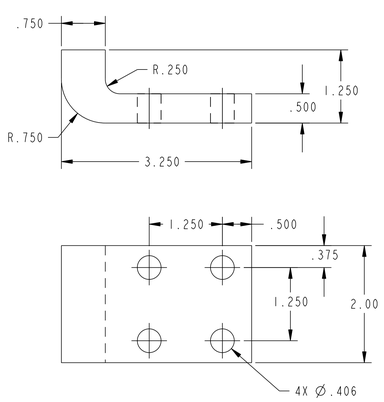
LEAD AREA ELEV. VIEW
NO GROUND WRAP SHOWN
FOR CLARITY

LEAD FLAG AND FITTING BRAZE NOTES

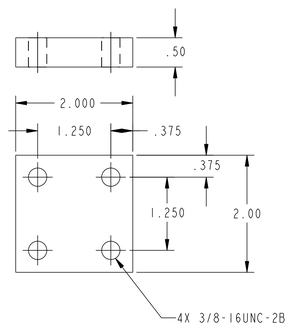
1. CLEAN THE JOINT AREAS (LEADS) WITH SCOTCH-BRITE, THEN WASH WITH ACETONE PRIOR TO INSTALLATION OF FITTINGS.
2. ASSEMBLE WITH CLEANED FITTINGS AND SIL-FOS WAFERS. SEE SPECIFICATION FOR TYPE OF SIL-FOS.
3. HEAT ASSEMBLED JOINT AREA WITH TORCH. CONTINUE TO HEAT THE AREA UNTIL THE SIL-FOS STARTS TO MELT, 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. FITTING (PART #3) TO BE BRAZED TO LEAD PRIOR TO GROUNDWRAP AND VPI.
7. SEE SPEC NO. NCSX-CSPEC-132-02 FOR QUALIFICATION AND TESTING REQUIREMENTS OF ALL BRAZE JOINTS.



ISOMETRIC VIEW
LEAD AND TRANSION AREA
NO GROUND WRAP SHOWN
FOR CLARITY



PART (4)



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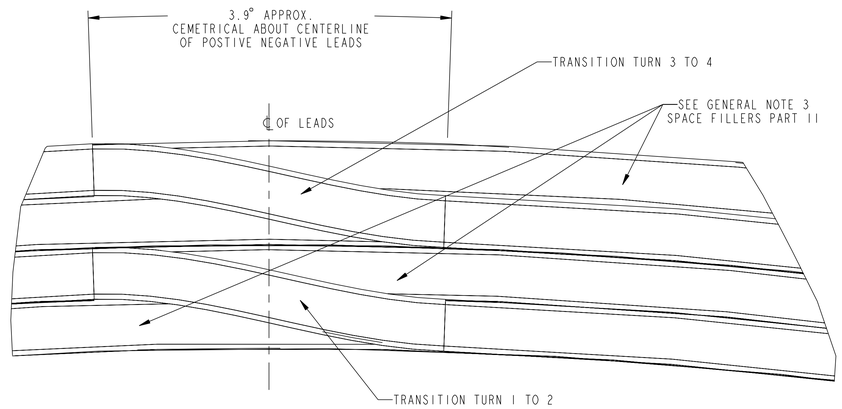

LEAD / TRANSITION AREA
BOTTOM VIEW
NO GROUND WRAP SHOWN
FOR CLARITY

RELEASE LEVEL: WIP
DWG VERSION NO: 2

WEIGHT
3.1 lbs
MODEL NAME
SE132-039
WELDING ENGINEER: L.DUDEK 2/12/08

COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED
CENTRAL FILES: UNLESS OTHERWISE SPECIFIED
Pro E
DIMENSIONS ARE IN INCHES
MACHINE SURFACES
DO NOT VERIFY INFORMATION BY SCALING DRAWING
BREAK SHARP EDGES .005/.020
TOLERANCES NON-CUMULATIVE
NEXT ASSEMBLY
DECIMAL-INCH: .X +/-.100, .XX +/-.030, .XXX +/-.005, ANGULAR +/-0°-15°
FRACTIONS: 0°-12° +/-1/16, 12°-72° +/-1/8, 72°-120° +/-1/4, OVER 120° +/-1/2

PRINCETON PLASMA PHYSICS LABORATORY
PRINCETON UNIVERSITY
NATIONAL COMPACT STELLARATOR EXPERIMENT
STELLARATOR CORE
CONVENTIAL COILS
PF-5 COIL WINDING ASSEMBLY / DETAILS

DSN: B.PAUL	2/12/08	DRAWING NO:	
CHK: M. KALISH	2/12/08	SE132-050	
ENGR: J.CHRZANOWSKI	2/12/08		
SUPV: J.SEIGEL	2/12/08	SHEET 3 OF 4	REV 0

NCSX-SE132-050

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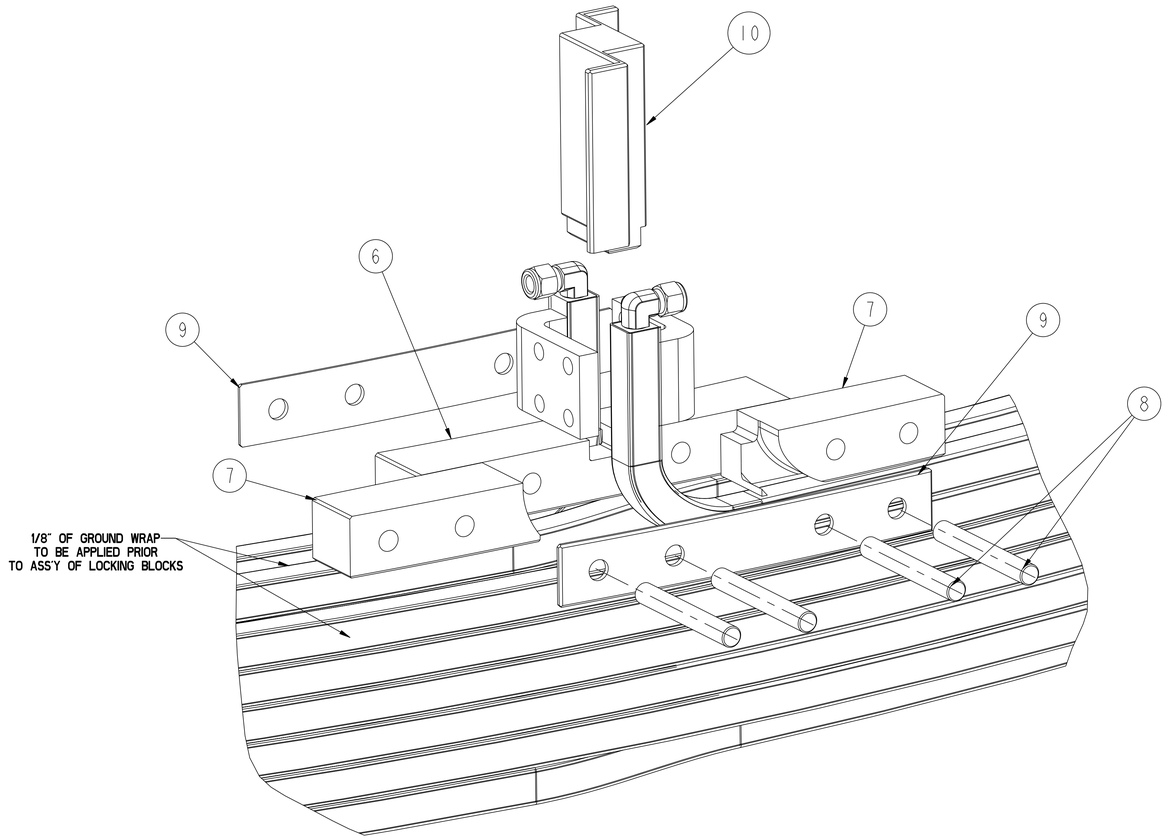
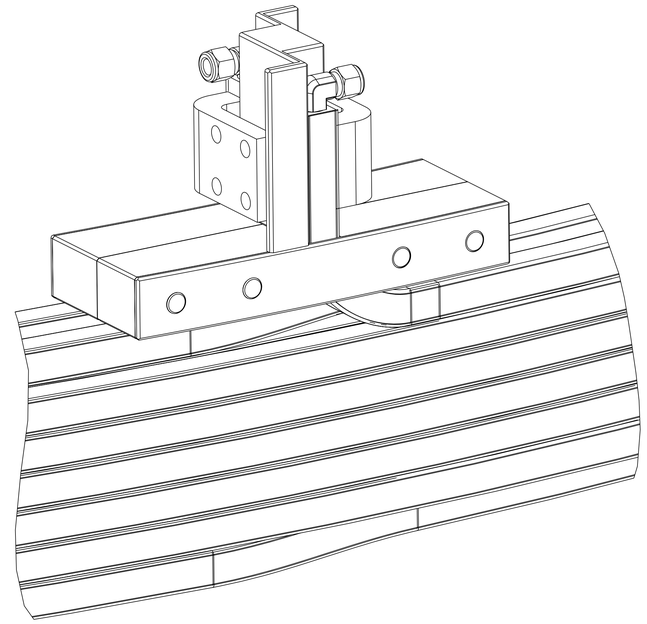
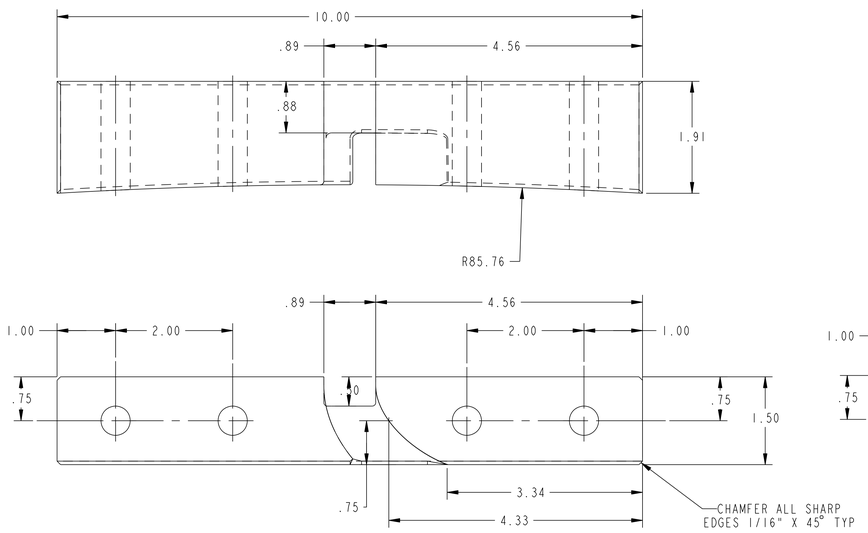
NO.	REVISION	BY	CH	SUP	APPROVED	DATE



EXPLODED VIEW OF LEAD LOCKING BLOCK ASSEMBLY NO GROUND WRAP SHOWN



VIEW OF LEAD LOCKING BLOCK ASSEMBLY NO GROUND WRAP SHOWN



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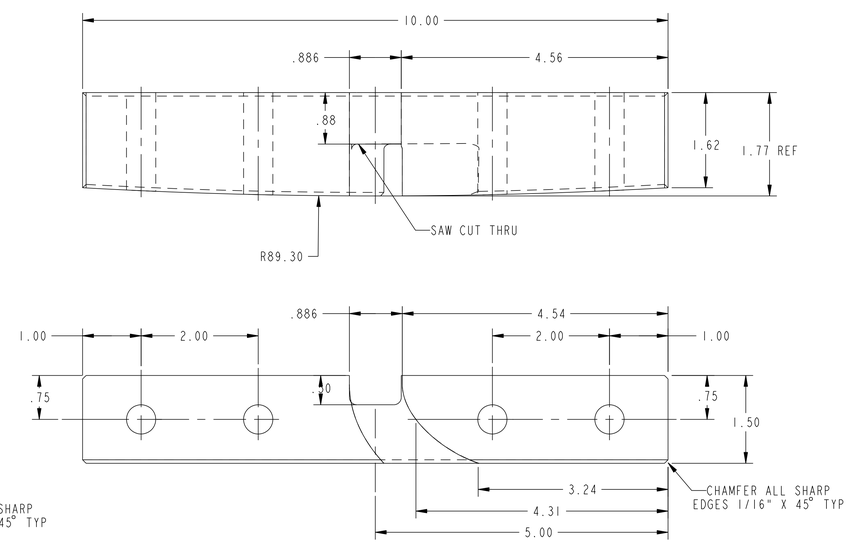
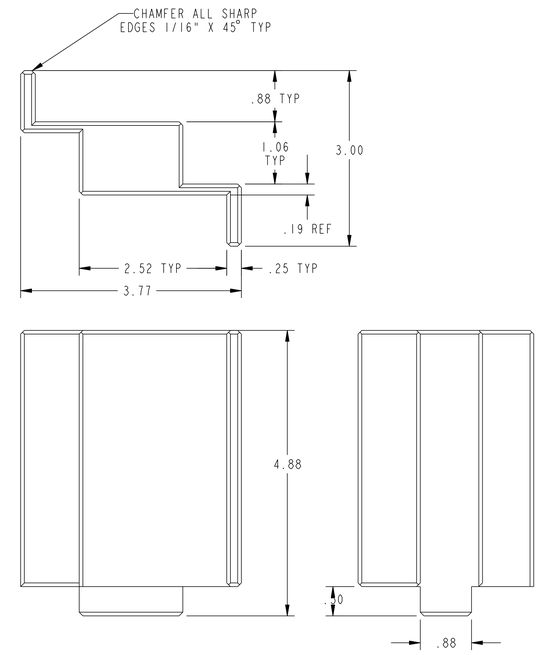


PART (7)



PART (10)

RELEASE LEVEL: WIP			
DWG VERSION NO: 0			
WEIGHT	2.9 lbs		
MODEL NAME	SE132-FITTING-4-5-6		
WELDING ENGINEER	L.DUDEK 2/12/08		

COMPUTER GENERATED DRAWING
MANUAL CHANGES NOT PERMITTED

Pro E

DO NOT VERIFY INFORMATION BY SCALING DRAWING

NEXT ASSEMBLY

CENTRAL FILES:

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
MACHINE SURFACES

BREAK SHARP EDGES .005/.020

TOLERANCES NON-CUMULATIVE

DECIMAL-INCH	FRACTIONS
.X +/-.100	0°-12° +/-1/16
.XX +/-.030	12°-72° +/-1/8
.XXX +/-.005	72°-120° +/-1/4
ANGULAR +/-0°-15'	OVER 120° +/-1/2

PRINCETON PLASMA PHYSICS LABORATORY
PRINCETON UNIVERSITY
NATIONAL COMPACT STELLARATOR EXPERIMENT

STELLARATOR CORE
CONVENTIONAL COILS
PF-5 LEAD LOCKING ASSEMBLY / DETAILS

DSN:	B.PAUL	2/12/08	DRAWING NO:
CHK:	M. KALISH	2/12/08	SE132-050
ENGR:	J.CHRZANOWSKI	2/12/08	
SUPV:	J.SEIGEL	2/12/08	SHEET 4 OF 4 REV 0

NCSX-SE132-050

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