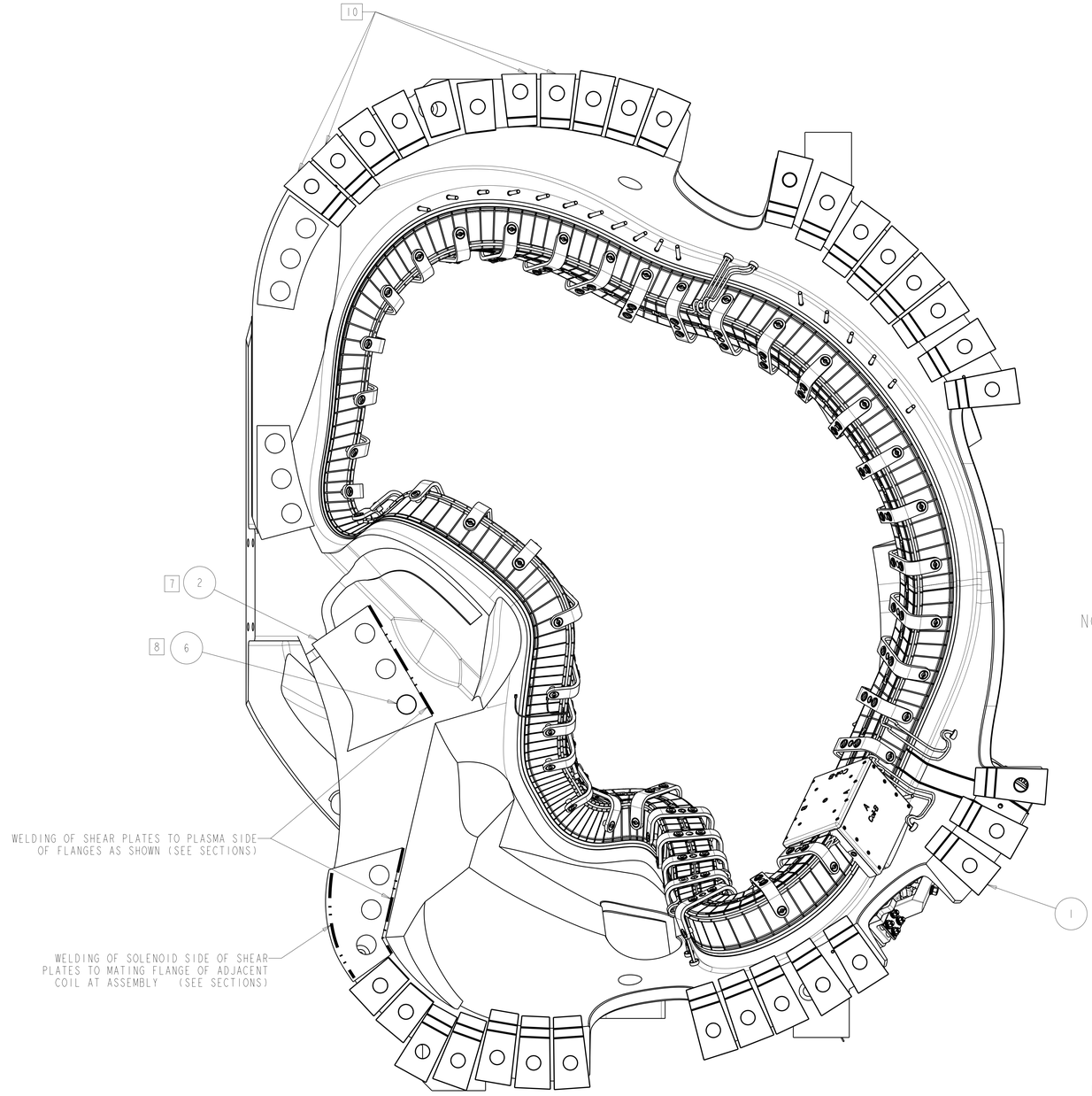


NOTE: MOD COILS SHOW ON SHEETS 2-5 ARE SHOWN AS PART ONLY FOR CLARITY. SHIMS AND SHEAR PLATES TO BE INSTALLED AND WELDED ON MOD COIL ASSEMBLIES AS SHOWN IN THIS VIEW.

NOTES

1. DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.100-2004.
2. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994.
3. DIMENSIONS ARE IN INCHES
4. MAGNETIC PERMEABILITY NOT TO EXCEED 1.02 AS TESTED BY A SEVERN INDICATOR, AVAILABLE FROM:
   SEVERN ENGINEERING
   AUBURN, ALABAMA 36830
   WWW.SEVERNENGINEERING.COM
5. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF PPPL PROCEDURE ENG-037. VISUAL WELD INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE ACCEPTANCE CRITERIA OF AWS D1.1 SECTION 6.
6. ASSEMBLE PER THIS DRAWING AND SPECIFICATION NCSX-CSPEC-185-01.

[7] SEE SHIM AND SHEAR PLATE DRAWINGS SE140-040, SE140-052, SE140-053, SE140-054 AND SE140-055 FOR ADDITIONAL INFORMATION.

[8] PUCKS TO BE CUSTOM SIZED PRIOR TO INSTALLATION. SEE PUCK DRAWING SE140-056 FOR ADDITIONAL INFORMATION.

[9] THESE SHIMS ARE NOT LOCATED ON STUDS AND ARE TO BE WELDED IN PLACE APPROX AS SHOWN. GRIND OFF ALUMINA COATING AS REQ'D FOR WELDING. THESE SHIMS MAY BE ORIENTED IN ANY POSITION BUT MUST BE CLEAR OF POLODIAL BREAKS AND PORT OPENINGS. SHIMS MAY BE TRIMMED AS REQ'D BUT MUST MAINTAIN .25 MIN EDGE TRACKING WITH CASTING EDGES OR SURFACES. COAT EXPOSED EDGES WITH AN APPROVED EPOXY TO MAINTAIN ELECTRICAL ISOLATION.

[10] THESE SHIMS TO BE TRIMMED TO .25 FROM CASTING FLANGE FOR ADDITIONAL ASSEMBLY CLEARANCE. ADDITIONAL SHIMS MAY ALSO BE TRIMMED DURING INSTALLATION AS REQ'D. COAT EXPOSED EDGES WITH AN APPROVED EPOXY AFTER CUTTING.

MODULAR COIL SHIM AND SHEAR PLATE LAYOUT

SCALE .18

SE100-001	SE100-003	SE140-003	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
			←	NEXT ASSEMBLY	PARTS LIST			
AR	AR	AR		SE140-040	SINGLE HOLE SHIM			1
AR		AR		SE140-056-1	PUCK - 2"			6
		AR		SE140-056-2	PUCK - 1.75"			7
	AR			SE140-056-3	PUCK - IRREGULAR			8
		AR		SE140-056-4	PUCK - 1.5"			9
AR				SE140-058-1	C-C PUCK			10
AR				SE140-058-2	C-C PUCK			11
				-12	Ø1/2 X .75LG DOWEL PIN	316 SST	ASTM A276	12
				NCSX-PRL-12-002	Ø1/2 X .50 WELD STUD			13
				-14	SHIM STOCK -VARYING THICKNESSES	316 SST	ASTM A 240	14
AR				8796K142	NOMEX STRIP	1.0 WIDE X .063 THICK 10 FT ROLL	MCMASTER CARR ATLANTA, GA 30374 404-346-7000 WWW.MCMASTER.COM	15

SE140-046

WELDING ENGINEER

APPROVED L. DUDEK DATE: 01/08

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
	REVISION OR ISSUE PURPOSE	REVISION APPROVAL										
1	VIEWS SHEET 5, PER ECN #	GM	02/08	MC		02/08						
1	WELD SYMBOL SHEET 3, UPDATED											
1	ADDED F/N 12 THRU 15, RELOCATED											
0	ORIGINAL ISSUE	GM	01/08	MC		01/08						

SCALE NOTED

TOLERANCES UNLESS OTHERWISE SPECIFIED

FRACTIONS :
XX DECIMALS ±.01
XXX DECIMALS ±.005
ANGLES ±0°15'
BREAK SHARP EDGES .06 MAX
FINISH 125 UNLESS OTHERWISE SPECIFIED

DRAWING APPROVALS		DATE
DES	D WILLIAMSON	01/2008
DRW	G MCGINNIS	01/2008
CHK	M COLE	01/2008
SECT	:	:
DEPT	:	:
PE	:	:
CR	:	:
PJ	:	:
REQ	:	:
PPPL DRFT	J SIEGEL	01/2008
	:	:
	:	:

UT-BATTELLE

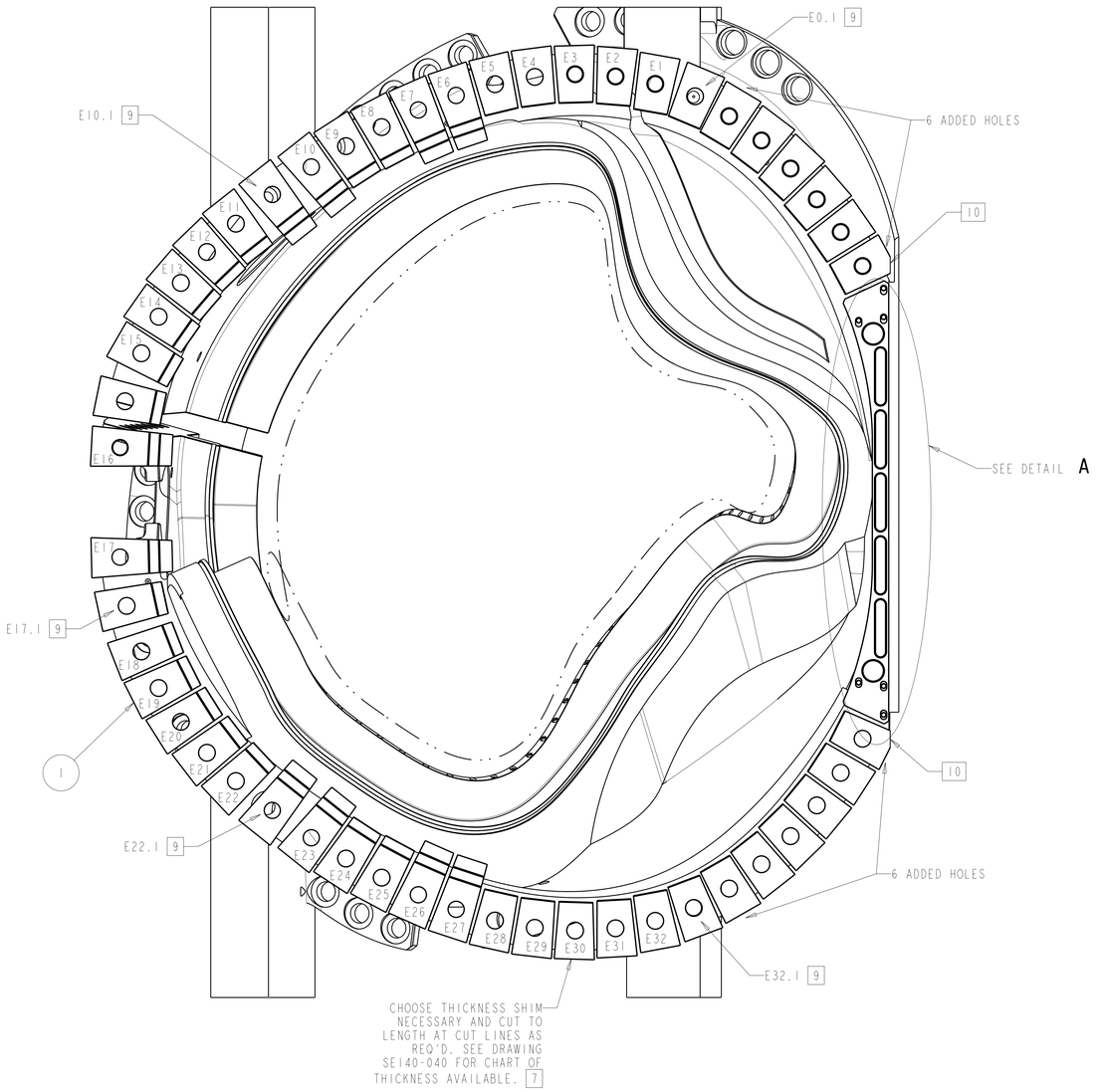
Oak Ridge National Laboratory
managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-00OR22725
UT-BATTELLE, LLC. Oak Ridge, Tennessee

PROJECT NAME: NATIONAL COMPACT STELLARATOR EXPERIMENT

MODULAR COIL SHIM AND SHEAR PLATE LAYOUT

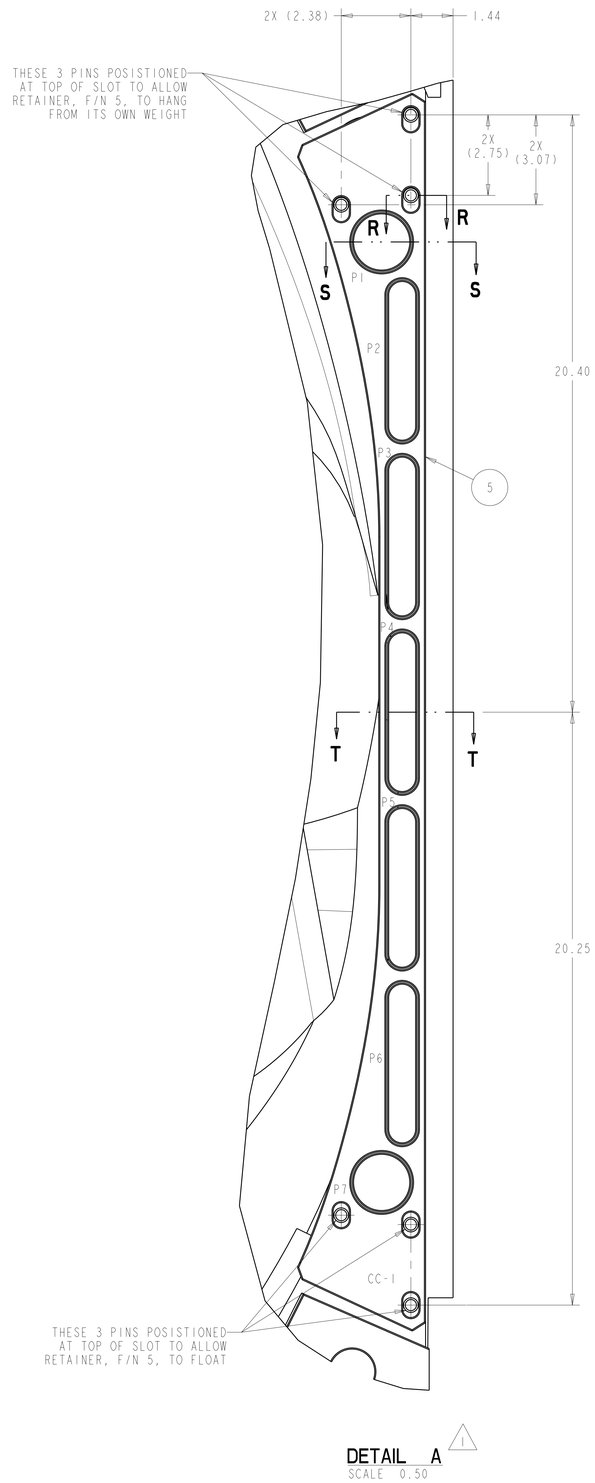
VERSION NO.	PLANT	BLDG	FL	SHT OF	TYPE	CLASS
3+	ORNL	5700	3	1 8	S	U
RELEASE LEVEL: WIP		SE140-046				REV 1

P THIS DRAWING PRODUCED ON PRO-ENGINEER

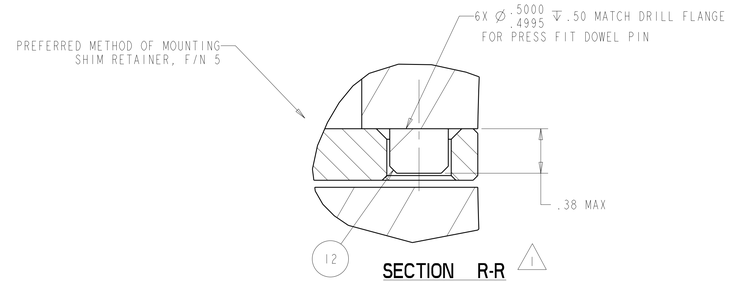


C-C JOINT LOOKING AT THE C LEFT COIL - C RIGHT FLANGE

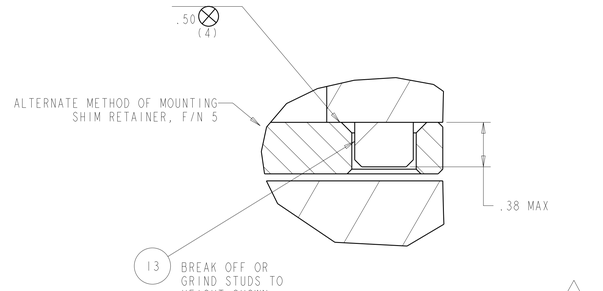
NOTE: MOD COILS SHOW AS PART ONLY FOR CLARITY. SHIMS AND SHEAR PLATES TO BE INSTALLED ON MOD COIL ASSEMBLIES



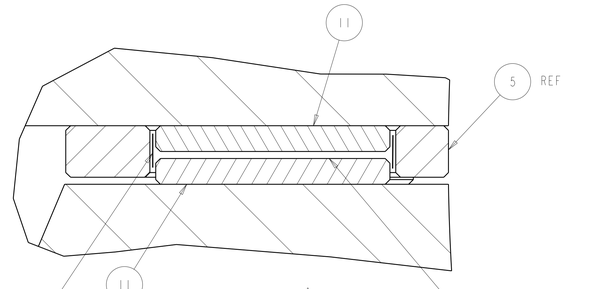
DETAIL A
SCALE 0.50



SECTION R-R
SCALE 2.00

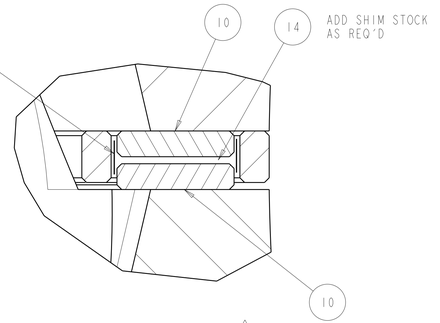


(OPTIONAL) SECTION R-R
SCALE 2.00



SECTION S-S
SCALE 2.00

15 ADD STRIPS TO BOTH SIDES AS REQ'D TO RETAIN PUCKS, F/N 10 & 11



SECTION T-T
SCALE 2.00

UT-BATTELLE	Oak Ridge National Laboratory managed for the DEPARTMENT OF ENERGY under U.S. GOVERNMENT contract DE-AC05-000R22725 UT-BATTELLE, LLC. Oak Ridge, Tennessee							
PROJECT NAME: NATIONAL COMPACT STELLARATOR EXPERIMENT								
MODULAR COIL SHIM AND SHEAR PLATE LAYOUT								
VERSION NO. 3+	PLANT ORNL	BLDG 5700	FL 3	SHT 5	OF 8	TYPE S	CLASS U	
RELEASE LEVEL WIP	SE140-046						REV 1	

SE140-046