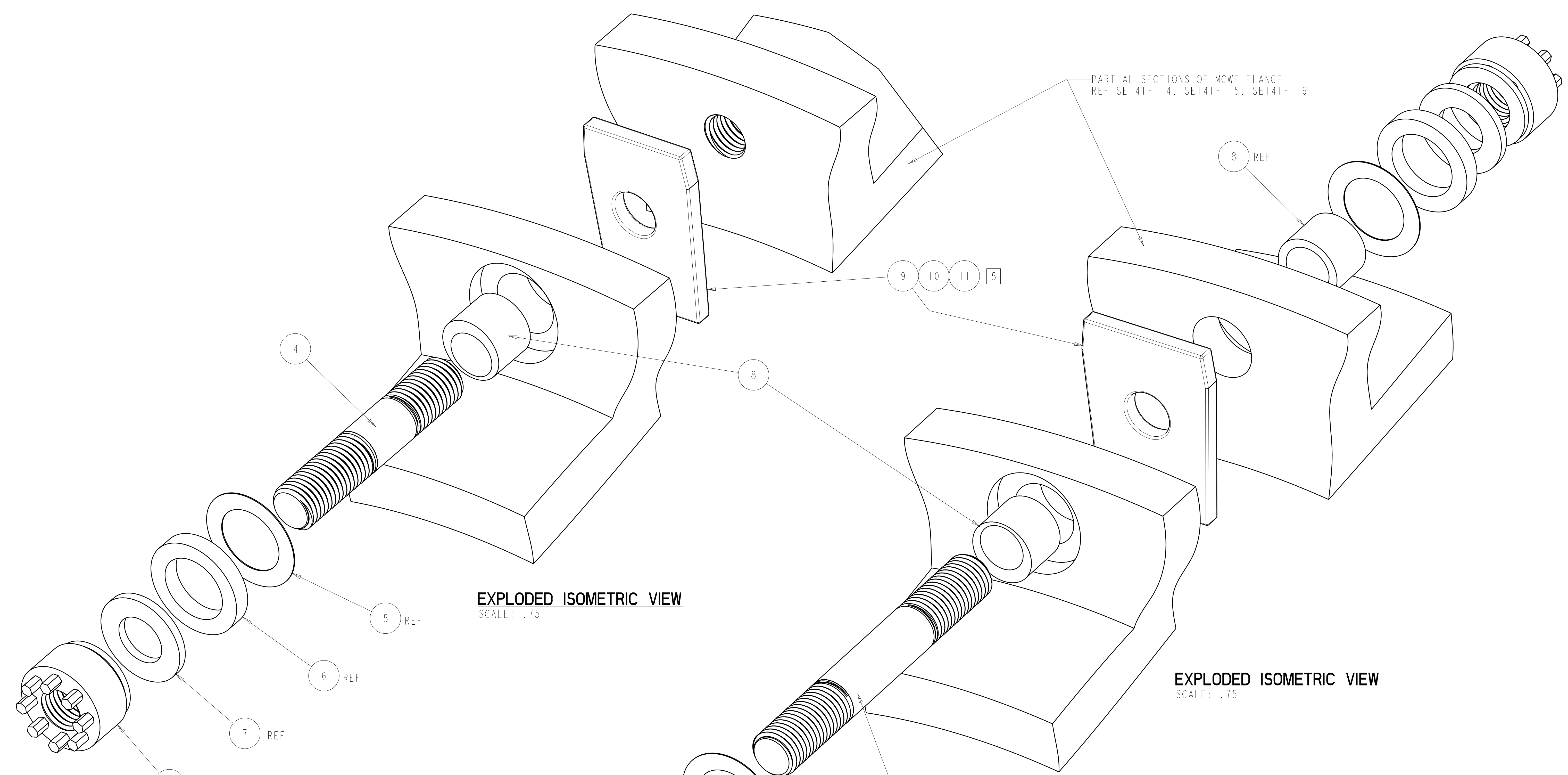


- NOTES
- DRAWING PREPARED IN ACCORDANCE WITH ASME Y14.100-2004.
 - INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M-1994.
 - DIMENSIONS ARE IN INCHES
 - MAGNETIC PERMEABILITY NOT TO EXCEED 1.02 AS TESTED BY A SEVERN INDICATOR. AVAILABLE FROM:
SEVERN ENGINEERING
AUBURN, ALABAMA 36830
WWW.SEVERNENGINEERING.COM
 - SHIM SIZES DEPENDENT ON LOCATION AT ASSEMBLIES SE140-003, SE100-002, AND SE100-001.
 - FASTENER PRELOAD REQUIREMENT IS 72000 ±1000 LB USING HYDRAULIC TENSIONER W/ ULTRASONIC INSPECTION
 - OPTIONAL HEX NUT ON ONE SIDE OF THRU BOLT CONFIGURATION USE F/N 13 IN PLACE OF F/N 12, F/N 14 & 15 IN PLACE OF F/N 7.
 - LUBRICATE MATING SURFACE OF F/N 14 & 15 WITH F/N 16, MOLYKOTE Z MOLY POWDER.

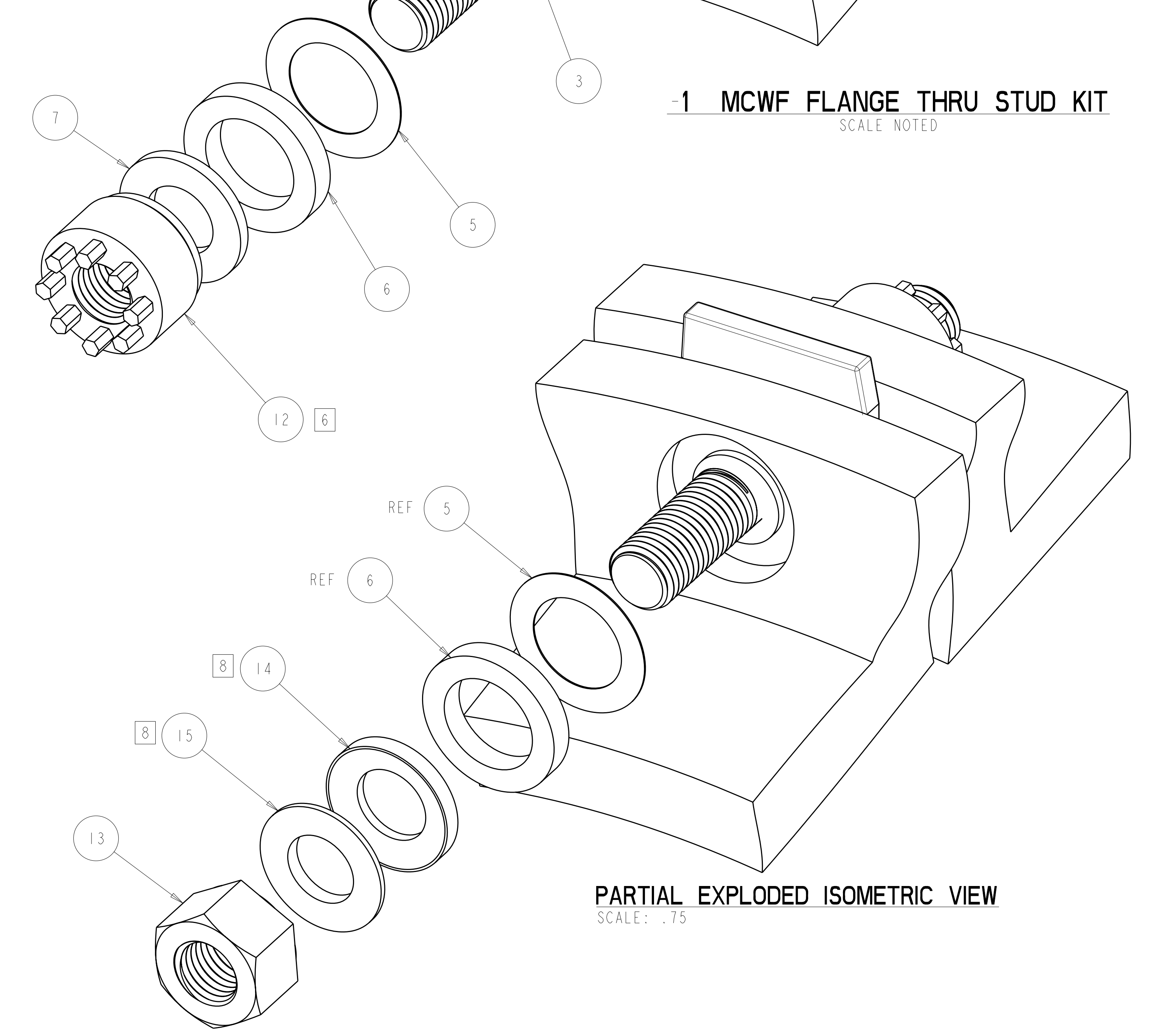


2 MCWF FLANGE TAPPED STUD KIT
SCALE NOTED

EXPLODED ISOMETRIC VIEW
SCALE: .75

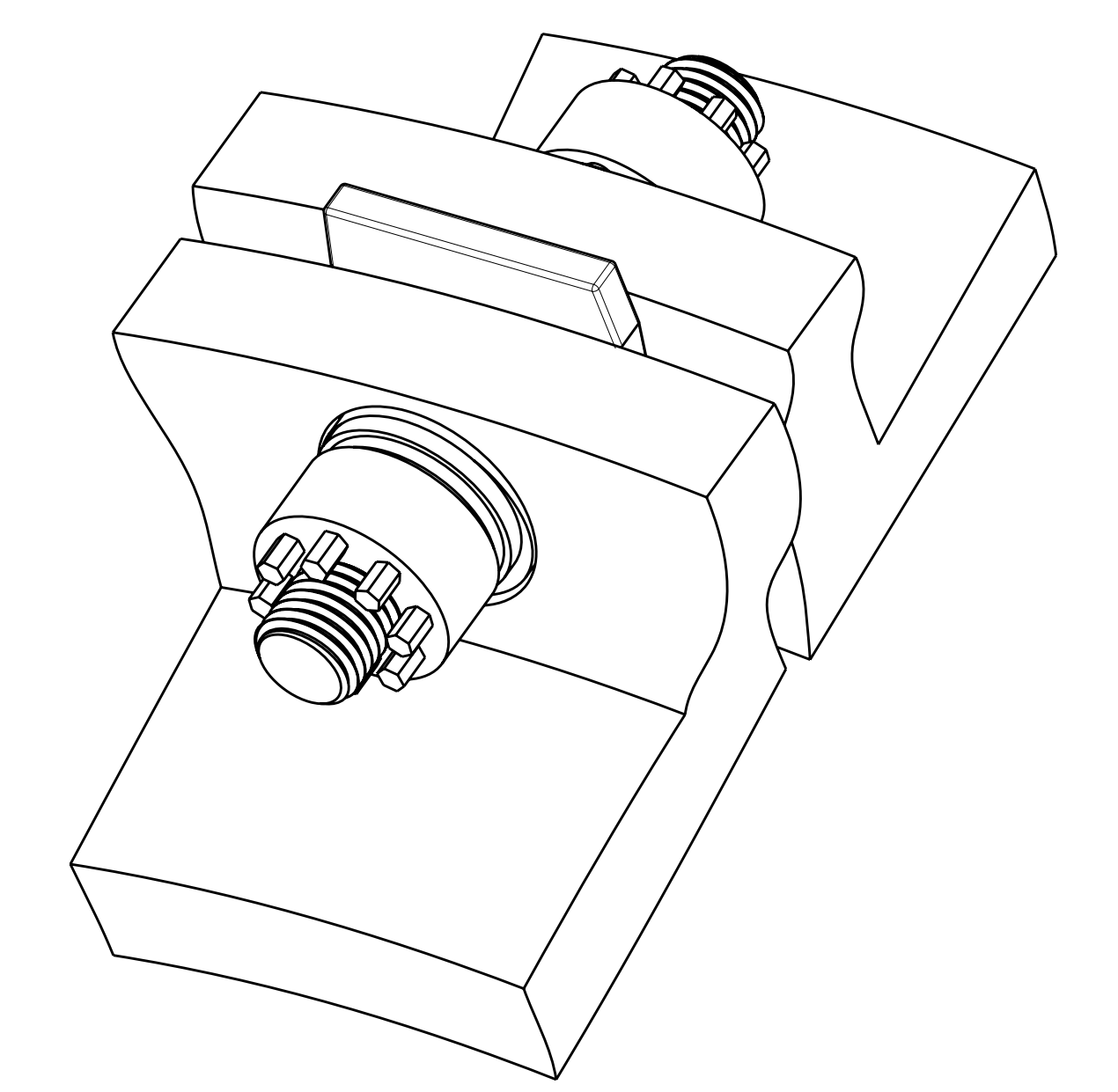
EXPLODED ISOMETRIC VIEW
SCALE: .75

1 MCWF FLANGE THRU STUD KIT
SCALE NOTED



PARTIAL EXPLODED ISOMETRIC VIEW
SCALE: .75

1 MCWF FLANGE THRU STUD KIT (OPTIONAL) [7] [2]
SCALE NOTED



TYPICAL FLANGE ISOMETRIC VIEW
SCALE: .50

REV	QTY	UNIT	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
[8]	-	AR	-16	DRY LUBRICANT	MOLYKOTE Z MOLY POWDER	DOW CORNING	16
[7]	-	I	SE140-194-2	MALE SPHERICAL WASHER			15
[7]	-	I	SE140-194-1	FEMALE SPHERICAL WASHER			14
[7]	-	I	-14	1-3/8 -6 UNC HEX NUT	UNS S66286 (A286) OR UNS S20910 (NITRONIC 50) DEPENDING ON COST/AVAIL	ASTM A453 GRADE 660B OR ASTM A276	13
[6]	I	2	S-02200	1-3/8 -6 SUPER NUT		SUPERBOLT, INC CARNEGIE, PA 15106 412-279-1149 WWW.SUPERBOLT.COM	12
[5]	AR	AR	SE140-040-3	C-C SINGLE HOLE SHIM			11
[5]	AR	AR	SE140-040-2	NARROW SINGLE HOLE SHIM			10
[5]	AR	AR	SE140-040-1	SINGLE HOLE SHIM			9
[1]	I	2	SE140-195-1	BUSHING			8
[1]	I	2	SE140-208	FLAT WASHER			7
[1]	I	2	SE140-193	FLAT WASHER			6
[1]	I	2	SE140-192	INSULATING WASHER			5
[1]	I	1	SE140-191-2	1-3/8" X 7.00LG STUD			4
[1]	I	1	SE140-191-1	1-3/8" X 10.00LG STUD			3
[X]	-	-	-2	MCWF FLANGE TAPPED STUD KIT			2
[X]	-	-	-1	MCWF FLANGE THRU STUD KIT			1

CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL	SPECIFICATION	FIND NO
[8]	-16	DRY LUBRICANT	MOLYKOTE Z MOLY POWDER	DOW CORNING	16
[7]	SE140-194-2	MALE SPHERICAL WASHER			15
[7]	SE140-194-1	FEMALE SPHERICAL WASHER			14
[7]	-14	1-3/8 -6 UNC HEX NUT	UNS S66286 (A286) OR UNS S20910 (NITRONIC 50) DEPENDING ON COST/AVAIL	ASTM A453 GRADE 660B OR ASTM A276	13
[6]	S-02200	1-3/8 -6 SUPER NUT		SUPERBOLT, INC CARNEGIE, PA 15106 412-279-1149 WWW.SUPERBOLT.COM	12
[5]	SE140-040-3	C-C SINGLE HOLE SHIM			11
[5]	SE140-040-2	NARROW SINGLE HOLE SHIM			10
[5]	SE140-040-1	SINGLE HOLE SHIM			9
[1]	SE140-195-1	BUSHING			8
[1]	SE140-208	FLAT WASHER			7
[1]	SE140-193	FLAT WASHER			6
[1]	SE140-192	INSULATING WASHER			5
[1]	SE140-191-2	1-3/8" X 7.00LG STUD			4
[1]	SE140-191-1	1-3/8" X 10.00LG STUD			3
[X]	-2	MCWF FLANGE TAPPED STUD KIT			2
[X]	-1	MCWF FLANGE THRU STUD KIT			1

REV	DESCRIPTION	BY	DATE	CHK	DEPT	DATE	PE	REQ	DATE	ORNL	DOE	DATE
2	PER ECN # 5244	GM	04/01									
2	OPTIONAL THRU BOLT CONFIGURATION											
2	SUPERNUT, F/N 12 & WASHER, F/N 1, ADDED											
2	DELETED 12 PT NUT & SHIM BUSHING, ADDED											
1	REVISED MATL AND NOTES PER ECN-5232	DW	3/07	MC								
0	ORIGINAL ISSUE	GM	02/07									

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY, COMPLETENESS OR USEFULNESS OF THE INFORMATION OR STATEMENTS CONTAINED IN THESE DRAWINGS, OR THAT THE USE OR DISCLOSURE OF ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS MAY NOT INFRINGE PRIVATE RIGHTS OF OTHERS. NO LIABILITY IS ASSUMED WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING FROM THE USE OF, ANY INFORMATION, APPARATUS, METHOD OR PROCESS DISCLOSED IN THESE DRAWINGS. DRAWINGS MADE AVAILABLE FOR PURPOSES, AND ARE TO BE RETURNED UPON REQUEST OF THE FORWARDING CONTRACTOR.

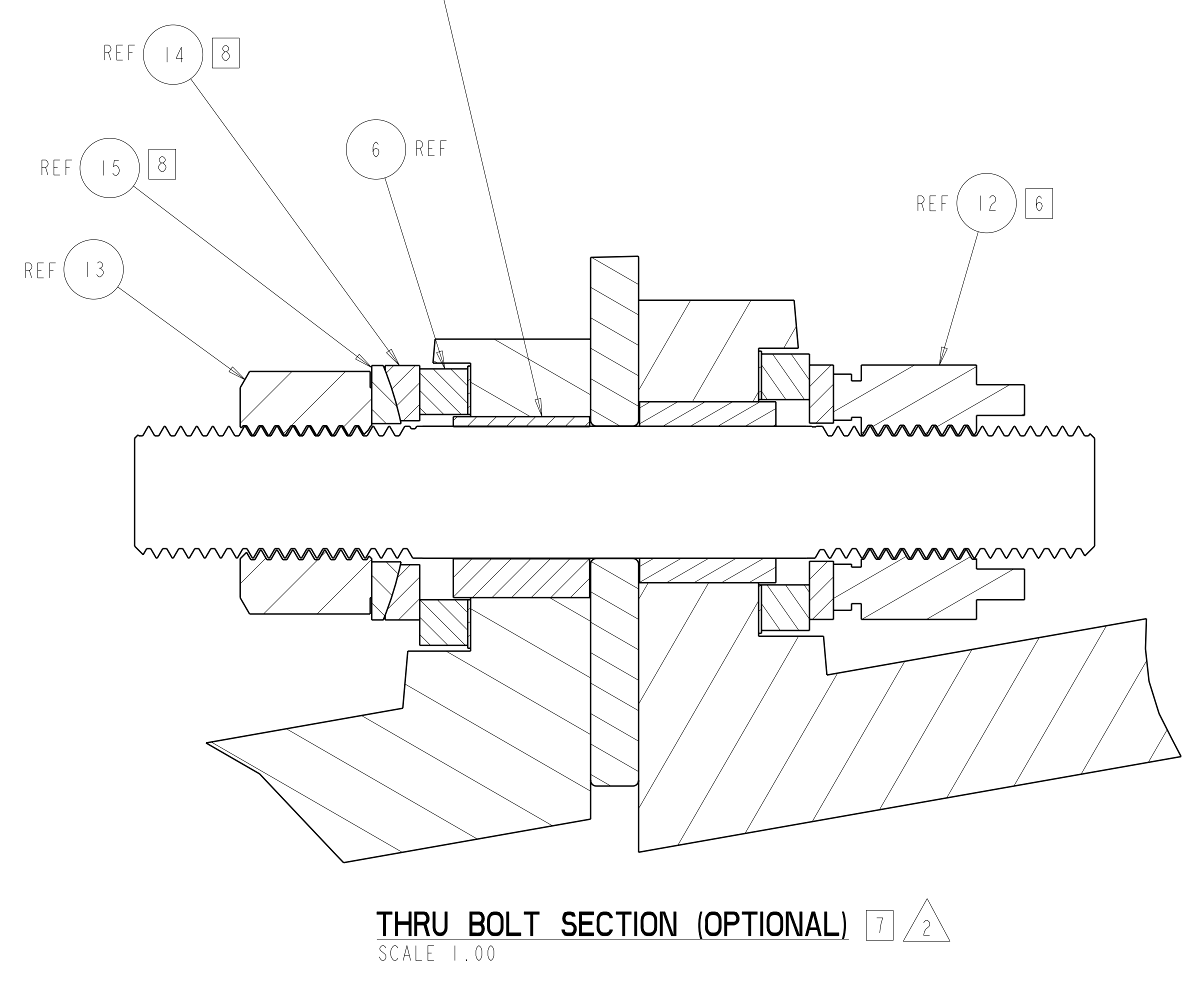
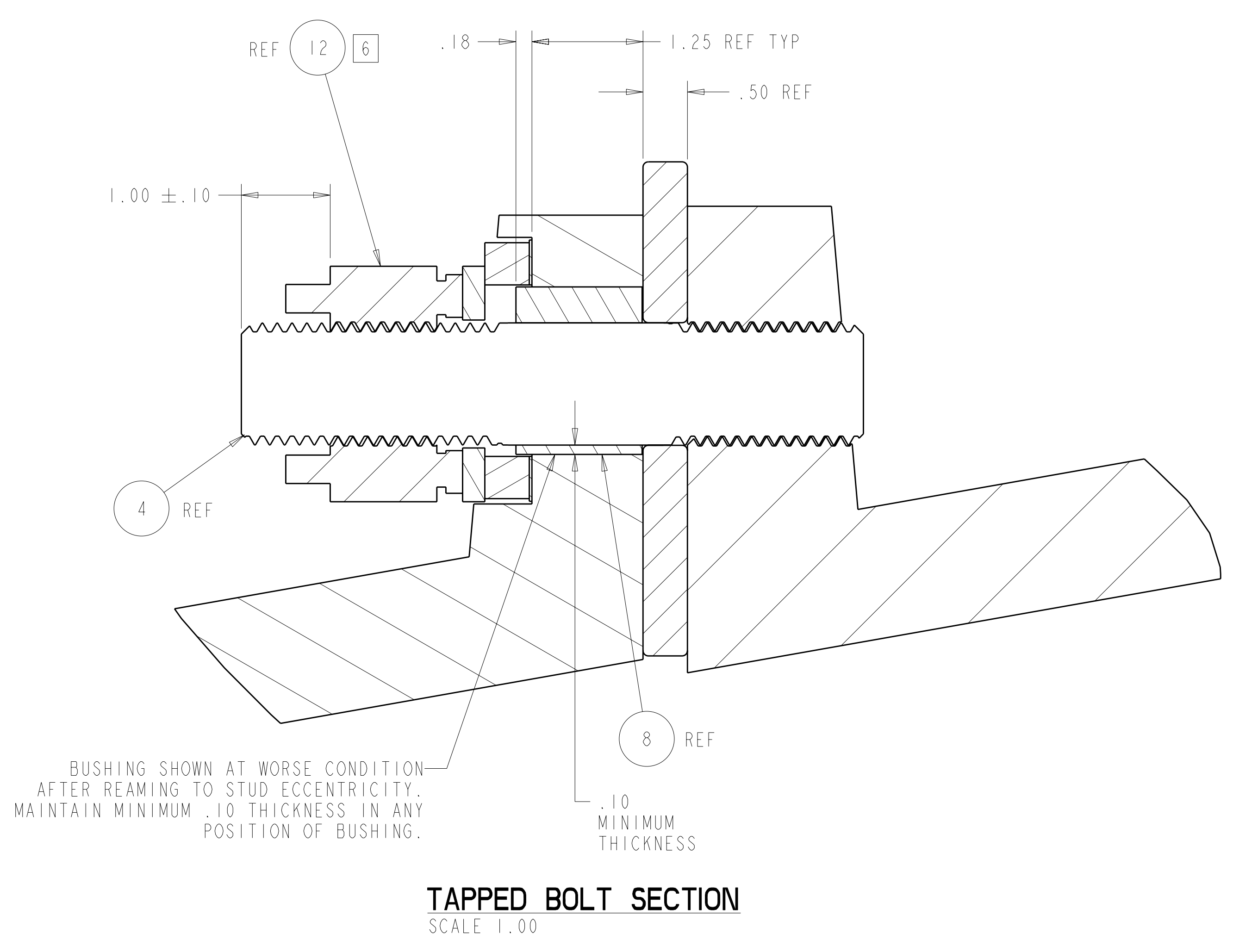
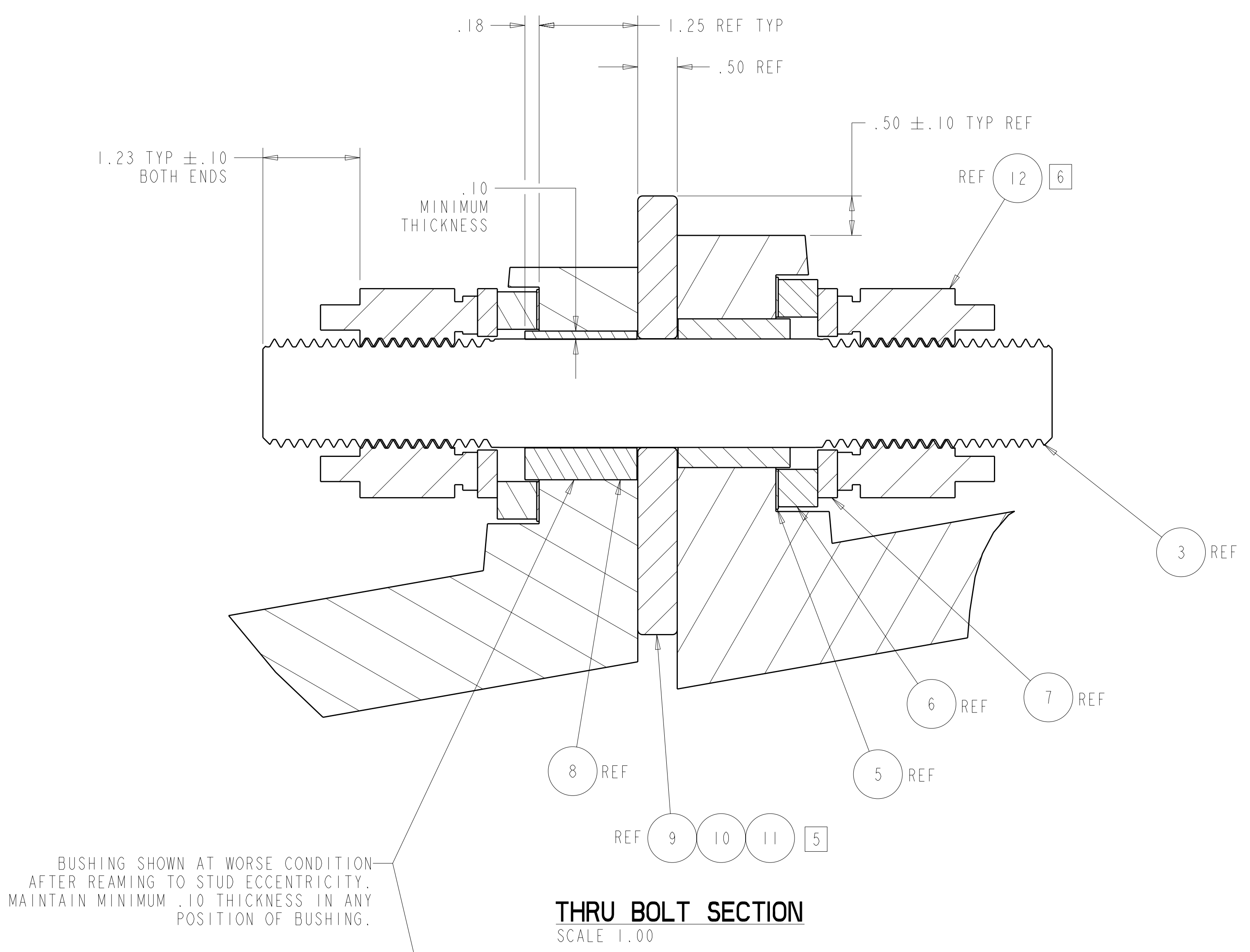
P THIS DRAWING PRODUCED ON PRO-ENGINEER

SCALE NOTED
TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONS ±.01
XX DECIMALS ±.01
XXX DECIMALS ±.005
ANGLES ±0°15'
BREAK SHARP EDGES OR MAX
FINISH ±.02 UNLESS OTHERWISE SPECIFIED

DES: D WILLIAMSON 02/07
DRW: G MCGINNIS 02/07
CHK: M COLE 02/07
SECT: :
DEPT: :
PE: :
CR: :
PJ: :
REQ: :
PPPL DRFT J SIEGEL 02/07

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
MCWF FLANGE STUD KITS

VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS
3+	ORNL	5700	3	1	2	A	U
RELEASE LEVEL			SE140-190				
WIP							



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:									
UT-BATTELLE NATIONAL COMPACT STELLARATOR EXPERIMENT									
MCWF FLANGE STUD KITS									
VERSION NO.	PLANT	BLDG	FL	SHT	OF	TYPE	CLASS		
3+	ORNL	5700	3	2	2	A	U		
RELEASE LEVEL		SE140-190					REV		2
WIP									

061-04135 B