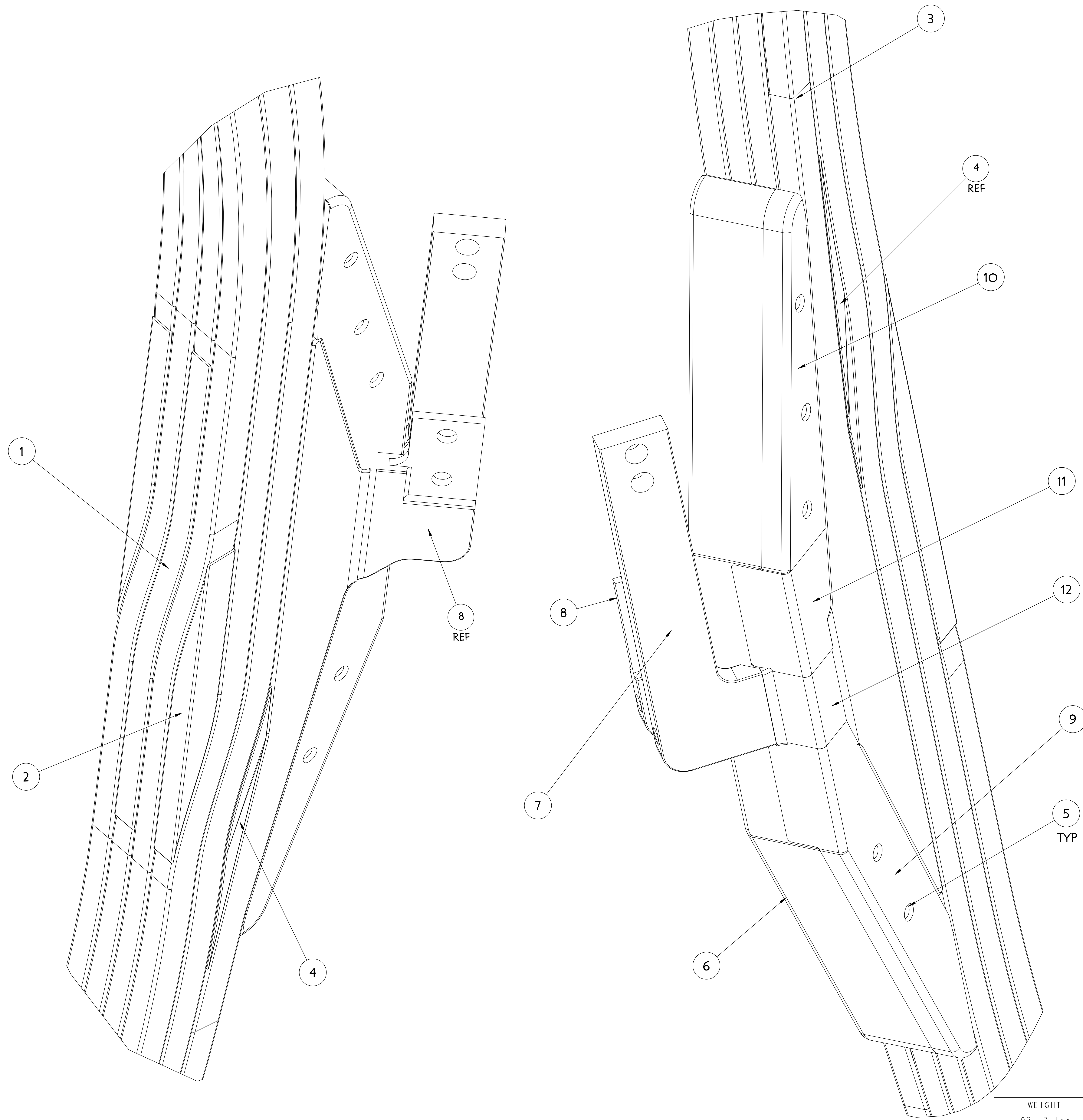


NO.	REVISION	BY	CH	SUP	APPROVED	DATE
1	REVISED PER ECN # 5103	JDR	MK	JS	M. KALISH	04/07/06
2	REVISED PER ECN # 5178	JDR	MK	JS	M. KALISH	11/15/06

- NOTE**
1. DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.100-2000.
 2. INTERPRET DIMENSIONS & TOLERANCES PER ASME Y14.5M-1994
 3. ALL DIMENSIONS SHOWN IN INCHES.



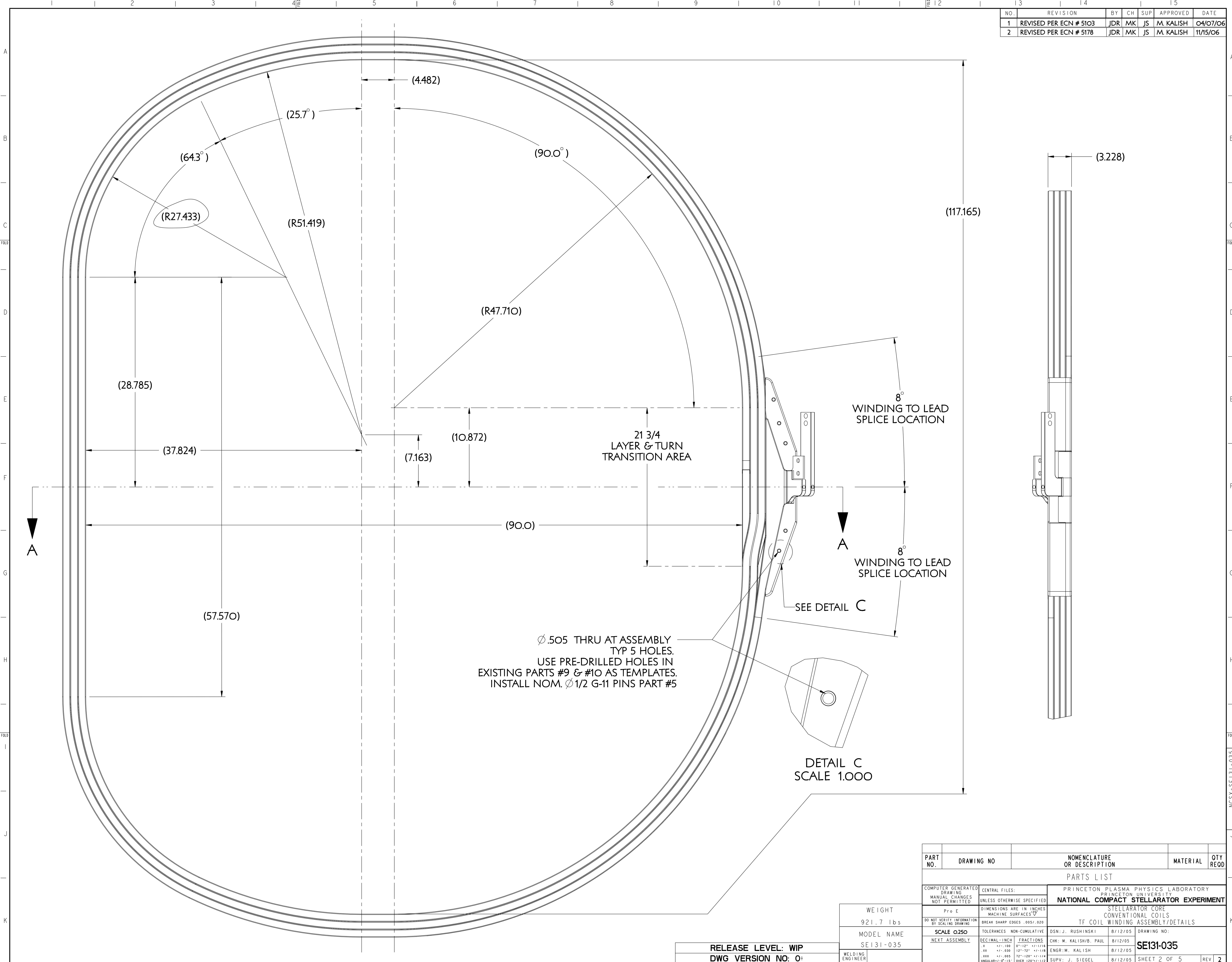
18 TF COIL ASSEMBLIES REQUIRED

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY RECD
14	SC131-014	TF COIL CONDUCTOR DETAIL	SEE SPEC	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-R2	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 7/16 OD X 5/16 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				
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED	CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY		
Pro E	DIMENSIONS ARE IN INCHES MACHINE SURFACES	NATIONAL COMPACT STELLARATOR EXPERIMENT		
DO NOT VERIFY INFORMATION BY SCALING DRAWING	BREAK SHARP EDGES .005/.020	STELLARATOR CORE CONVENTIONAL COILS TF COIL WINDING ASSEMBLY/DETAILS		
WEIGHT 921.7 lbs	TOLERANCES NON-CUMULATIVE	DSN: J. RUSHINSKI	8/12/05	DRAWING NO:
MODEL NAME SE131-035	DECIMAL-INCH FRACTIONS	CHK: M. KALISH/B. PAUL	8/12/05	SE131-035
RELEASE LEVEL: DWG VERSION NO:	SCALE 1:100	ENGR: M. KALISH	8/12/05	SHEET 1 OF 5
	WELDING ENGINEER	SUPV: J. SIEGEL	8/12/05	REV 2

NCSX-SE131-035

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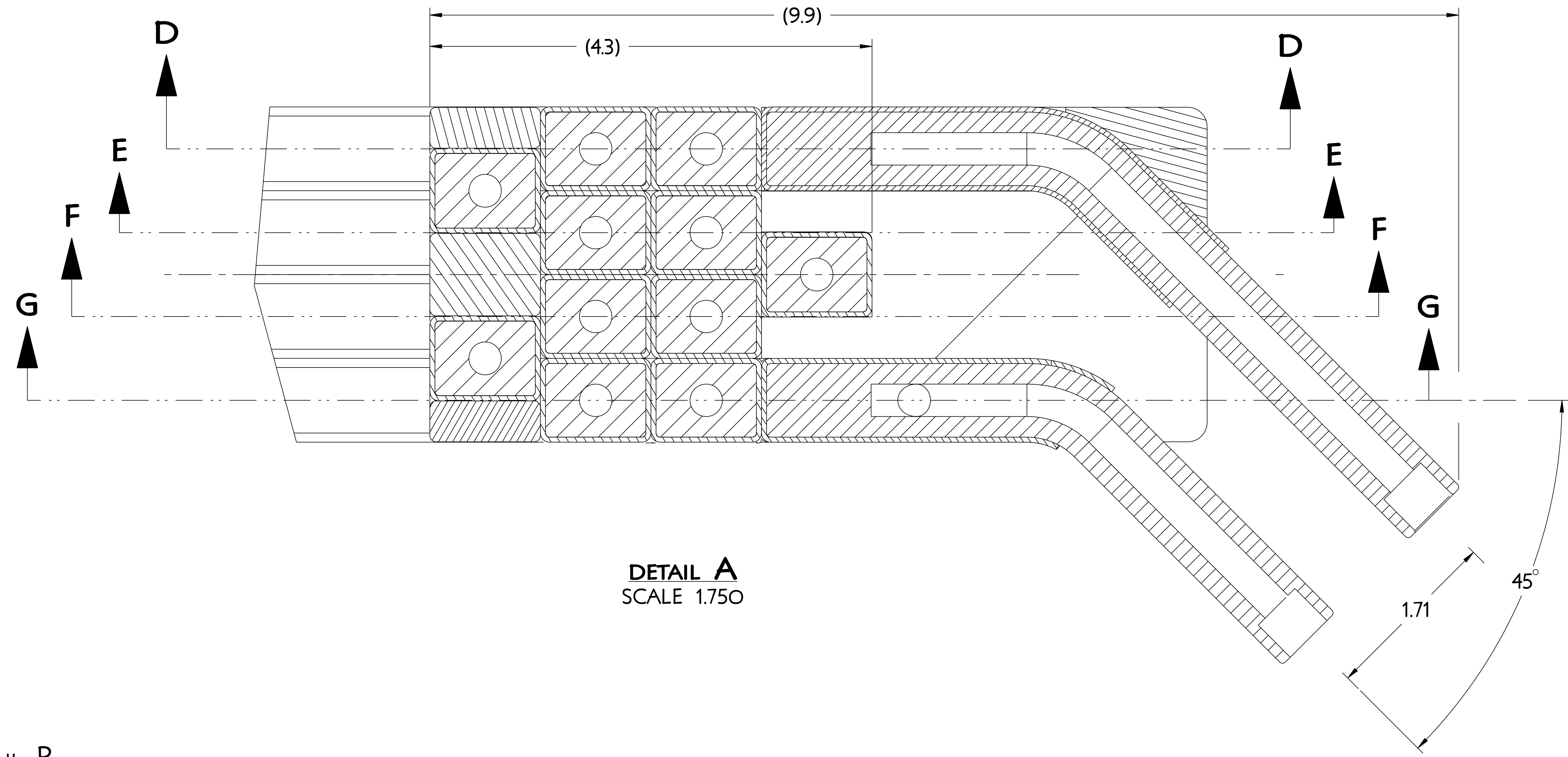
Ø.505 THRU AT ASSEMBLY
TYP 5 HOLES.
USE PRE-DRILLED HOLES IN
EXISTING PARTS #9 & #10 AS TEMPLATES.
INSTALL NOM. Ø1/2 G-11 PINS PART #5

DETAIL C
SCALE 1.000

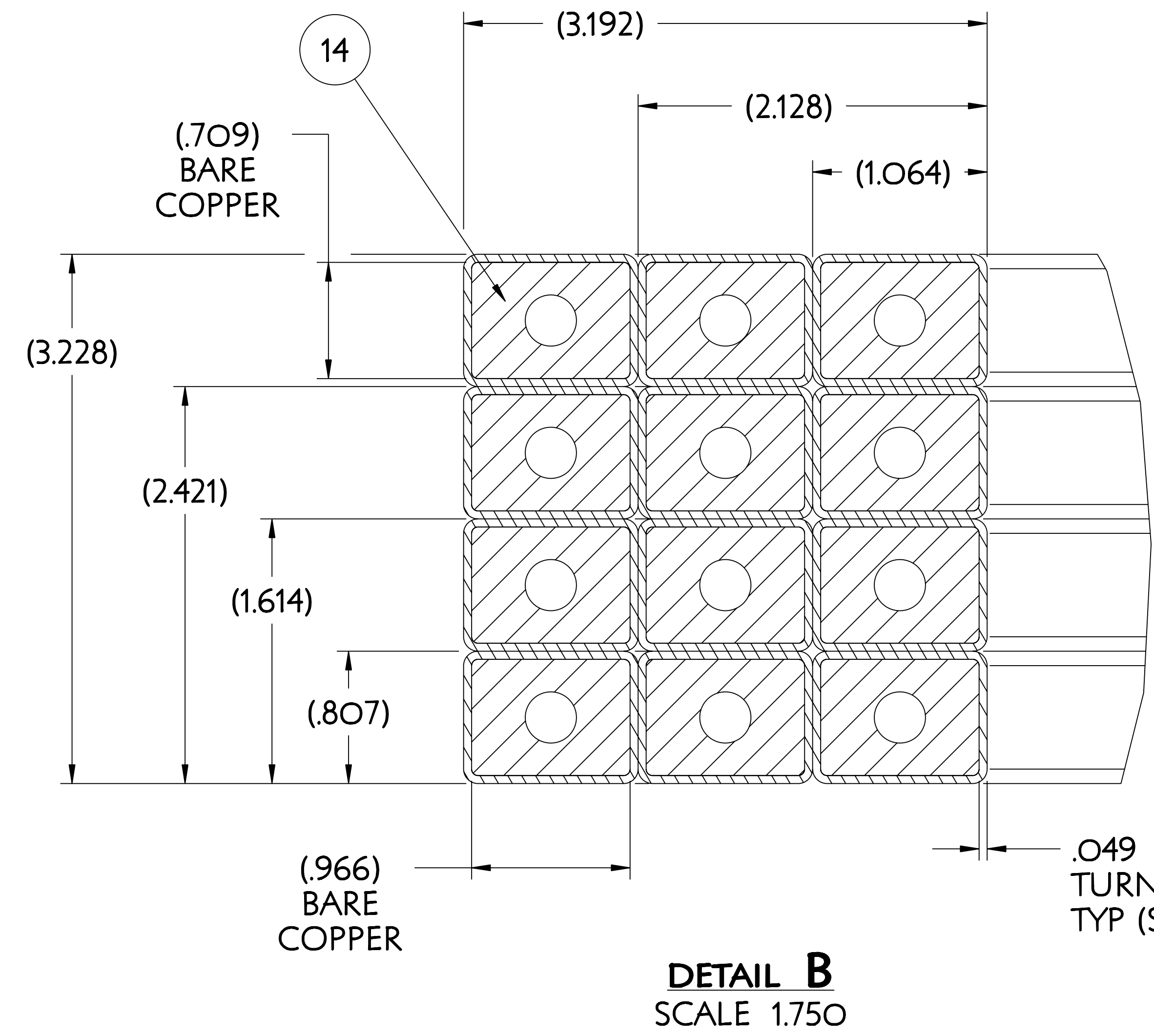
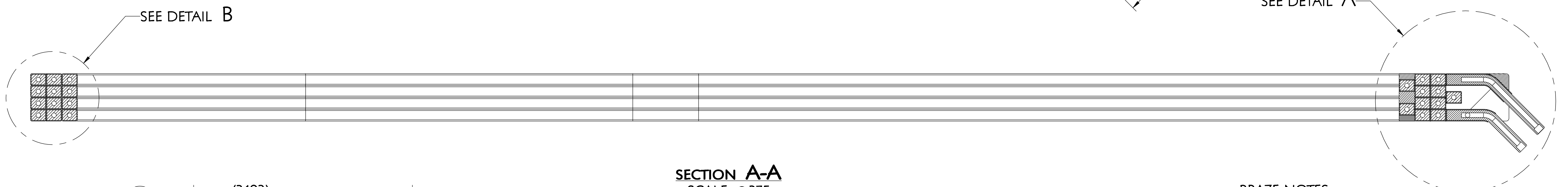
PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	REOD
PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED Pro E		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY		
DO NOT VERIFY INFORMATION BY SCALING DRAWING		DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	NATIONAL COMPACT STELLARATOR EXPERIMENT		
SCALE 0.250		TOLERANCES NON-CUMULATIVE	STELLARATOR CORE CONVENTIONAL COILS TF COIL WINDING ASSEMBLY/DETAILS		
NEXT ASSEMBLY		DECIMAL-INCH FRACTIONS .X ±.010 0°-120° ±.125 .XX ±.030 12°-120° ±.125 .XXX ±.005 72°-120° ±.125 ANGULAR ±.0°-15° OVER 120° ±.125	DSN: J. RUSHINSKI 8/12/05	DRAWING NO:	
RELEASE LEVEL: WIP DWG VERSION NO: 0		ENGR: M. KALISH 8/12/05	SEI31-035		
WELDING ENGINEER		SUPV: J. SIEGEL 8/12/05	SHEET 2 OF 5		REV 2

NCSX-SE131-035

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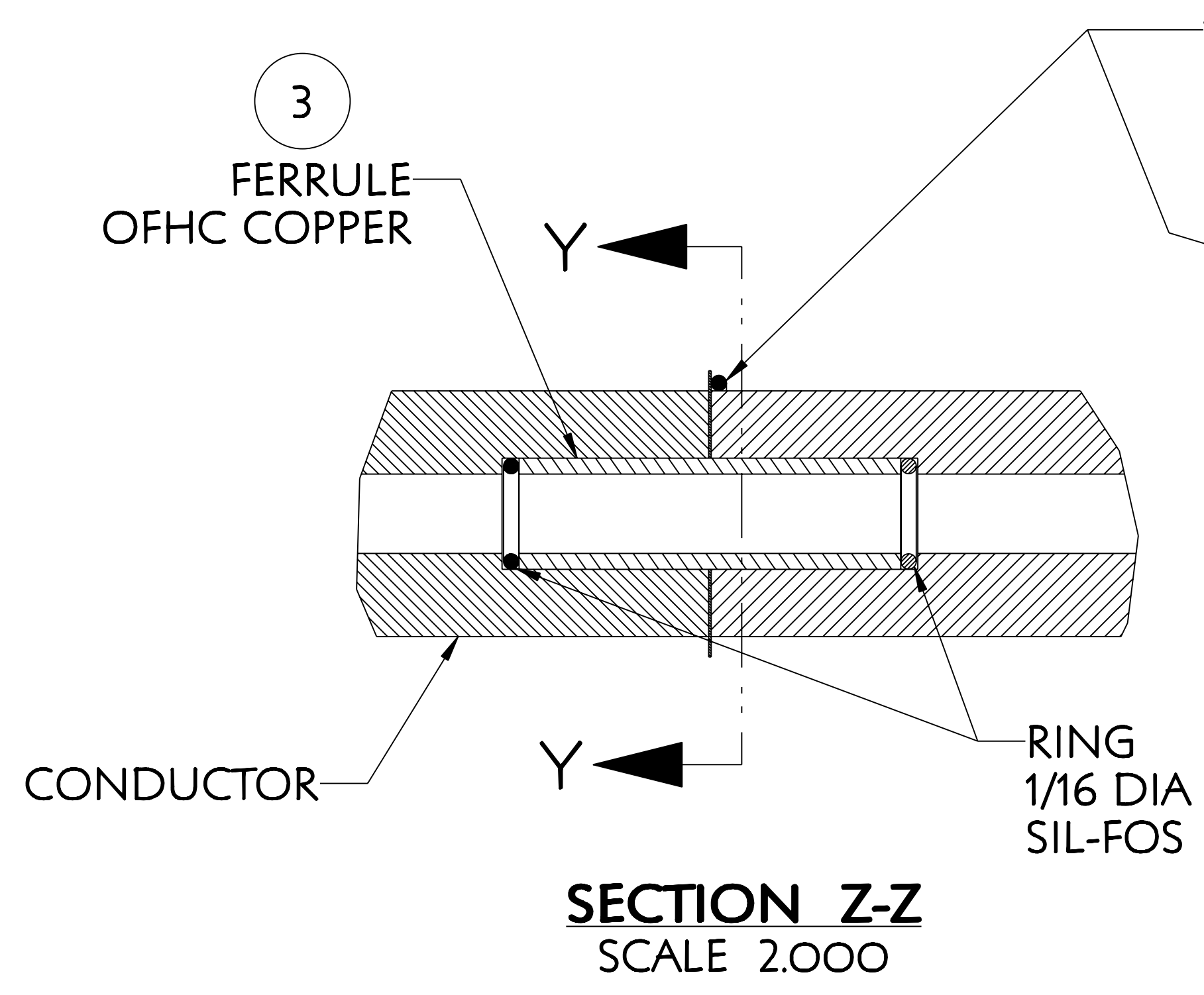


DETAIL A
SCALE 1.750

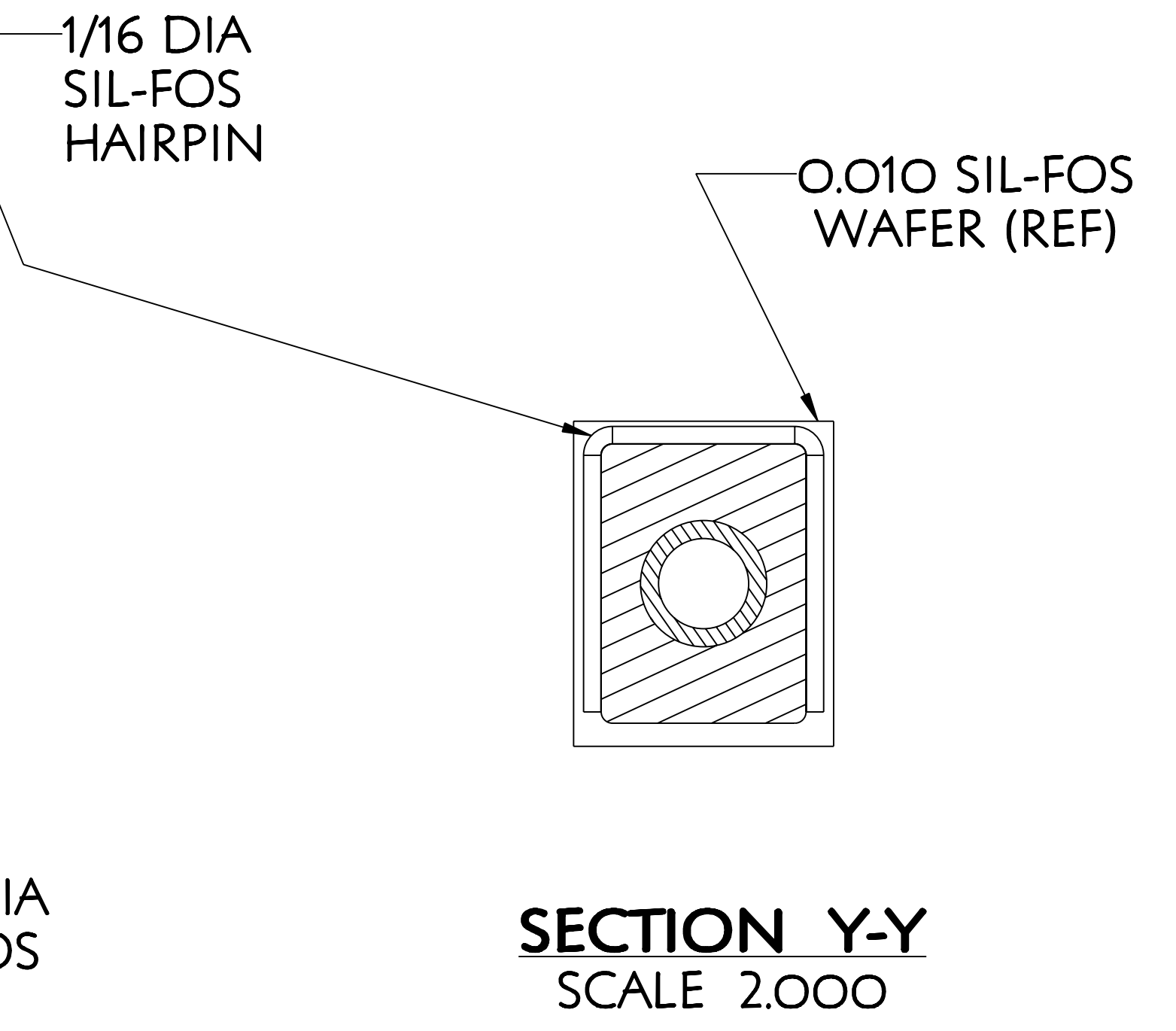


DETAIL B
SCALE 1.750

SECTION A-A
SCALE 0.375



SECTION Z-Z
SCALE 2.000



SECTION Y-Y
SCALE 2.000

BRAZE NOTES

THE BRAZE JOINT SHALL CONSIST OF AN 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 COUNTERBORED CONDUCTOR INNER DIAMETER.

SEE SPECIFICATION NCSX-CSPEC-131-01-000 FOR FURTHER BRAZE DETAILS AND REQUIRED QUALIFICATIONS.

BRAZE JOINTS SHALL BE VISUALLY EXAMINED FOR COMPLETE FILLING 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.

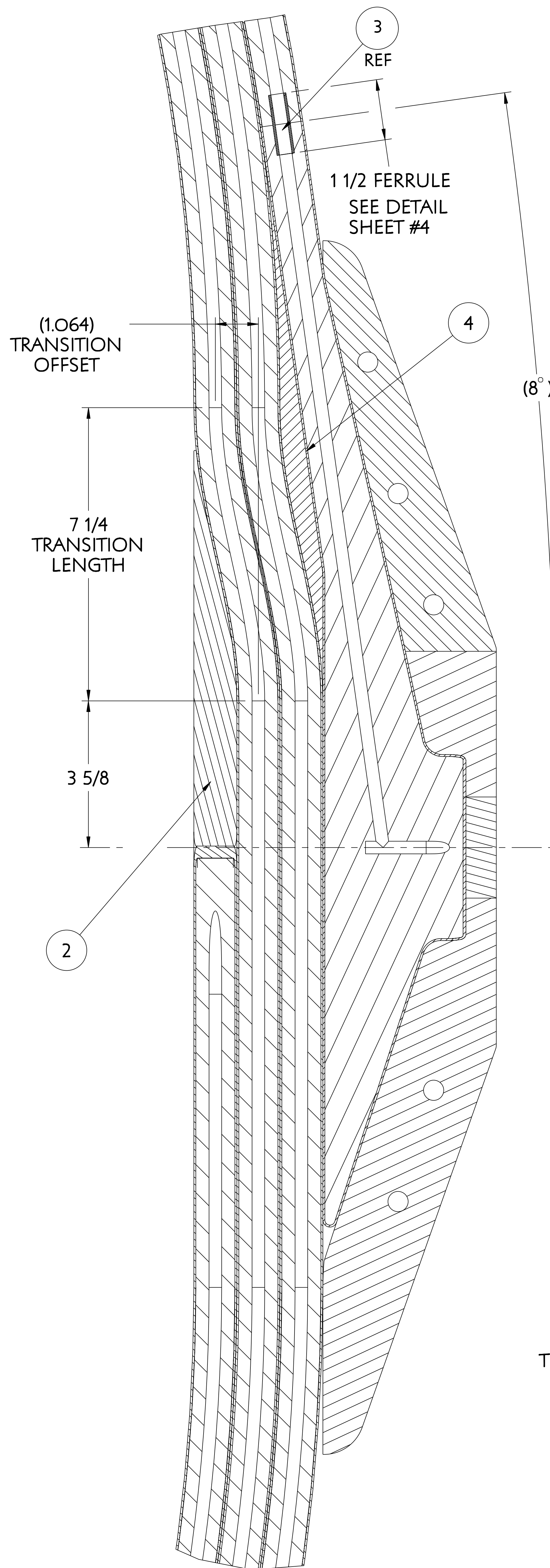
RELEASE LEVEL: WIP
 DWG VERSION NO: 0

WEIGHT	921.7 lbs
MODEL NAME	SE131-035
WELDING ENGINEER	

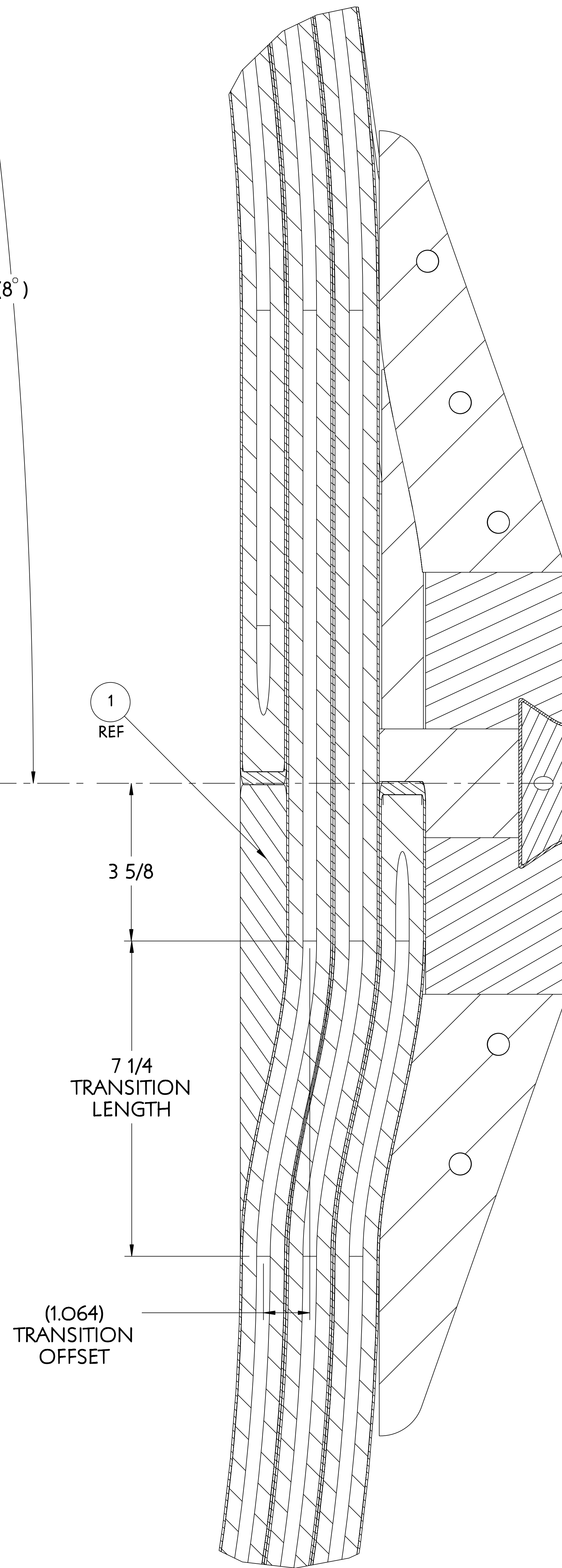
PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD
PARTS LIST					
COMPUTER GENERATED DRAWING		PRINCETON PLASMA PHYSICS LABORATORY			
MANUAL CHANGES NOT PERMITTED		NATIONAL COMPACT STELLARATOR EXPERIMENT			
Pro E		STELLARATOR CORE CONVENTIONAL COILS			
DO NOT VERIFY INFORMATION BY SCALING DRAWING		TF COIL WINDING ASSEMBLY/DETAILS			
NEXT ASSEMBLY		TOLERANCES NON-CUMULATIVE		DSN: J. RUSHINSKI 8/12/05 DRAWING NO:	
		DECIMAL-INCH FRACTIONS		CHK: M. KALISH/B. PAUL 8/12/05	
		.XX +/- .000		ENG: M. KALISH 8/12/05	
		.XXX +/- .005		SUPV: J. SIEGEL 8/12/05	
		ANGULAR +/- .015		SHEET 3 OF 5	
				REV 2	

NCSX-SE131-035

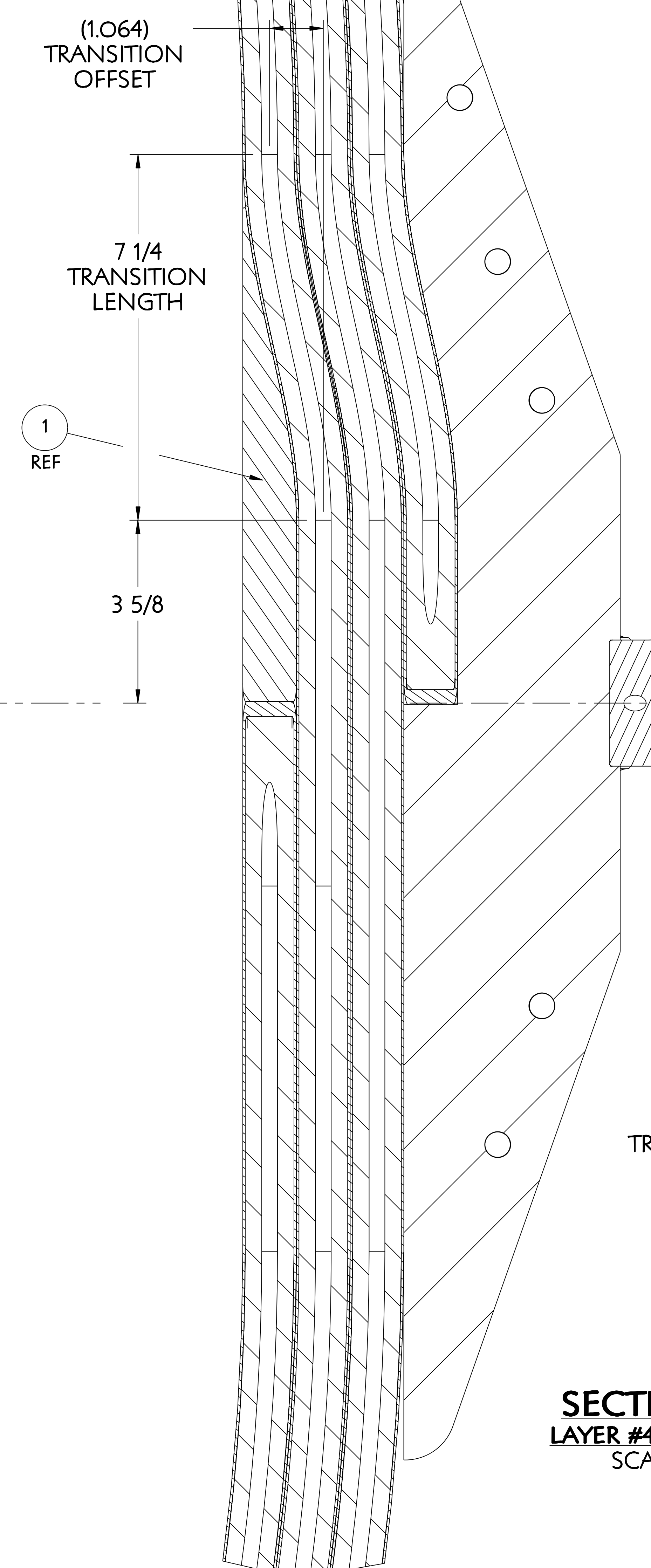
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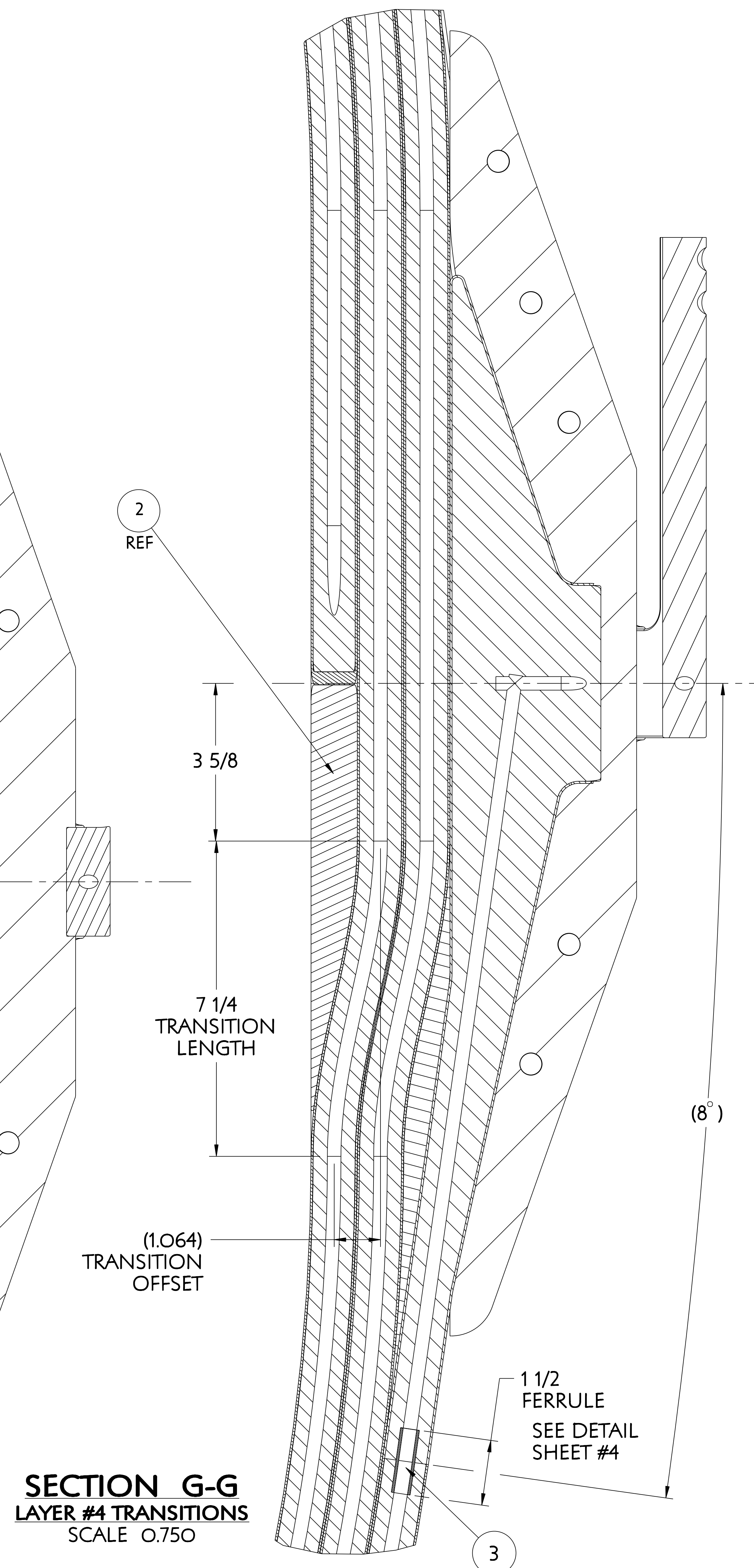
SECTION D-D
LAYER #1 TURN TRANSITIONS
SCALE 0.750



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

RELEASE LEVEL: WIP
DWG VERSION NO: 0

WEIGHT	921.7 lbs
MODEL NAME	SEI31-035
WELDING ENGINEER	

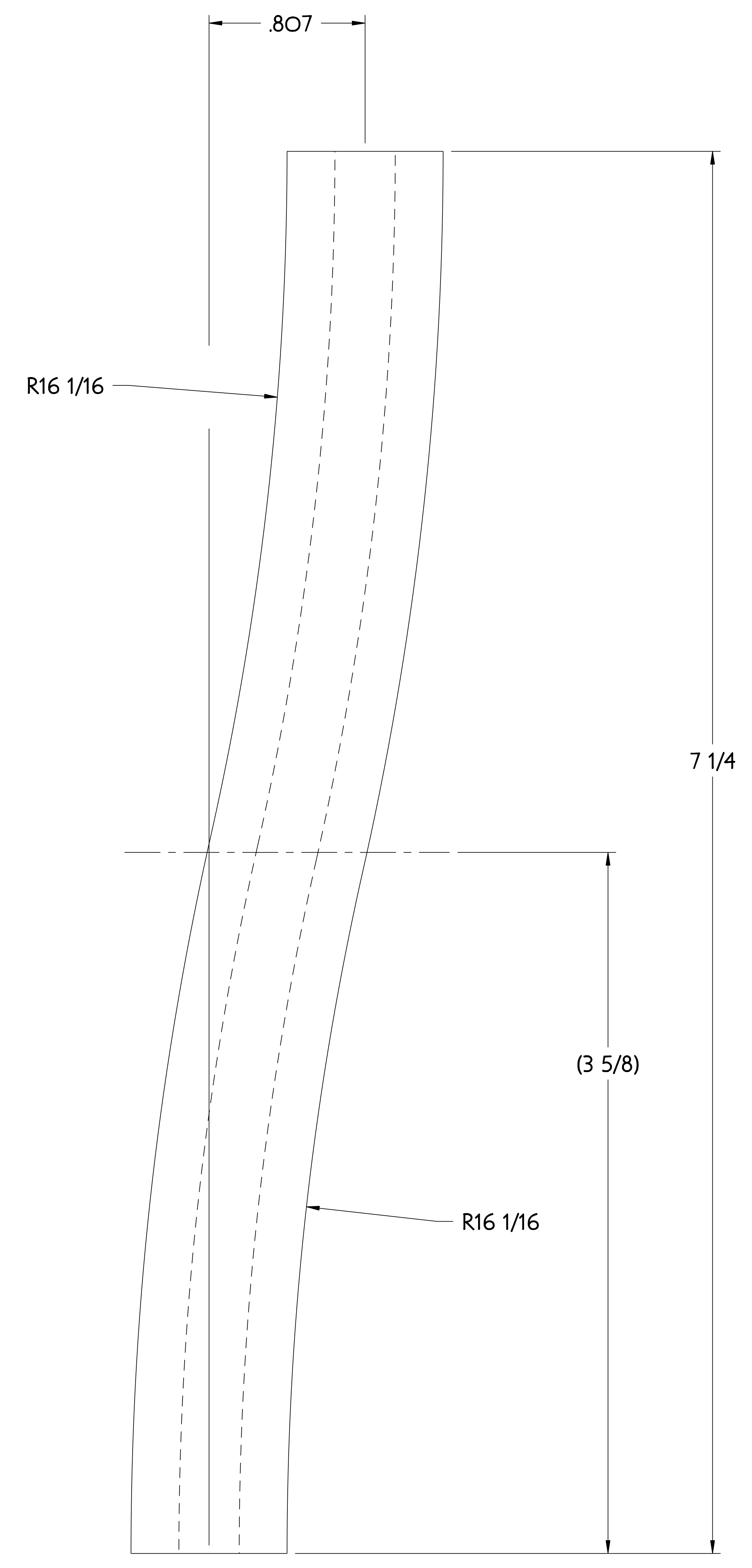
PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD
PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED		PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT			
DO NOT VERIFY INFORMATION BY SCALING DRAWING		STELLARATOR CORE CONVENTIONAL COILS TF COIL WINDING ASSEMBLY/DETAILS			
NEXT ASSEMBLY		TOLERANCES NON-CUMULATIVE		DRAWING NO:	
		DECIMAL-INCH FRACTIONS		SEI31-035	
		BREAK SHARP EDGES .005/.020		SHEET 4 OF 5	
		DGN: J. RUSHINSKI 8/12/05		REV 2	
		CHK: M. KALISH/B. PAUL 8/12/05			
		ENGR: M. KALISH 8/12/05			
		SUPV: J. SIEGEL 8/12/05			

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TYP TURN TO TURN TRANSITION
SCALE 3.000



TYP LAYER TO LAYER TRANSITION
SCALE 3.000

RELEASE LEVEL: WIP
DWG VERSION NO: 0

WEIGHT
MODEL NAME
SEI31-035
WELDING
ENGINEER

PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY RECD
PARTS LIST				
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY	
DO NOT VERIFY INFORMATION BY SCALING DRAWING		DIMENSIONS ARE IN INCHES MACHINE SURFACES UNLESS OTHERWISE SPECIFIED BREAK SHARP EDGES .005/.020	NATIONAL COMPACT STELLARATOR EXPERIMENT STELLARATOR CORE CONVENTIONAL COILS TF COIL WINDING ASSEMBLY/DETAILS	
NEXT ASSEMBLY		TOLERANCES NON-CUMULATIVE DECIMAL-INCH FRACTIONS .XX ±.000 .XXX ±.005 ANGULAR ±.0°-15'	DSN: J. RUSHINSKI CHK: M. KALISH/B. PAUL ENGR: M. KALISH SUPV: J. SIEGEL	8/12/05 8/12/05 8/12/05 8/12/05
			DRAWING NO: SEI31-035	REV 2
			SHEET 5 OF 5	REV 2

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