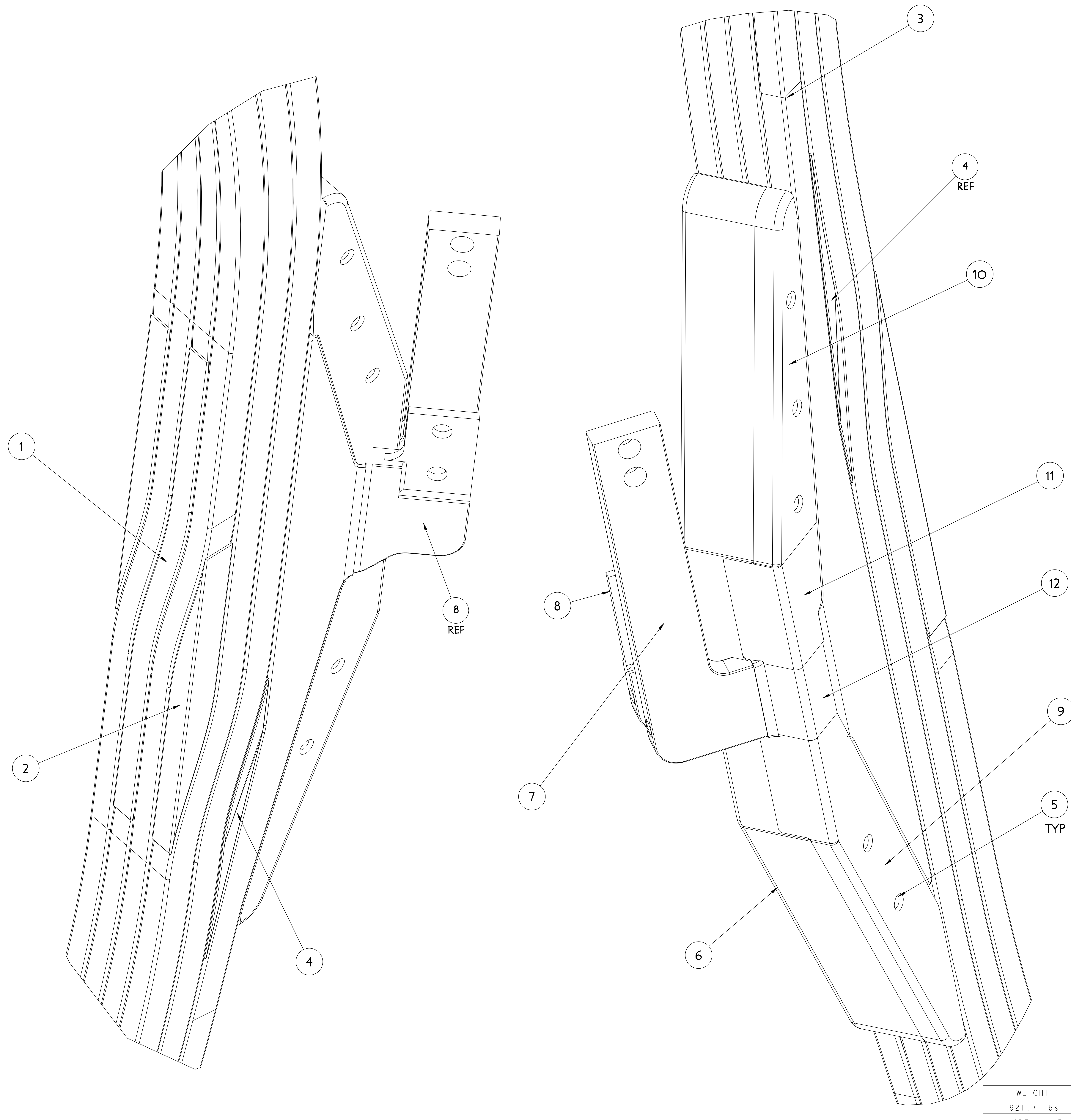


NO.	REVISION	BY	CH	SUP	APPROVED	DATE
1	REVISED PER ECN # 5103	JDR	MK	JS	M. KALISH	04/07/06
2	REVISED PER ECN # 5178	JDR	MK	JS	M. KALISH	12/04/06

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.



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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	

COMPUTER GENERATED DRAWING		CENTRAL FILES:		PRINCETON PLASMA PHYSICS LABORATORY	
MANUAL CHANGES NOT PERMITTED	Pro E	UNLESS OTHERWISE SPECIFIED	PRINCETON UNIVERSITY		
DO NOT VERIFY INFORMATION BY SCALING DRAWING		DIMENSIONS ARE IN INCHES MACHINE SURFACES UNLESS OTHERWISE SPECIFIED	NATIONAL COMPACT STELLARATOR EXPERIMENT		
		TOLERANCES NON-CUMULATIVE	STELLARATOR CORE CONVENTIONAL COILS		
		DECIMAL-INCH FRACTIONS	TF COIL WINDING ASSEMBLY/DETAILS		
		XX +/- .000 0"-.125" +/- .010 XXX +/- .005 .125"-.250" +/- .010 ANGULAR +/- .05 OVER .125" +/- .125	DSN: J. RUSHINSKI 8/12/05	DRAWING NO:	
			CHK: M. KALISH/B. PAUL 8/12/05	SE131-035	
			ENGR: M. KALISH 8/12/05		
			SUPV: J. SIEGEL 8/12/05	SHEET 1 OF 5	REV 2

RELEASE LEVEL:
DWG VERSION NO:

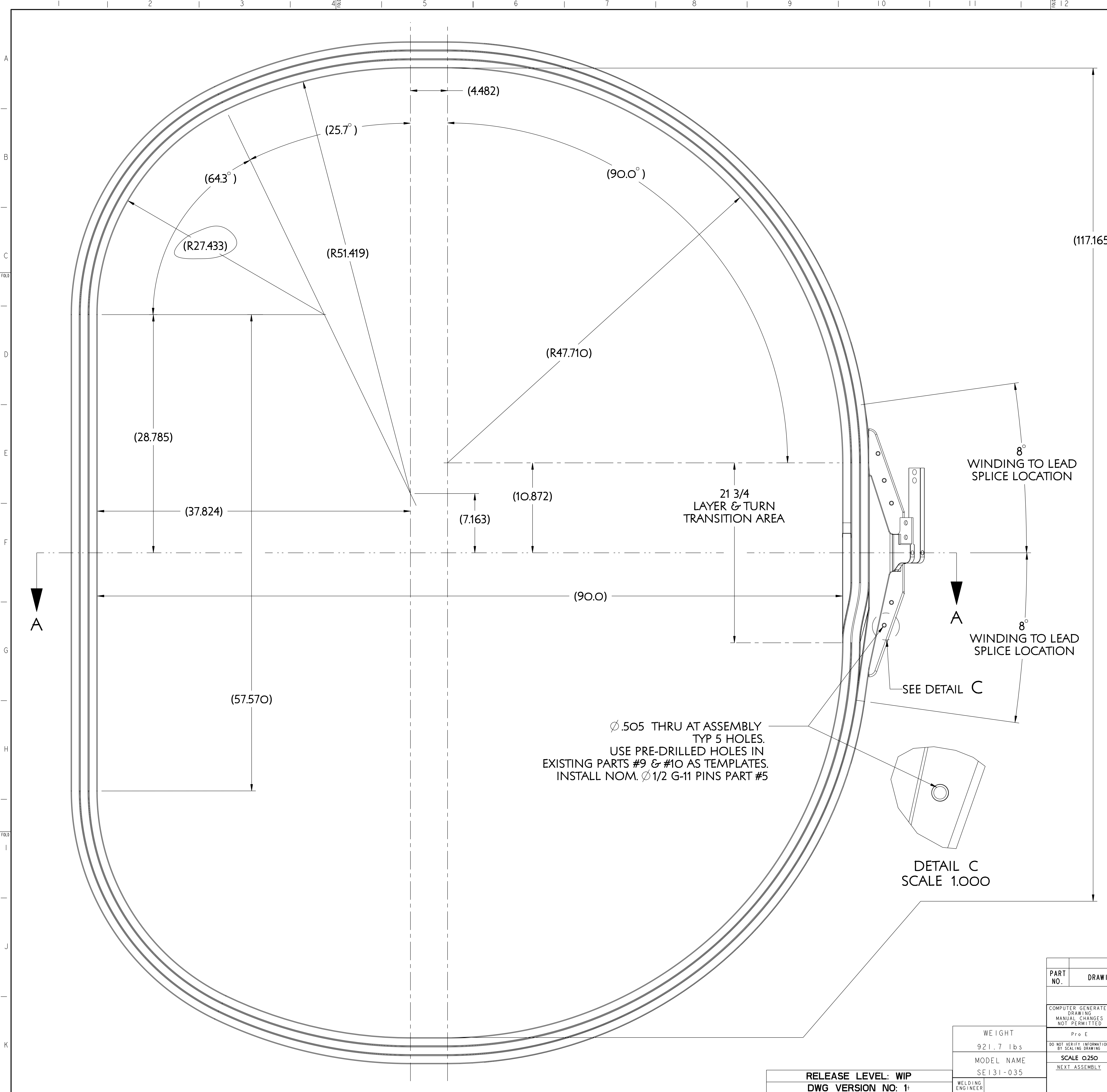
WEIGHT
921.7 lbs

MODEL NAME
SE131-035

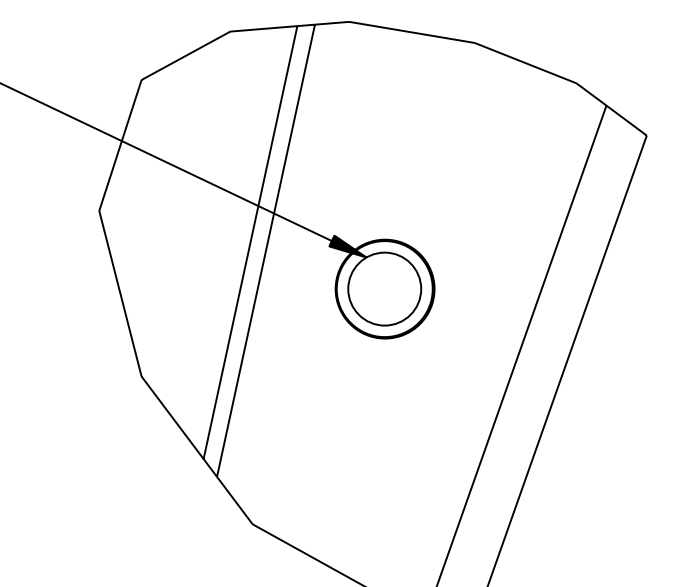
SCALE
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WELDING ENGINEER

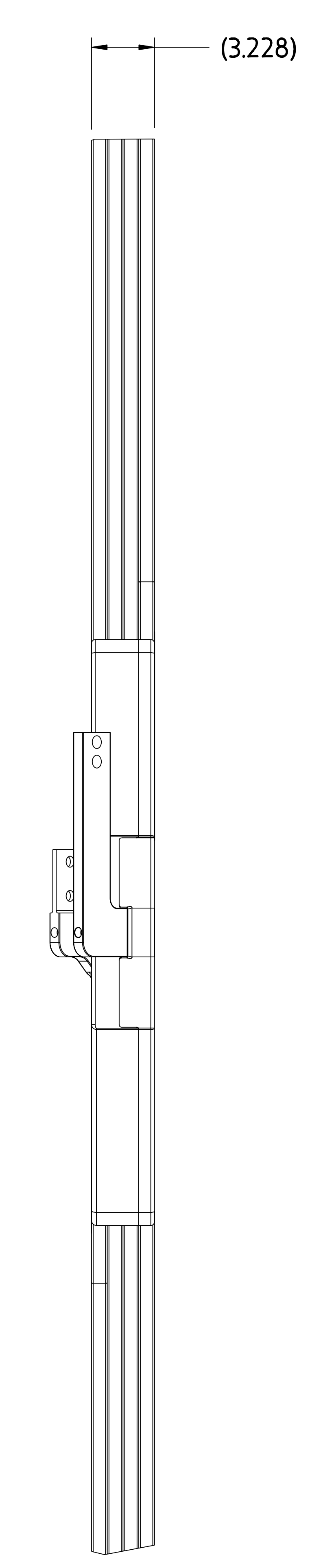
NO.	REVISION	BY	CH	SUP	APPROVED	DATE
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2	REVISED PER ECN # 5178	JDR	MK	JS	M. KALISH	12/04/06



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



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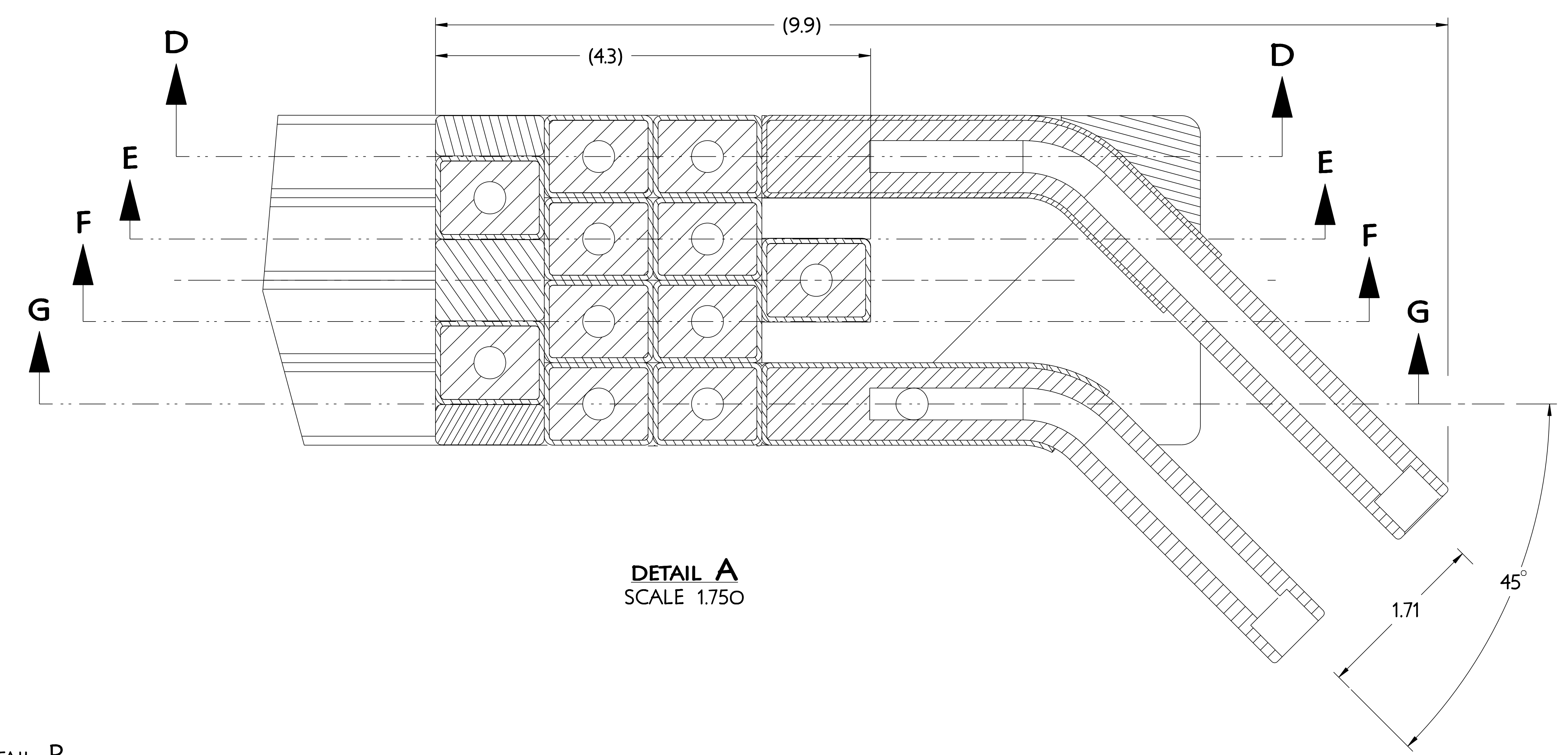
RELEASE LEVEL: WIP
DWG VERSION NO: 1

WEIGHT
921.7 lbs
MODEL NAME
SE131-035
WELDING
ENGINEER

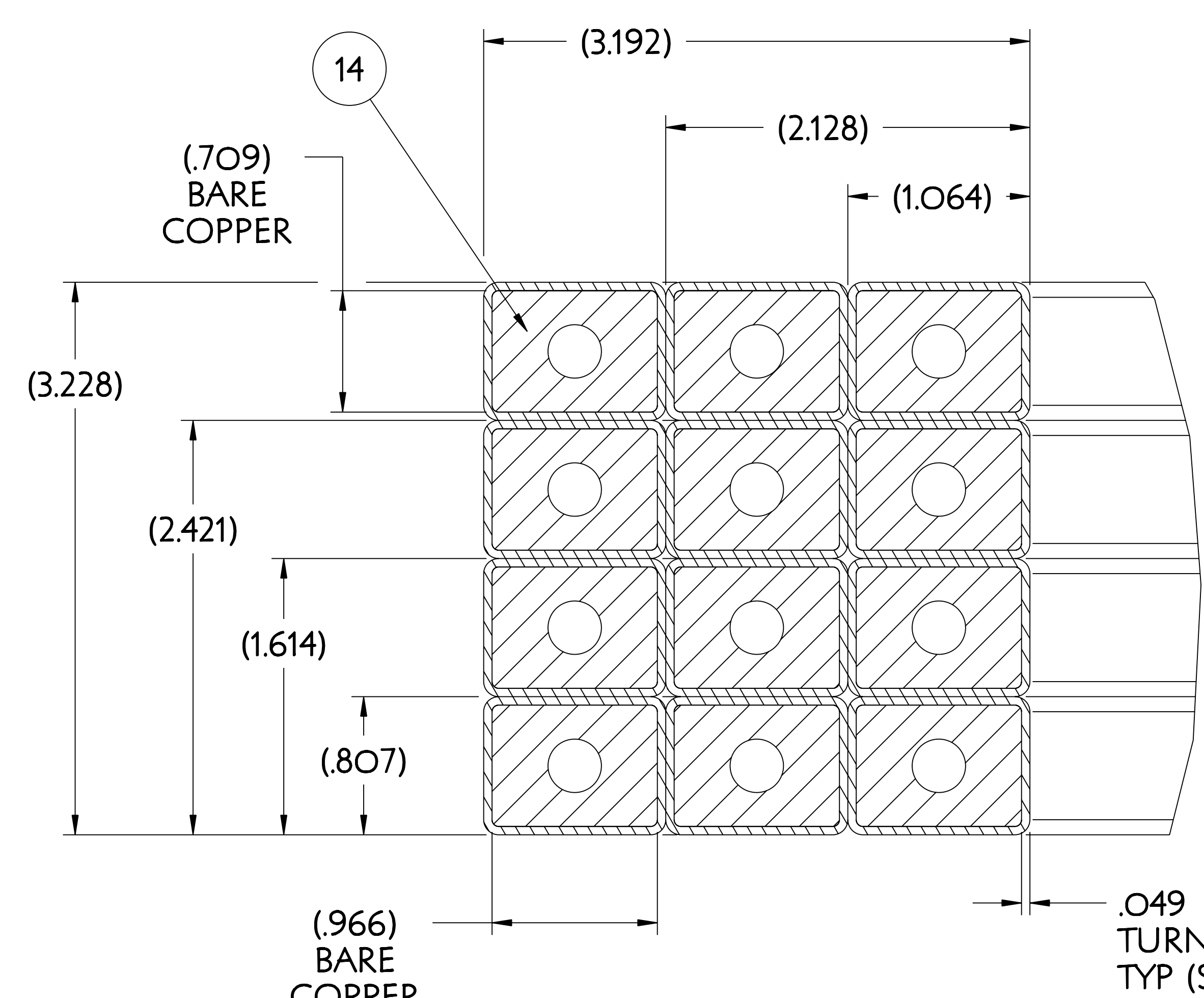
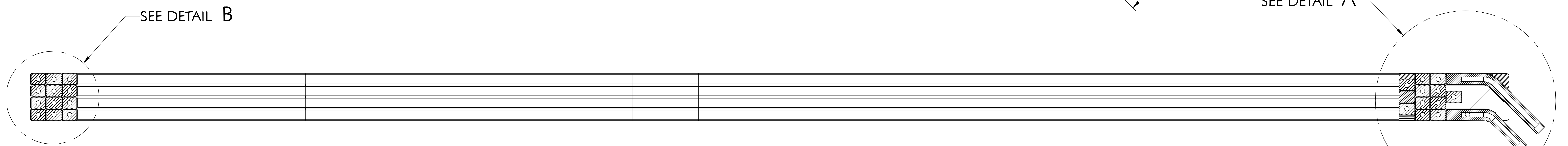
PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD
PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED Pro E		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT		
DO NOT VERIFY INFORMATION BY SCALING DRAWING		DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	STELLARATOR CORE CONVENTIONAL COILS TF COIL WINDING ASSEMBLY/DETAILS		
SCALE 0.250 NEXT ASSEMBLY		TOLERANCES NON-CUMULATIVE DECIMAL-INCH FRACTIONS .X ±.100 0°-120° ±.100 .XX ±.030 120°-120° ±.100 .XXX ±.005 120°-120° ±.100 ANGULAR ±.0°-15° OVER 120° ±.100	DSN: J. RUSHINSKI 8/12/05 CHK: M. KALISH/B. PAUL 8/12/05 ENGR: M. KALISH 8/12/05 SUPV: J. SIEGEL 8/12/05	DRAWING NO: SE131-035 SHEET 2 OF 5 REV 2	

NCSX-SE131-035

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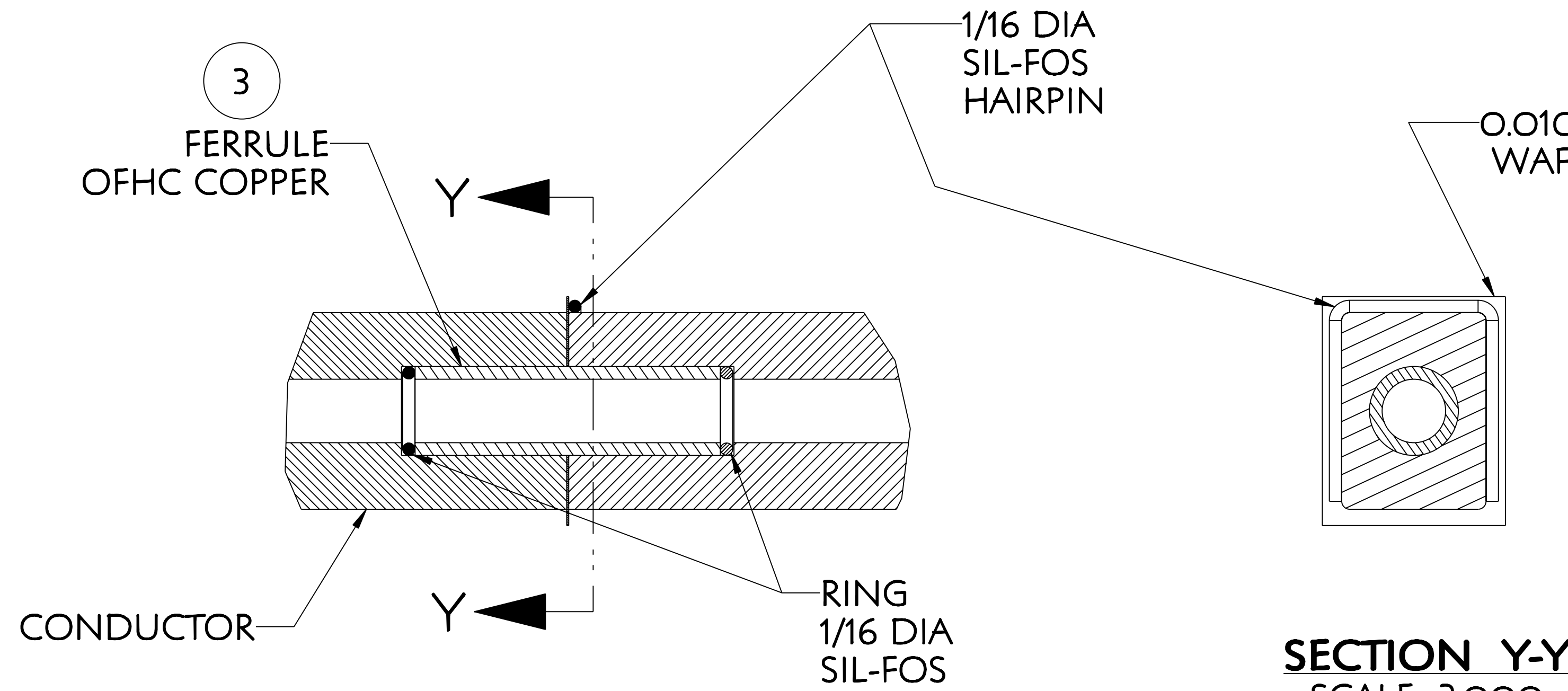
DETAIL A
SCALE 1.750



DETAIL B
SCALE 1.750

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.

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 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 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

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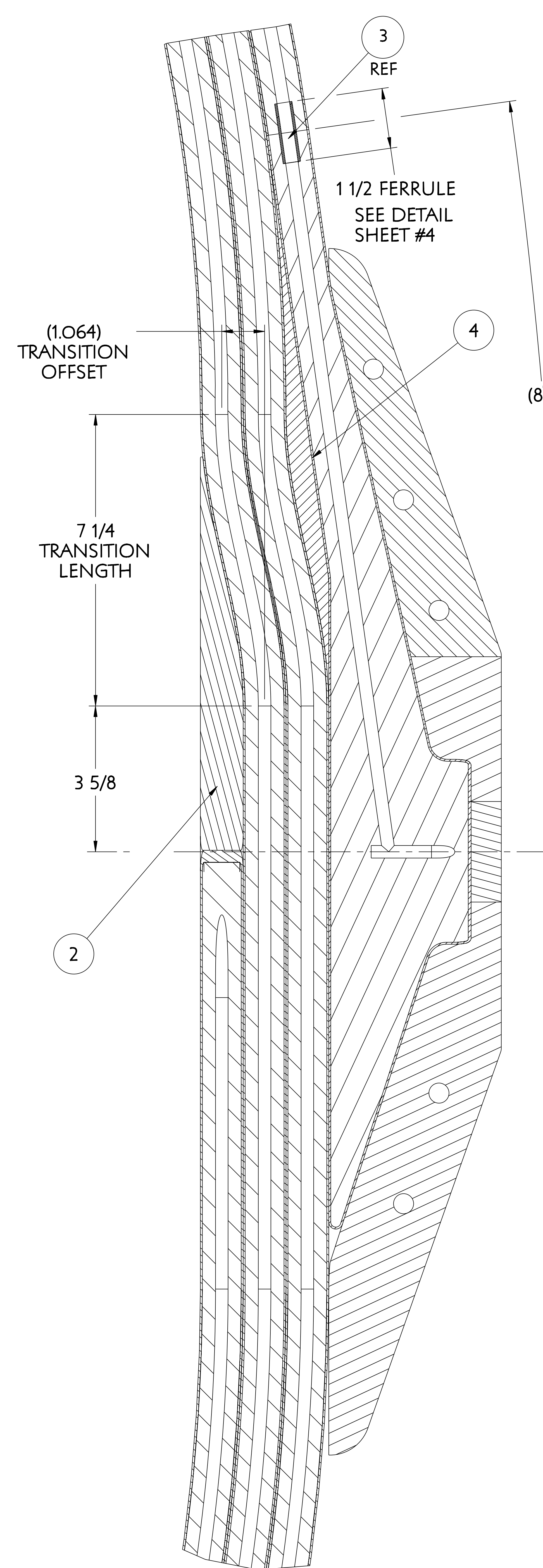
RELEASE LEVEL: WIP
DWG VERSION NO: 1

WEIGHT	921.7 lbs
MODEL NAME	SE131-035
WELDING ENGINEER	

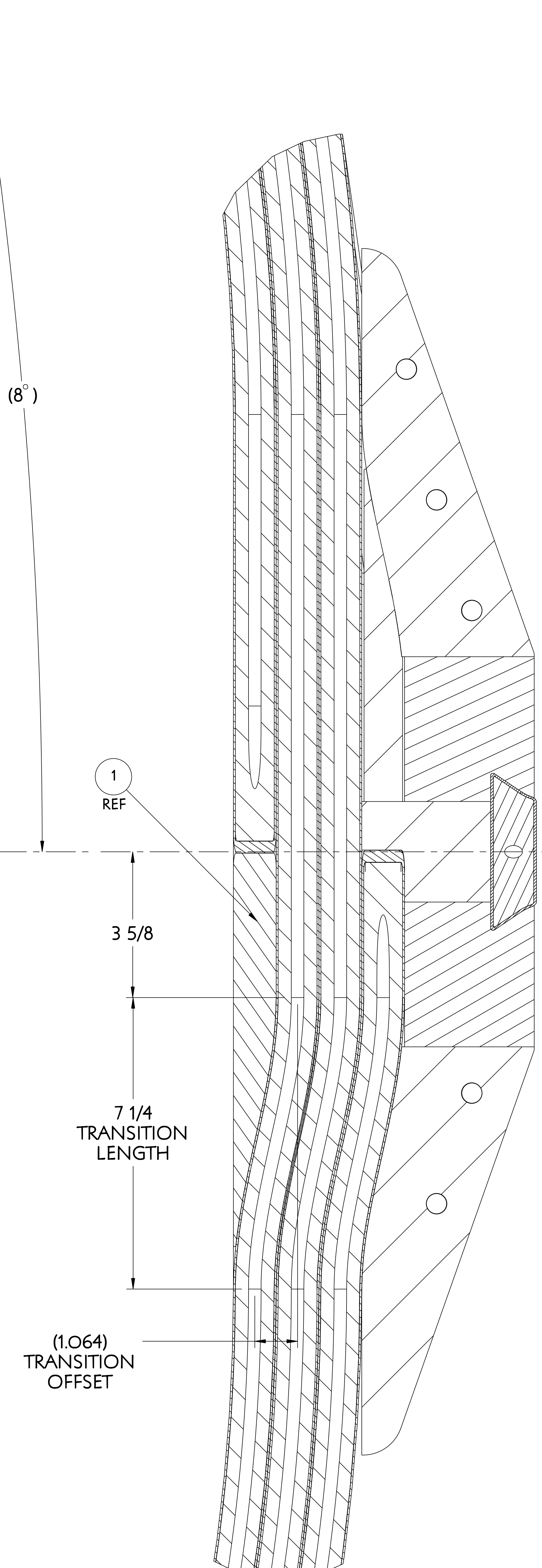
PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD
PARTS LIST					
COMPUTER GENERATED DRAWING	CENTRAL FILES:	PRINCETON PLASMA PHYSICS LABORATORY			
MANUAL CHANGES NOT PERMITTED	UNLESS OTHERWISE SPECIFIED	NATIONAL COMPACT STELLARATOR EXPERIMENT			
PRO E	DIMENSIONS ARE IN INCHES	STELLARATOR CORE			
DO NOT VERIFY INFORMATION BY SCALING DRAWING	BREAK SHARP EDGES .005/.020	CONVENTIONAL COILS			
	TOLERANCES NON-CUMULATIVE	TF COIL WINDING ASSEMBLY/DETAILS			
	DECIMAL-INCH FRACTIONS	DSN: J. RUSHINSKI	8/12/05	DRAWING NO:	
	XX +/- .000	CHK: M. KALISH/B. PAUL	8/12/05	SE131-035	
	XXX +/- .005	ENG: M. KALISH	8/12/05	SHEET 3 OF 5	
	ANGULAR +/- .015	SUPV: J. SIEGEL	8/12/05	REV 2	

NCSX-SE131-035

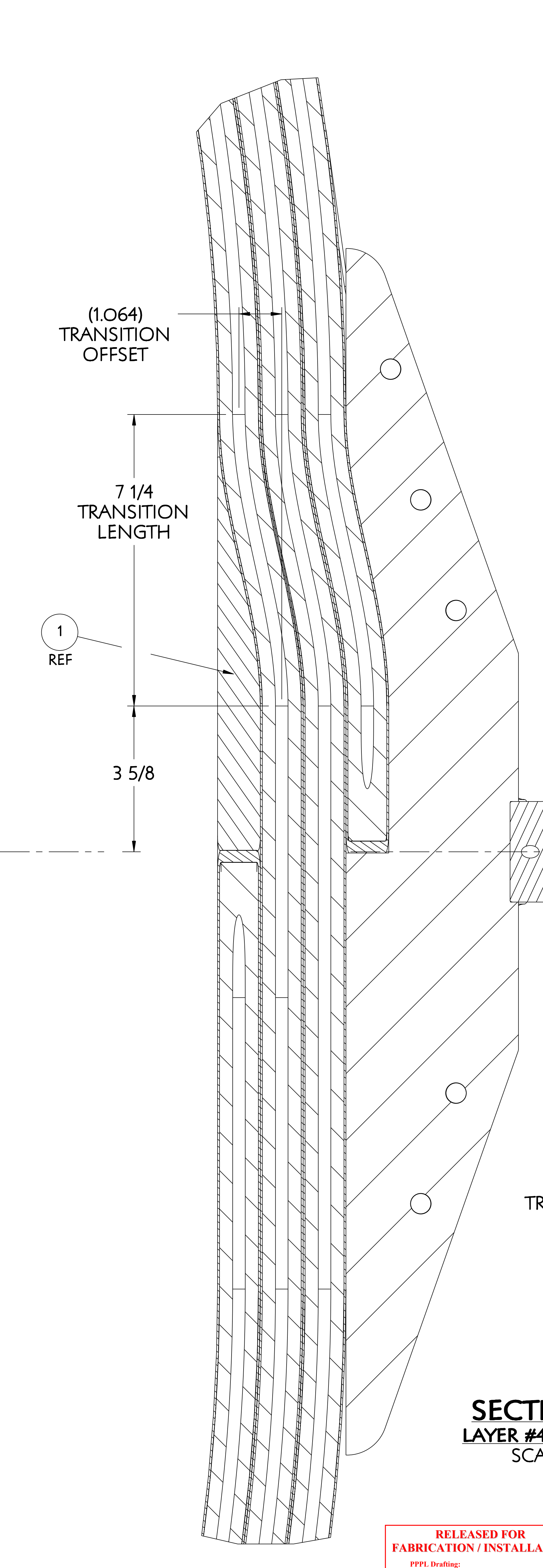
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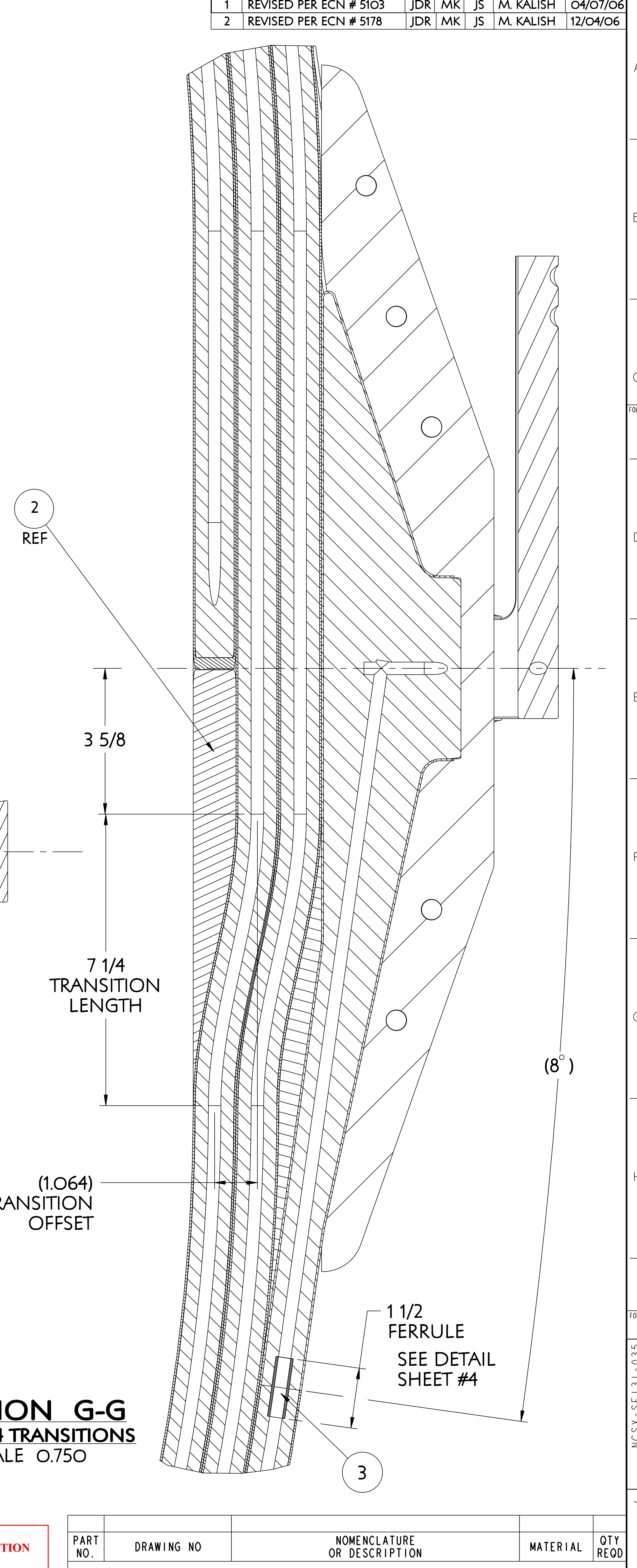
SECTION D-D
LAYER #1 TURN TRANSITIONS
SCALE 0.750



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

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RELEASE LEVEL: WIP
DWG VERSION NO: 1

WEIGHT	921.7 lbs
MODEL NAME	SE131-035
WELDING ENGINEER	

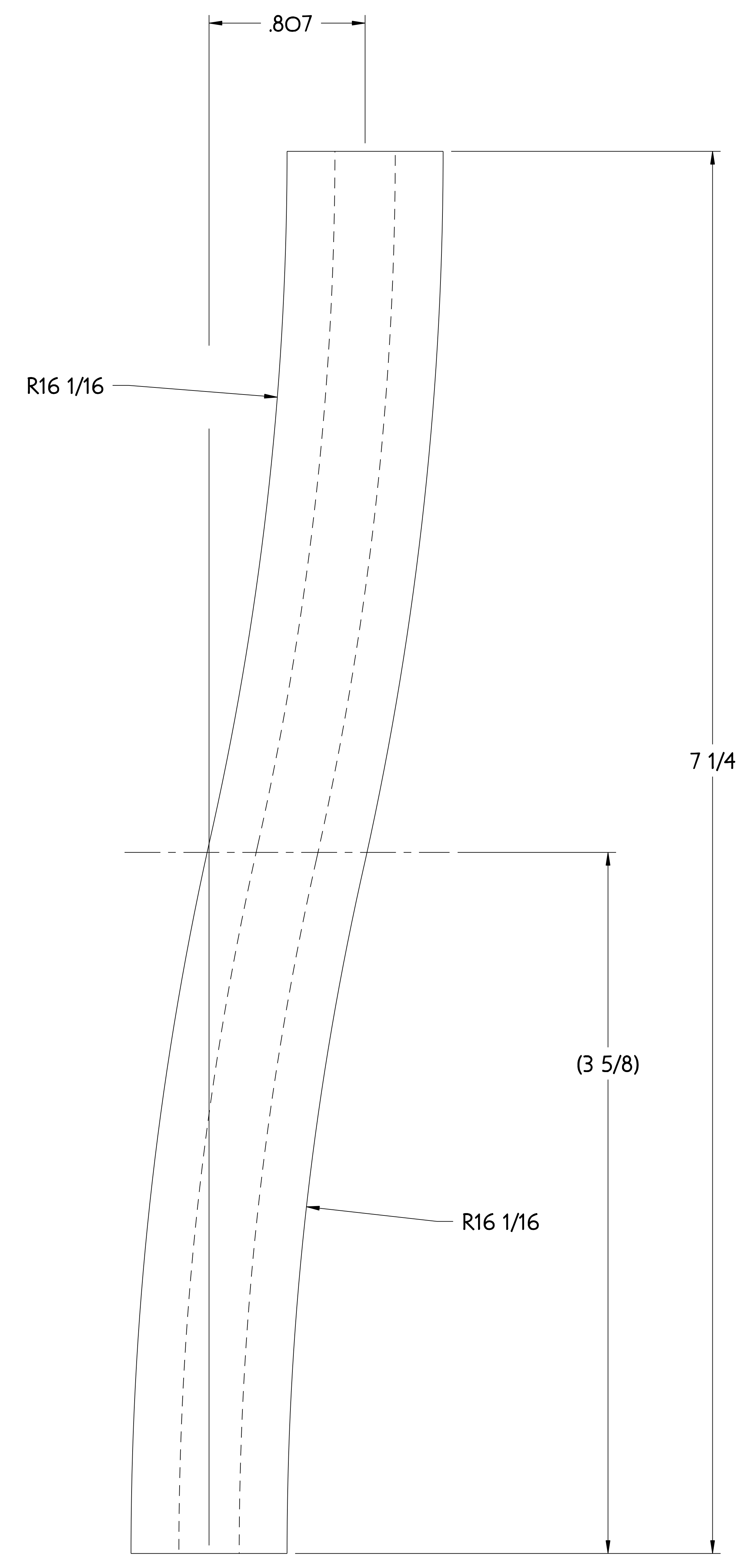
PART NO.	DRAWING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD
PARTS LIST					
COMPUTER GENERATED DRAWING MANUAL CHANGES NOT PERMITTED PRO E		CENTRAL FILES: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES MACHINE SURFACES BREAK SHARP EDGES .005/.020	PRINCETON PLASMA PHYSICS LABORATORY PRINCETON UNIVERSITY NATIONAL COMPACT STELLARATOR EXPERIMENT STELLARATOR CORE CONVENTIONAL COILS TF COIL WINDING ASSEMBLY/DETAILS		
DO NOT VERIFY INFORMATION BY SCALING DRAWING	TOLERANCES NON-CUMULATIVE	DSN: J. RUSHINSKI	8/12/05	DRAWING NO:	
NEXT ASSEMBLY	DECIMAL-INCH FRACTIONS .X ±.010 .XX ±.005 OVER ±.015	CHK: M. KALISH/B. PAUL	8/12/05	SE131-035	
		ENGR: M. KALISH	8/12/05	SHEET 4 OF 5	
		SUPV: J. SIEGEL	8/12/05	REV 2	

NCSX-SE131-035

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2	REVISED PER ECN # 5178	JDR	MK	JS	M. KALISH	12/04/06



TYP TURN TO TURN TRANSITION
SCALE 3.000



TYP LAYER TO LAYER TRANSITION
SCALE 3.000

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PPPL Drafting:

RELEASE LEVEL: WIP
DWG VERSION NO: 1

WEIGHT
MODEL NAME
SEI31-035

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 BREAK SHARP EDGES .005/.020	NATIONAL COMPACT STELLARATOR EXPERIMENT		
TOLERANCES NON-CUMULATIVE		DSN: J. RUSHINSKI	8/12/05	DRAWING NO:	
NEXT ASSEMBLY		DECIMAL-INCH FRACTIONS .XX +/- .030 .XXX +/- .005 ANGULAR +/- .05	CHK: M. KALISH/B. PAUL	8/12/05	SEI31-035
WELDING ENGINEER		ENGR: M. KALISH	8/12/05	SHEET 5 OF 5	
		SUPV: J. SIEGEL	8/12/05	REV 2	

NCSX-SEI31-035