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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.15	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
LESS OR TO 50	OVER TO 50	OVER TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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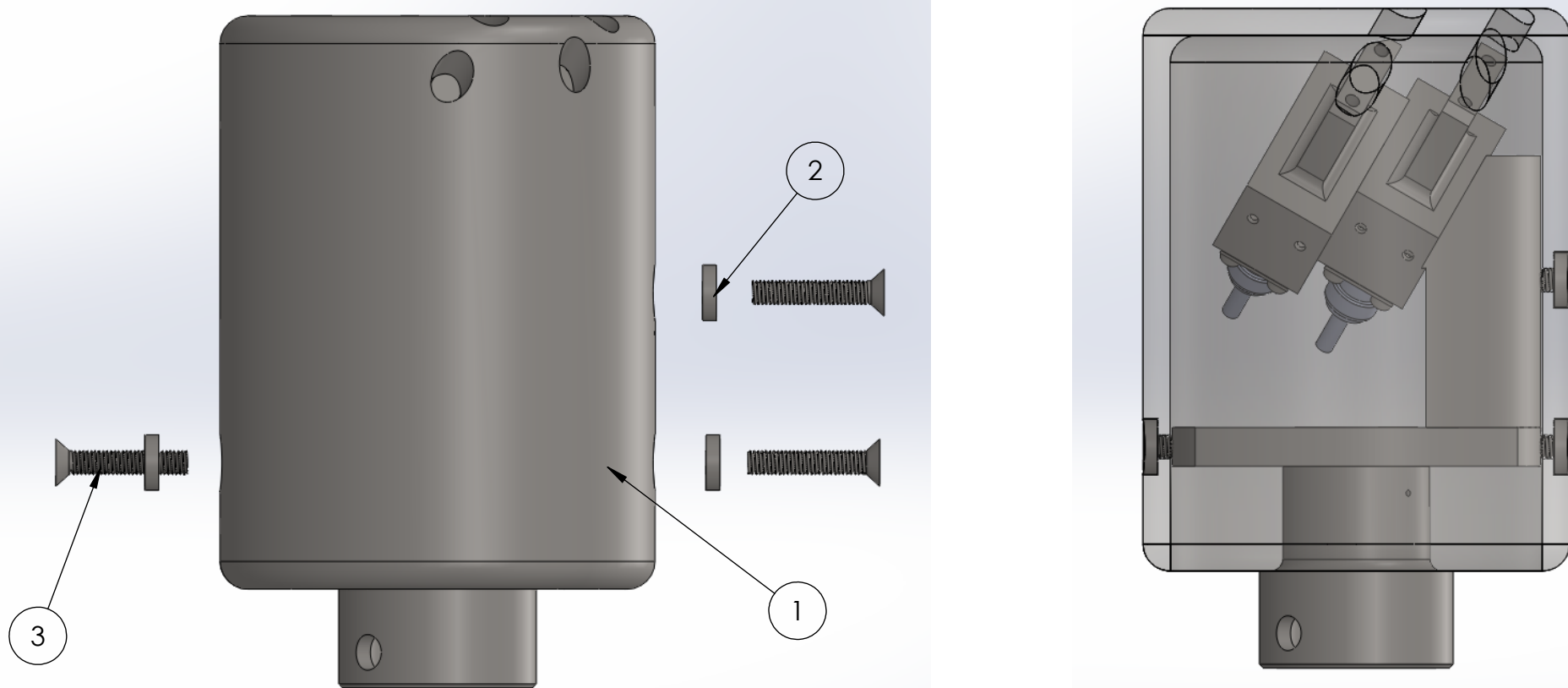


MATERIAL		PEEK 1000, SS316, BN CERAMIC GRADE XP	
DRAWN		NAME	DATE
CHECKED		RAMONA V PEREZ	06/13/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES	

TITLE:  
**PROTON DETECTOR  
ASSEMBLED TOTAL**

SIZE	DWG. NO.	REV
<b>A</b>	PD_22_TOTAL_VIEW	

SHEET 1 OF 1



PARTS LIST			
ITEM NO.	TITLE	DWG. NO.	QUANTITY
1	PROTON DETECTOR SHIELD	PD_22_Shell	1
2	PROTON DETECTOR BRACKET	PD_22_Bracket	3
3	McMaster-Carr PN#93395A366		3

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.15	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8

TOLERANCES ANGULAR DIMENSIONS				
LESS THAN 50	50 TO 120	120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'

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MATERIAL: SS316 AND BN CERAMIC GRADE XP

DRAWN	RAMONA V PEREZ	DATE	06/13/13
CHECKED	RAMONA V PEREZ	DATE	06/28/13

UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM

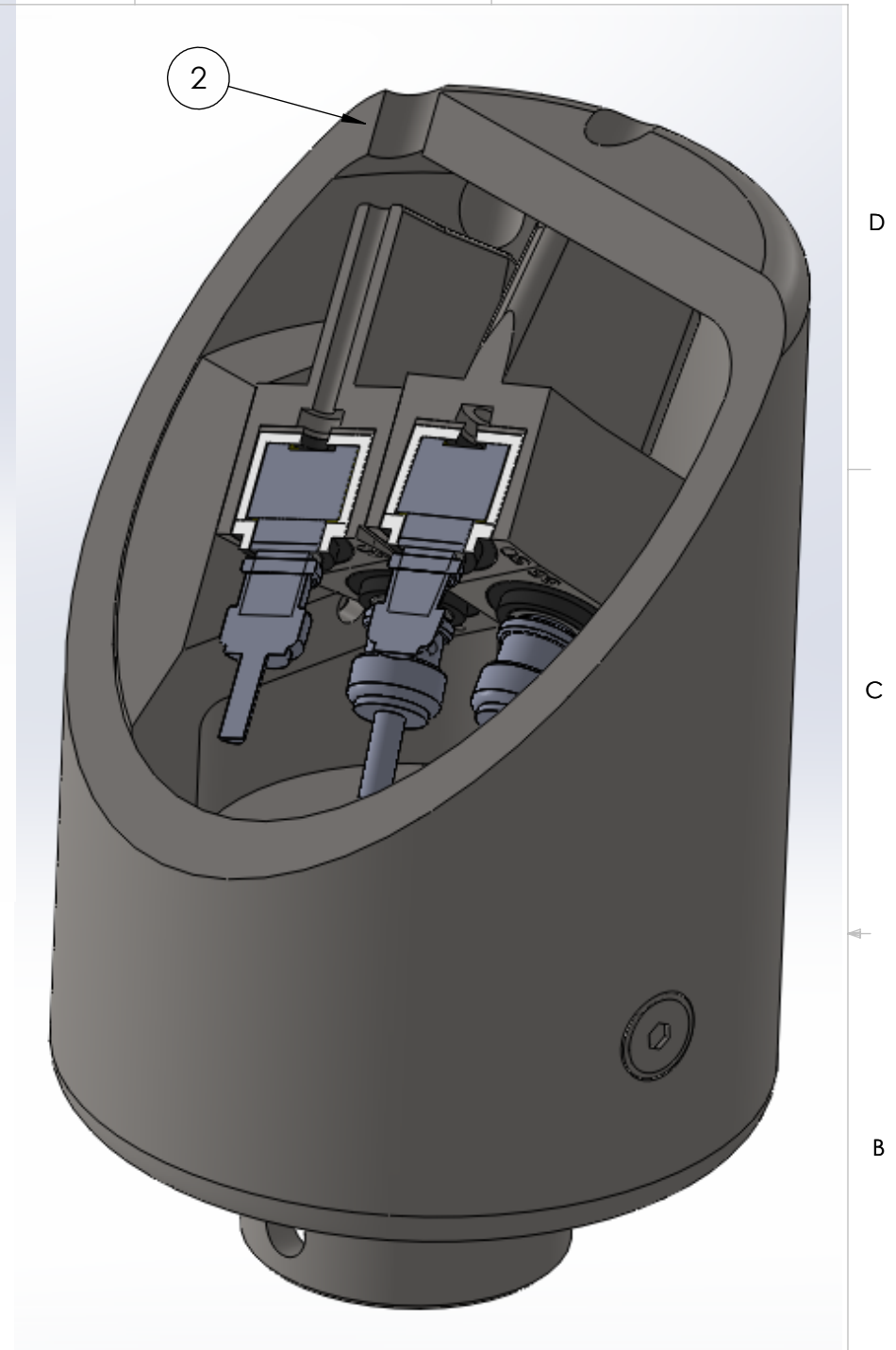
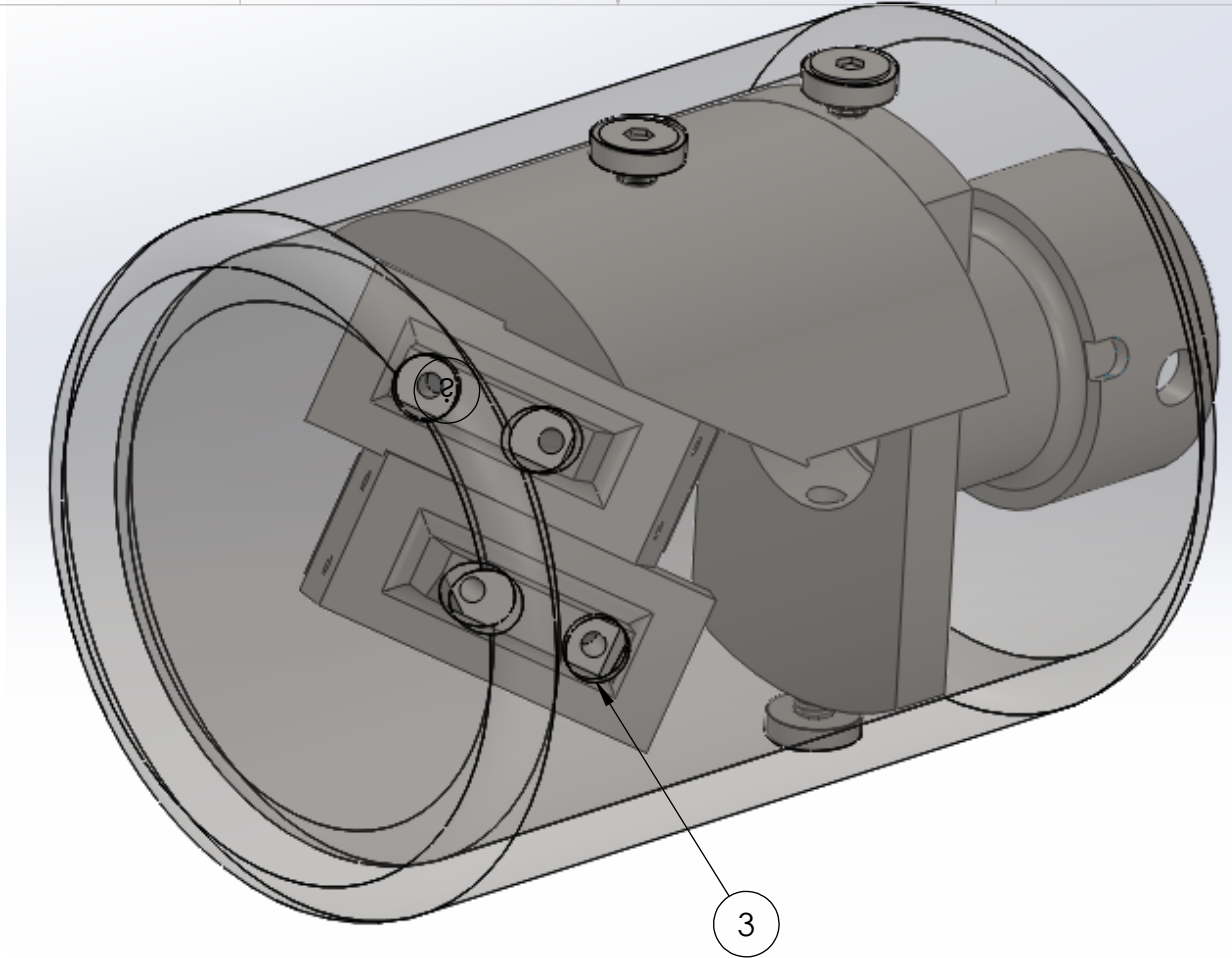
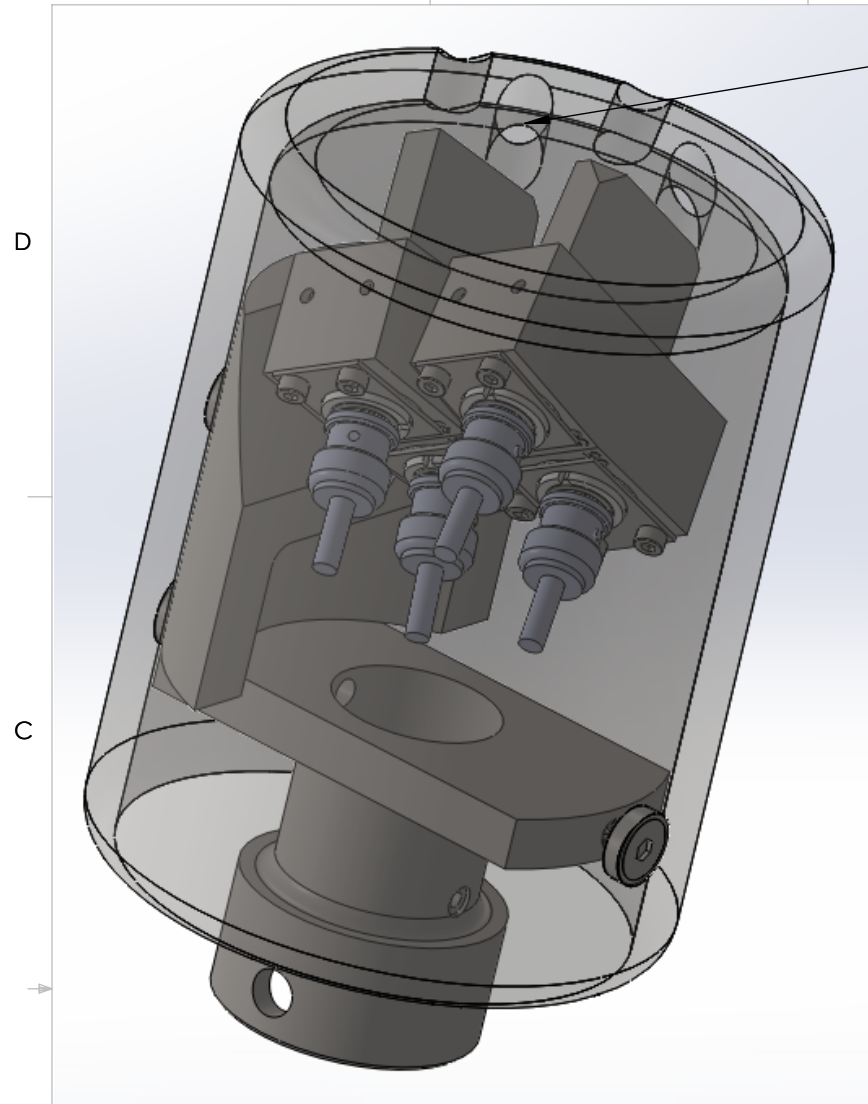
REMOVE ALL BURRS AND SHARP EDGES

TITLE: **PROTON DETECTOR ASSEMBLED SHIELD**

SIZE <b>A</b>	DWG. NO. PD_22_Shield_assembled	REV	
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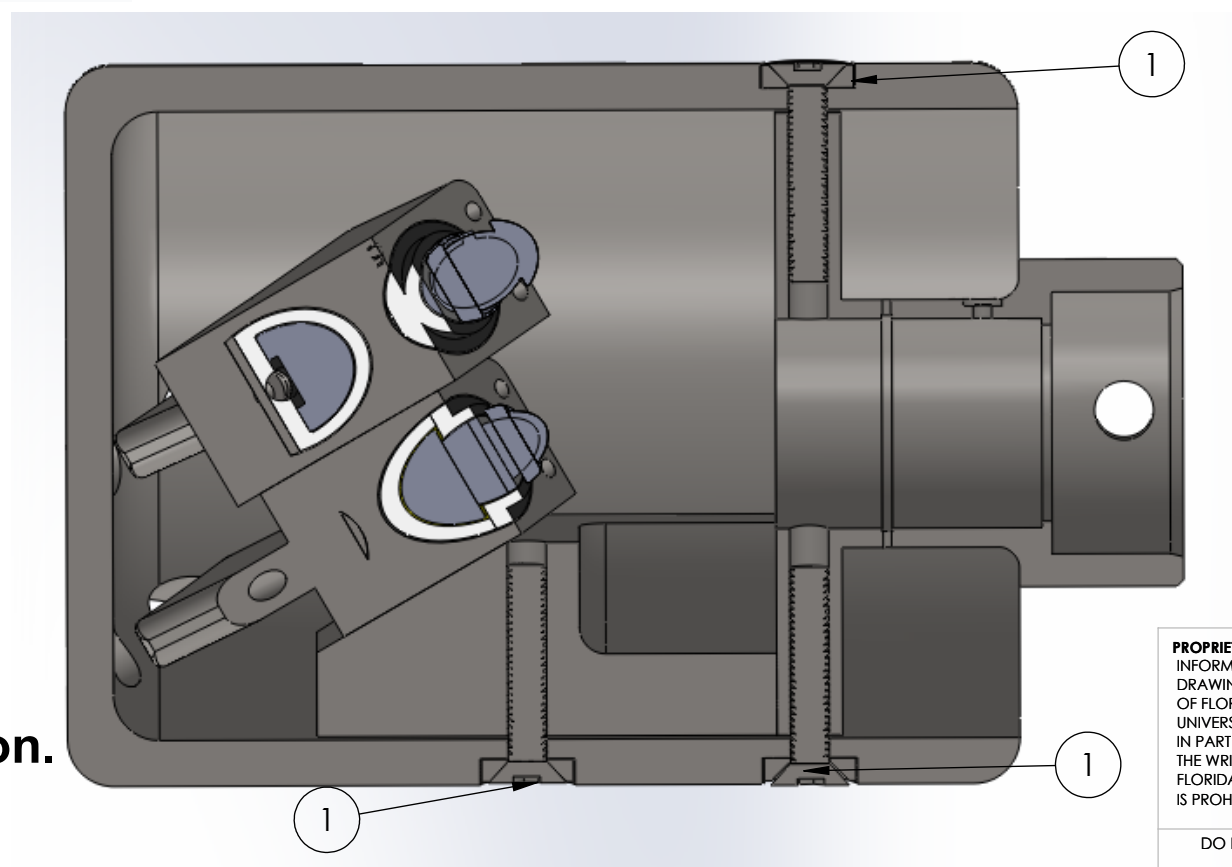
SHEET 1 OF 1

8 7 6 5 4 3 2 1



NOTES:  
 1. SHIELD ATTACHED TO SS316 COMPONENTS WITH BRACKETS AND SCREWS.  
 2. CROSS SECTIONAL VIEW OF 10mm DIAMETER COLLIMATOR HOLES IN SHIELD.  
 3. VIEW OF ASSEMBLED INSTRUMENT WITH SHIELD HOLES (SHIELD IS TRANSPARENT).

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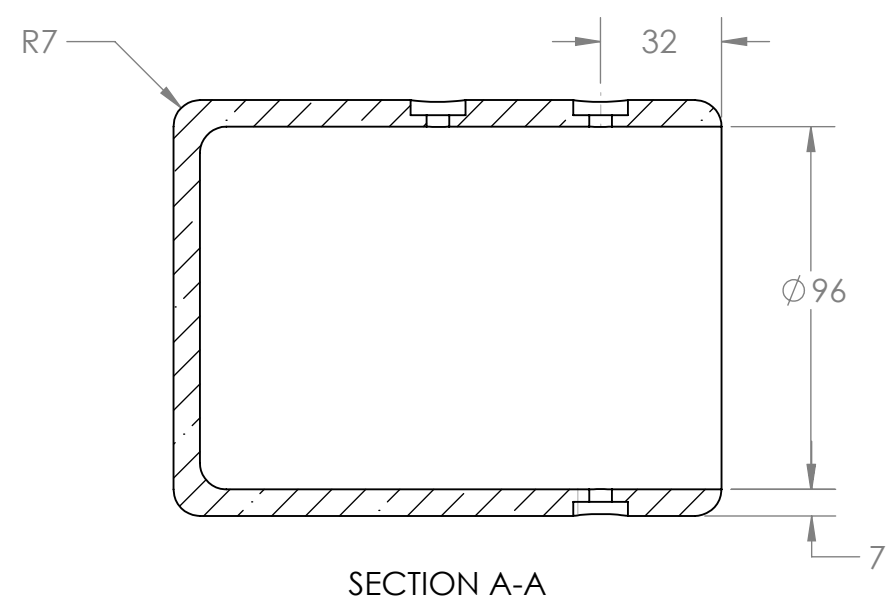
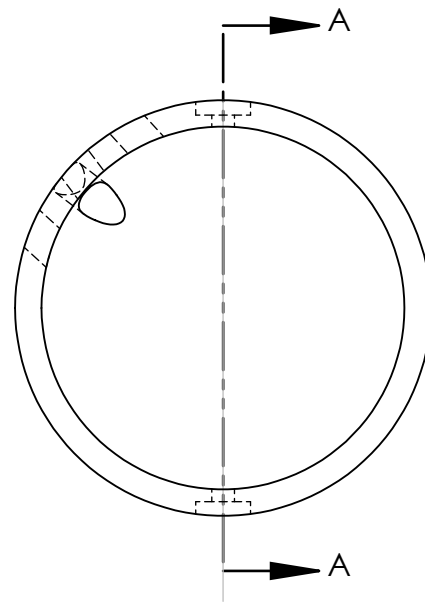
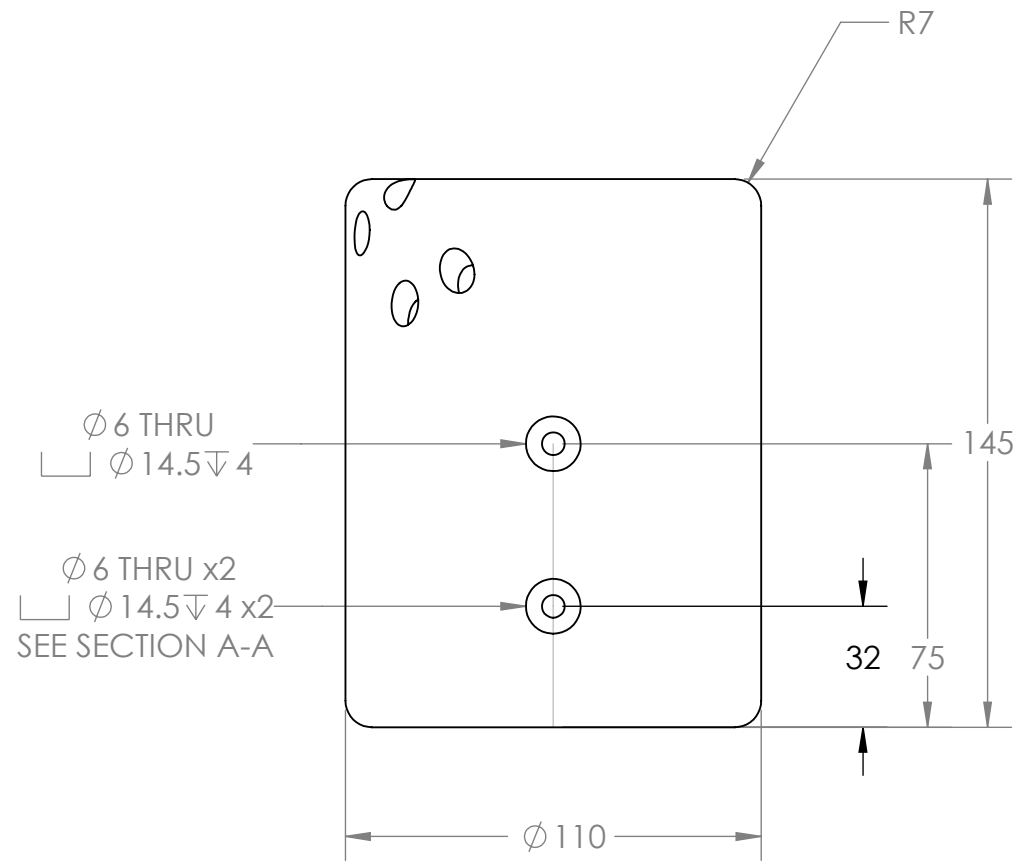
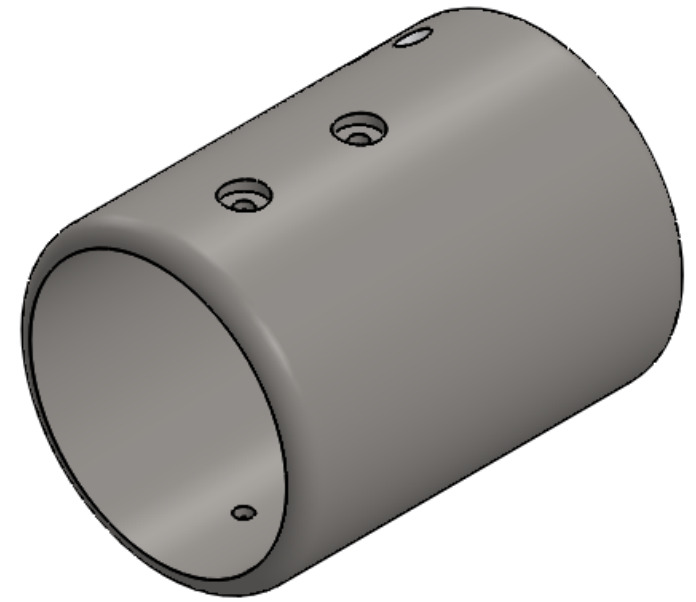
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<b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY	
MATERIAL	BN CERAMIC GRADE XP
NAME	DATE
DRAWN	RAMONA V PEREZ 06/06/13
CHECKED	RAMONA V PEREZ 07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM	REMOVE ALL BURRS AND SHARP EDGES

TITLE: <b>PROTON DETECTOR SHIELD</b>		
SIZE	DWG. NO.	REV
<b>B</b>	PD_22_Shell	
not to scale	WEIGHT: 1.2kg	SHEET 1 OF 4

8 5 7 4 6 3 5 2 4 1 2 1

NOTES:  
 1. ALL MACHINING TOLERANCES TO  
 +/-0.2mm AND +/- 0Degree 30' EXCEPT  
 WHERE SHOWN OTHERWISE.



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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

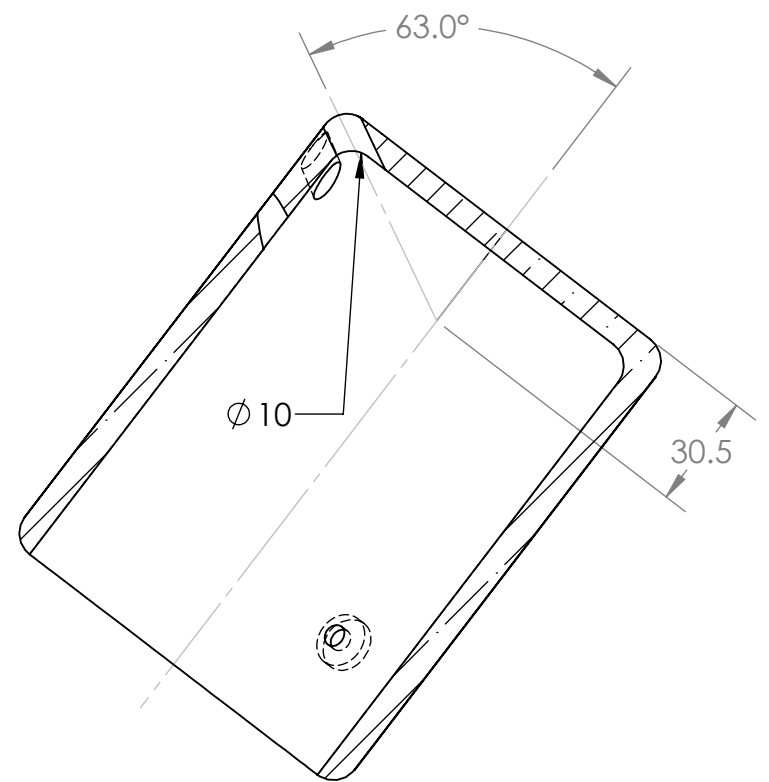
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**FIU** FLORIDA INTERNATIONAL UNIVERSITY  
 MATERIAL: BN CERAMIC GRADE XP  
 NAME: RAMONA V PEREZ  
 DATE: 06/06/13  
 DRAWN: RAMONA V PEREZ  
 CHECKED: RAMONA V PEREZ  
 07/02/13  
 UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM  
 REMOVE ALL BURRS AND SHARP EDGES

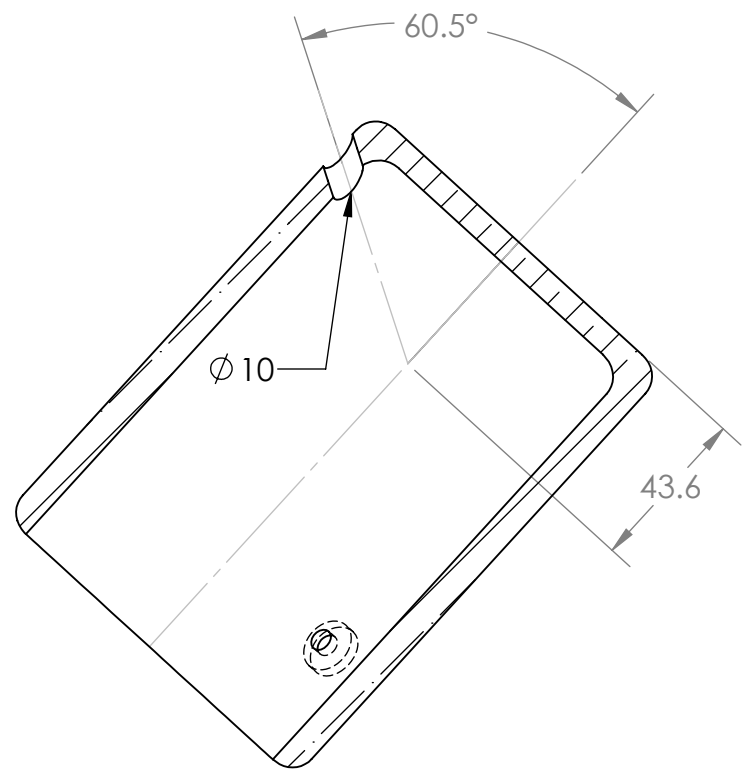
DO NOT SCALE DRAWING

TITLE: PROTON DETECTOR SHIELD  
 SIZE: B  
 DWG. NO.: PD\_22\_Shell  
 REV:   
 SCALE: 1:2 WEIGHT: 1.2kg SHEET 2 OF 4

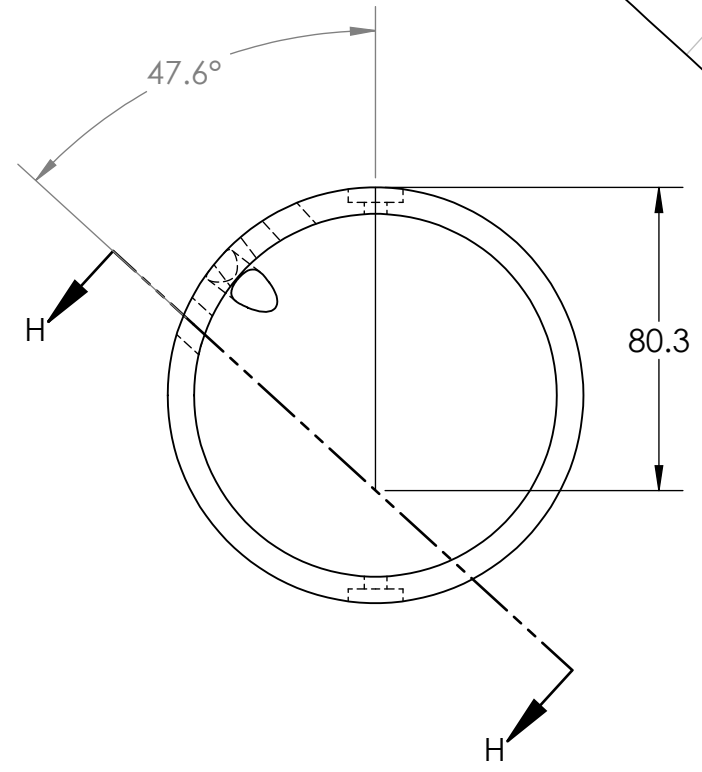
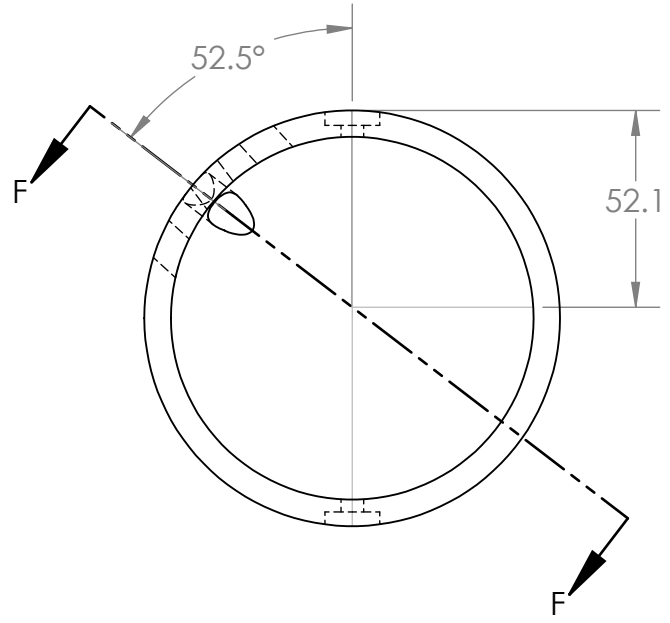
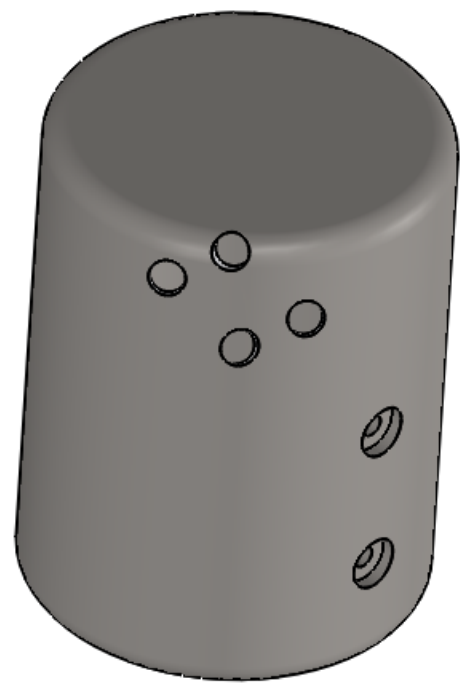
8 7 6 5 4 3 2 1



SECTION F-F



SECTION H-H



NOTES:  
 1. ALL MACHINING TOLERANCES TO +/-0.2mm AND +/- 0Degree 30' EXCEPT WHERE SHOWN OTHERWISE.

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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<b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY	
MATERIAL	BN CERAMIC GRADE XP
NAME	DATE
DRAWN	RAMONA V PEREZ 06/06/13
CHECKED	RAMONA V PEREZ 07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM	REMOVE ALL BURRS AND SHARP EDGES

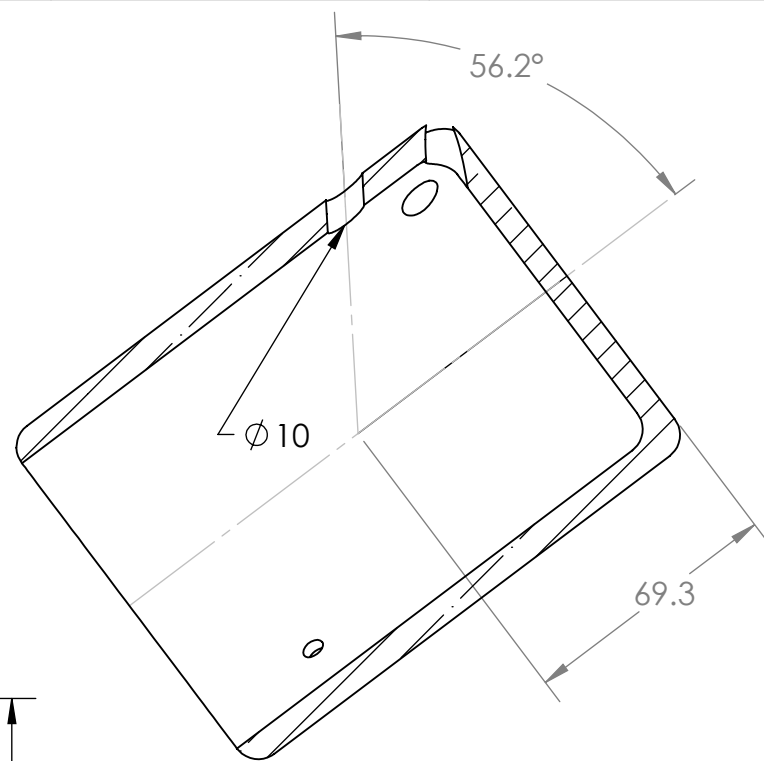
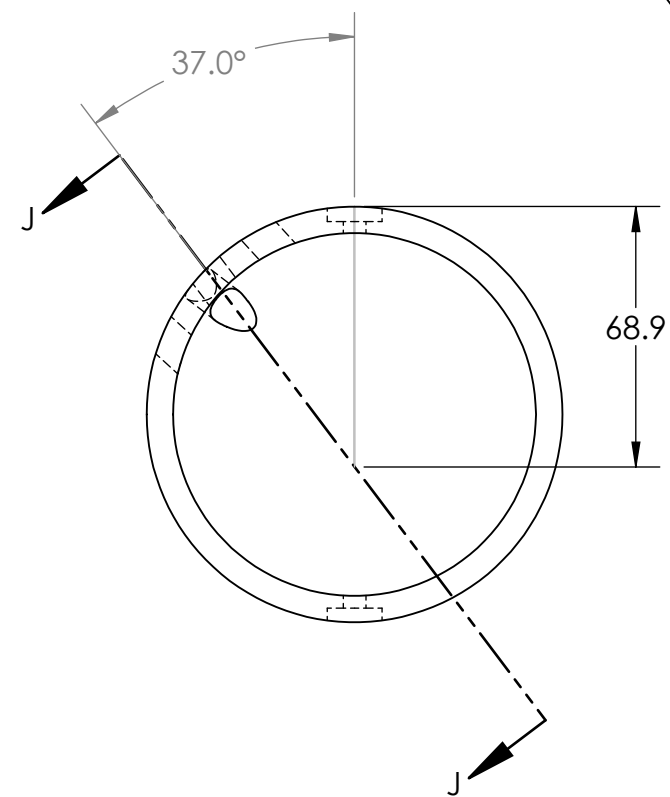
TITLE: <b>PROTON DETECTOR SHIELD</b>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>PD_22_Shell</b>	
SCALE: 1:2	WEIGHT: 1.2kg	SHEET 3 OF 4

8 5 7 4 6 3 5 2 4 1 2 1

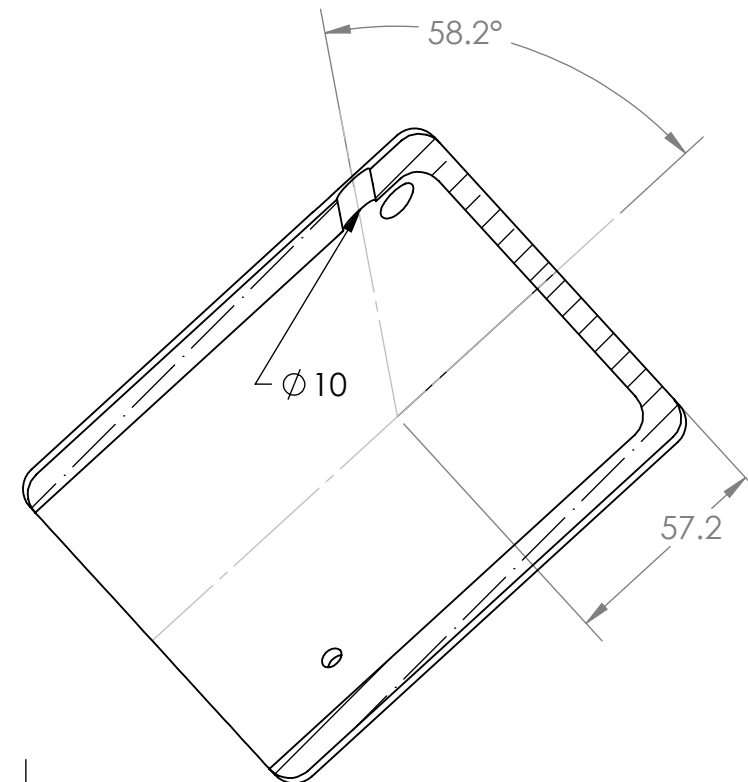
8 7 6 5 4 3 2 1

D  
C  
B  
A

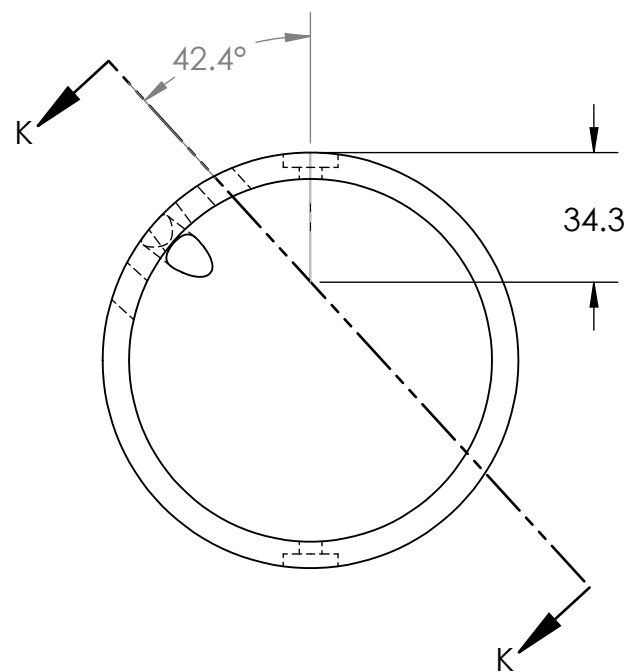
D  
C  
B  
A



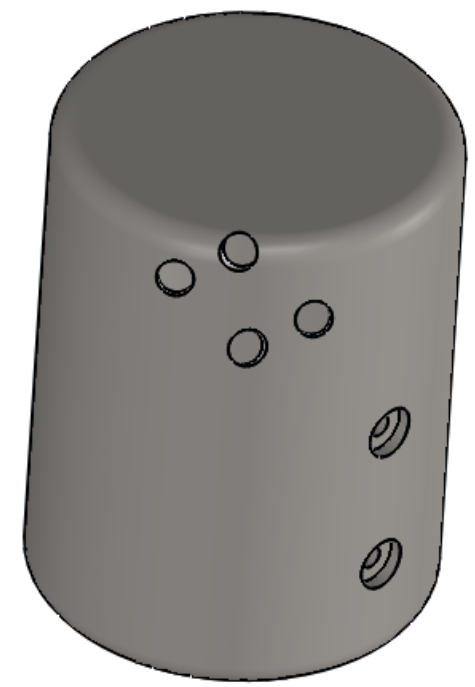
SECTION J-J



SECTION K-K



**NOTES:**  
1. ALL MACHINING TOLERANCES TO +/- 0.2mm AND +/- 0Degree 30' EXCEPT WHERE SHOWN OTHERWISE.



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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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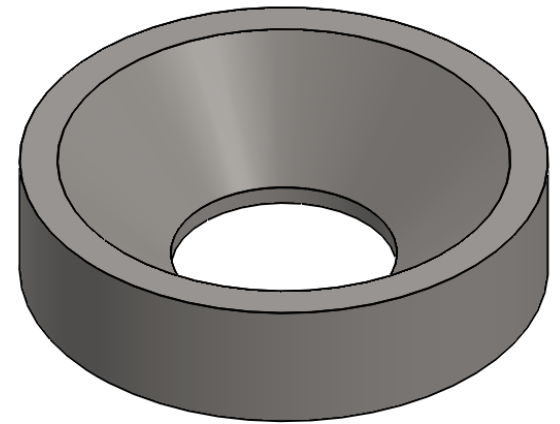
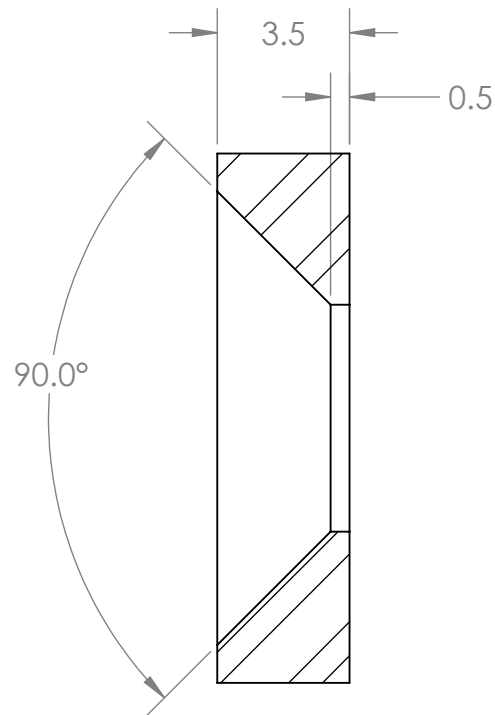
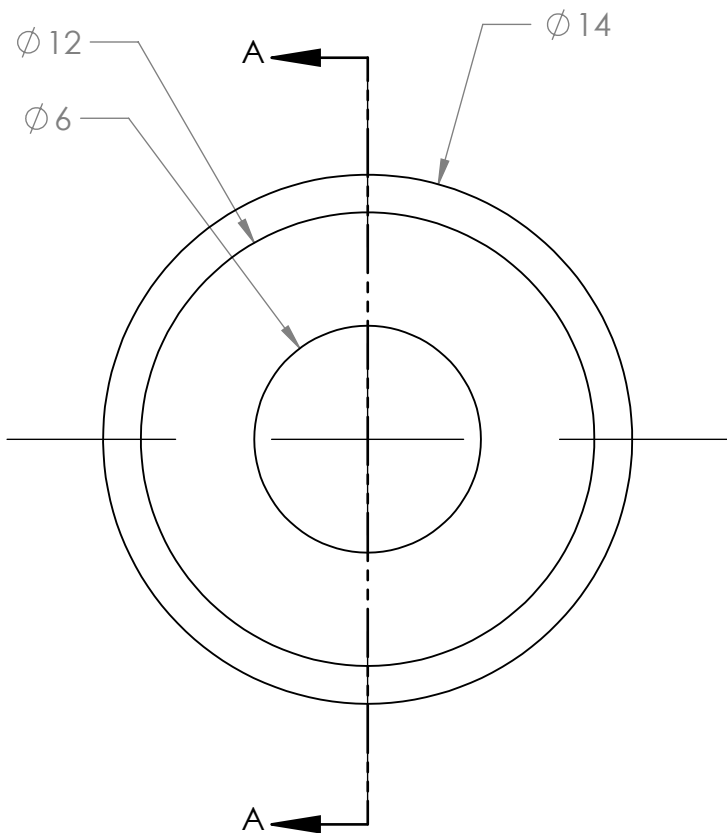
MATERIAL		BN CERAMIC GRADE XP	
NAME		DATE	
DRAWN	RAMONA V PEREZ	06/06/13	
CHECKED	RAMONA V PEREZ	07/02/13	
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES	

TITLE:  
**PROTON DETECTOR SHIELD**

SIZE **B** DWG. NO. **PD\_22\_Shell** REV

SCALE: 1:2 WEIGHT: 1.2kg SHEET 4 OF 4

8 5 7 4 6 3 5 2 4 1 2 1



**NOTES:**  
 1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.

SECTION A-A

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.15	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8

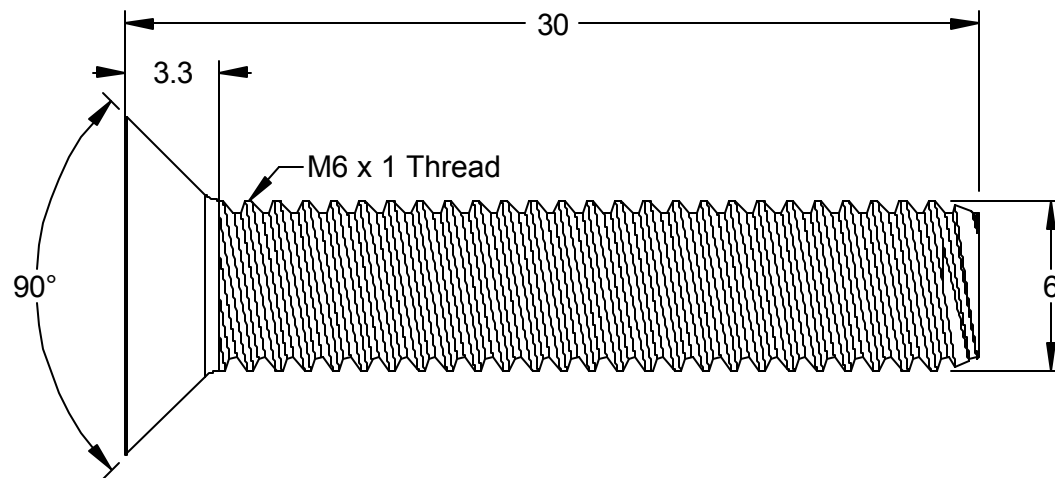
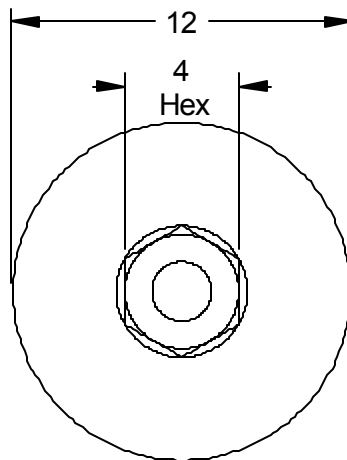
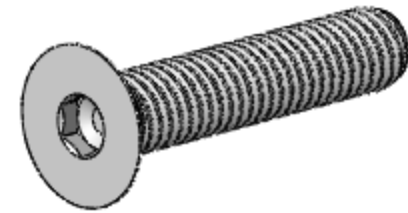
TOLERANCES ANGULAR DIMENSIONS				
LESS THAN 50	50 TO 120	120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'

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MATERIAL		SS316
NAME		DATE
DRAWN	RAMONA V PEREZ	05/01/13
CHECKED	RAMONA V PEREZ	06/19/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM	REMOVE ALL BURRS AND SHARP EDGES	

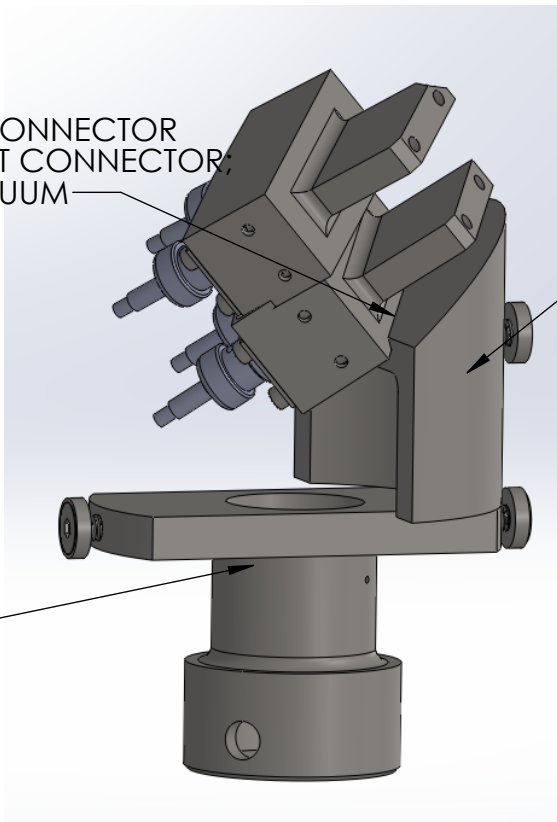
TITLE: PROTON DETECTOR SHIELD BRACKET		
SIZE <b>A</b>	DWG. NO. PD_22_Bracket	REV
SCALE: 5:1	WEIGHT: .003KG	SHEET 1 OF 1



<b>McMASTER-CARR</b> CAD	PART NUMBER <b>93395A366</b>
<a href="http://www.mcmaster.com">http://www.mcmaster.com</a> (c) 2004 McMaster-Carr Supply Company	Type 316 Stainless Steel DIN 7991-A4 Flat Socket Head Cap Screw
Unless otherwise specified, dimensions are in millimeters. Information in this drawing is provided for reference only.	



WELD PROTON DETECTOR CONNECTOR TO PROTON DETECTOR MAST CONNECTOR; WELD FOR ULTRA HIGH VACUUM



PARTS LIST			
ITEM NO.	TITLE	DWG. NO.	QUANTITY
4	PROTON DETECTOR CONNECTOR	PD_22_connector	1
5	PROTON DETECTOR MAST CONNECTOR	MAST_connector_1	1

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OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.15	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8

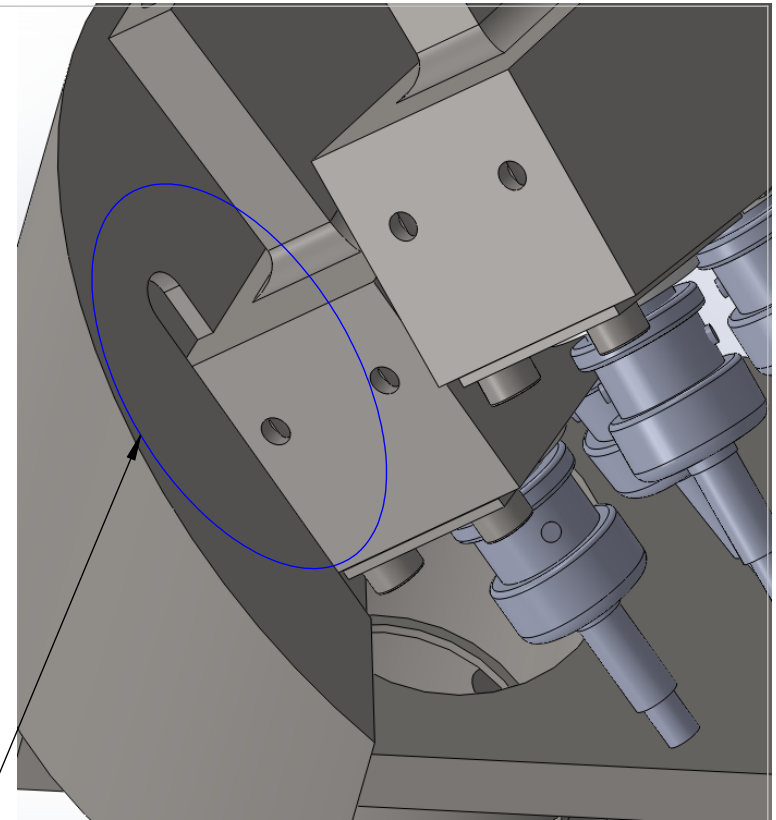
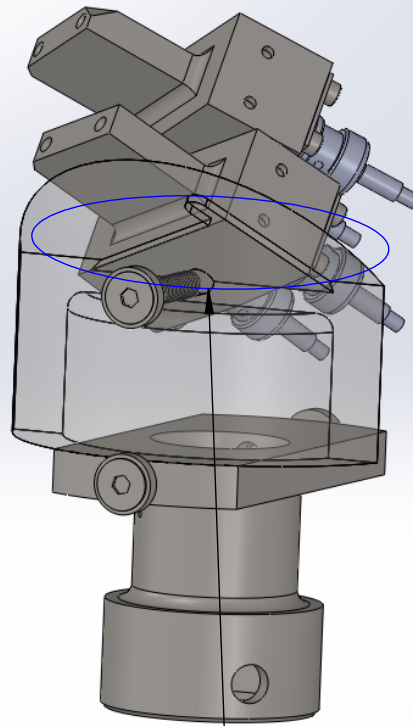
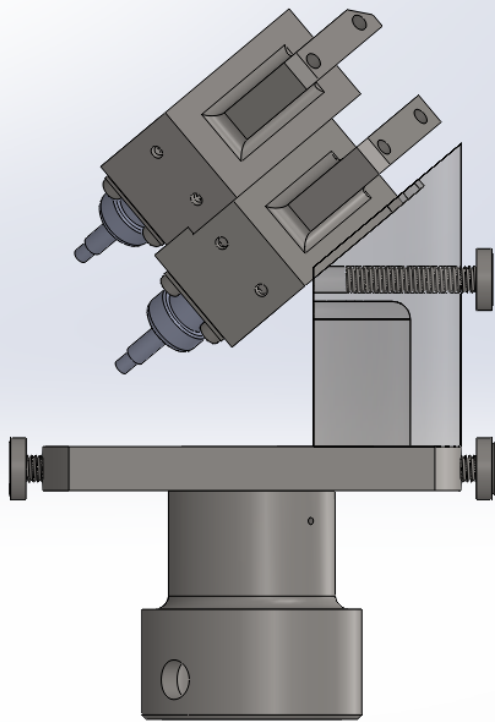
TOLERANCES ANGULAR DIMENSIONS				
LESS THAN 50	50 TO 120	120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'

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MATERIAL		SS316
	NAME	DATE
DRAWN	RAMONA V PEREZ	05/28/13
CHECKED	RAMONA V PEREZ	07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES

TITLE:		
PROTON DETECTOR ASSEMBLED CONNECTOR		
SIZE	DWG. NO.	REV
<b>A</b>	PD_22_connector_assembled	
		SHEET 1 OF 2



NOTES:  
ANOTHER VIEW OF STEP ON  
TRANSPARENT CONNECTOR.

- NOTES:
1. WELD PROTON DETECTOR MODULE A TO PROTON DETECTOR CONNECTOR
  2. WELD FOR ULTRA HIGH VACUUM
  3. NOTE STEP ON CONNECTOR IS TO CORRECTLY POSITION PROTON DETECTOR MODULE A

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OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.15	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
LESS OR EQUALLY TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400		
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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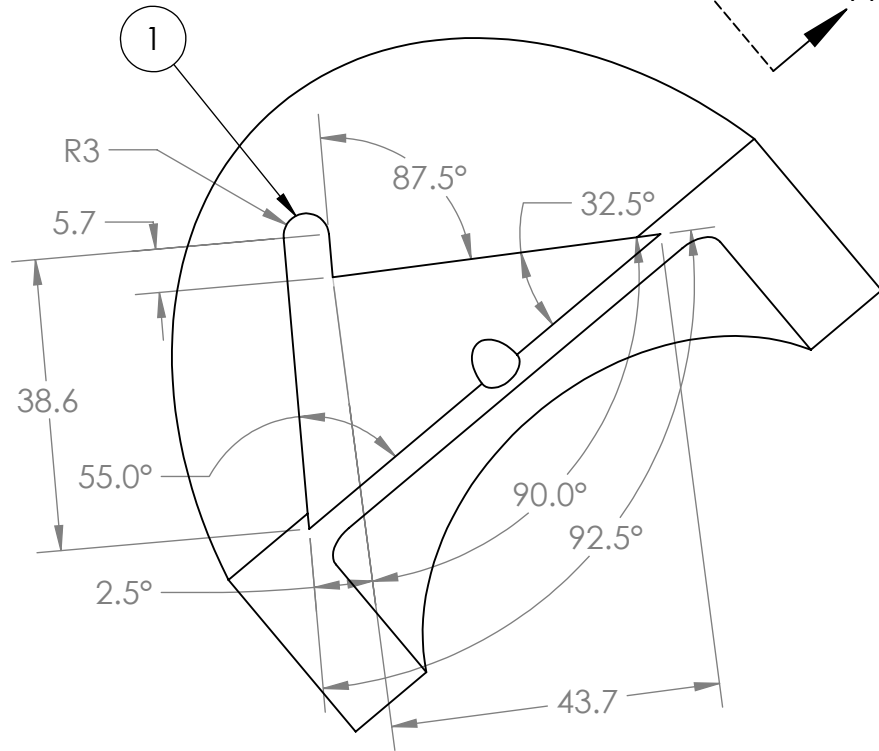
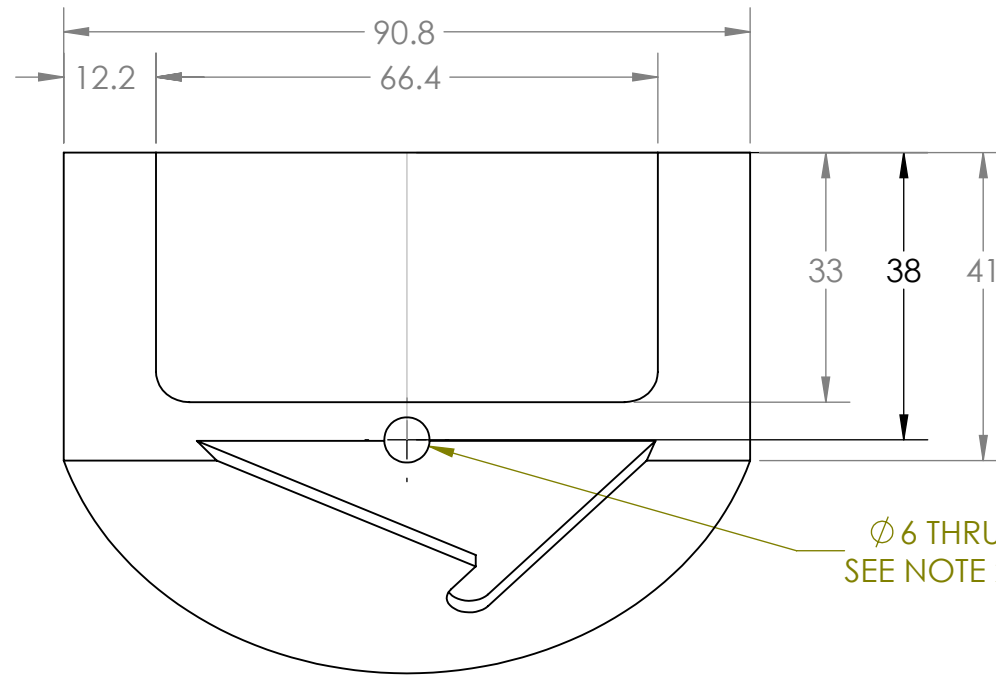
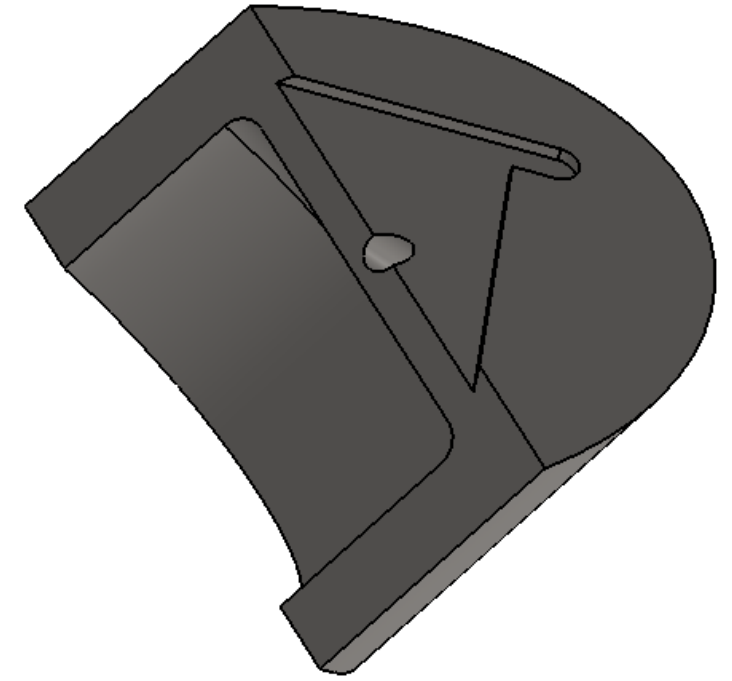
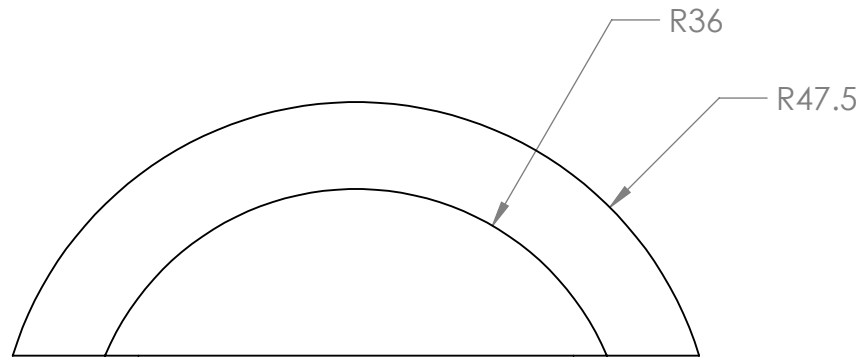
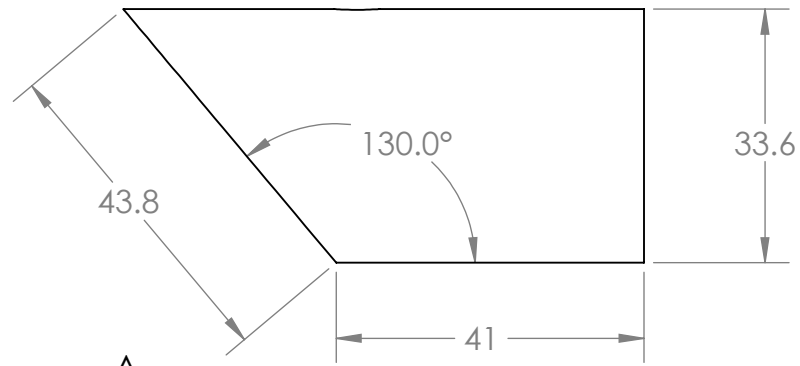
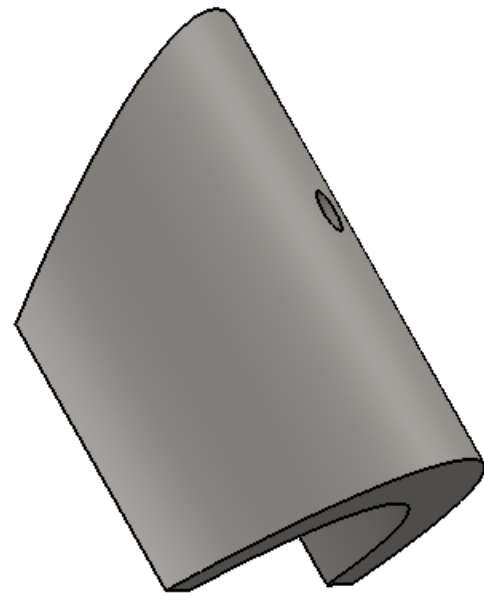
DO NOT SCALE DRAWING



MATERIAL		SS316
	NAME	DATE
DRAWN	RAMONA V PEREZ	06/13/13
CHECKED	RAMONA V PEREZ	07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES

TITLE:  
**PROTON DETECTOR  
ASSEMBLED CONNECTOR**

SIZE **A** DWG. NO. PD\_22\_connector\_assembled REV



VIEW A-A

**NOTES:**  
 1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.  
 2. THREAD FOR M6 X1 MACHINE SCREW.  
 3. THIS PROVIDES FOR PLACEMENT OF CORNER OF PROTON DETECTOR MODULE A PIECE DURING WELDING.

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OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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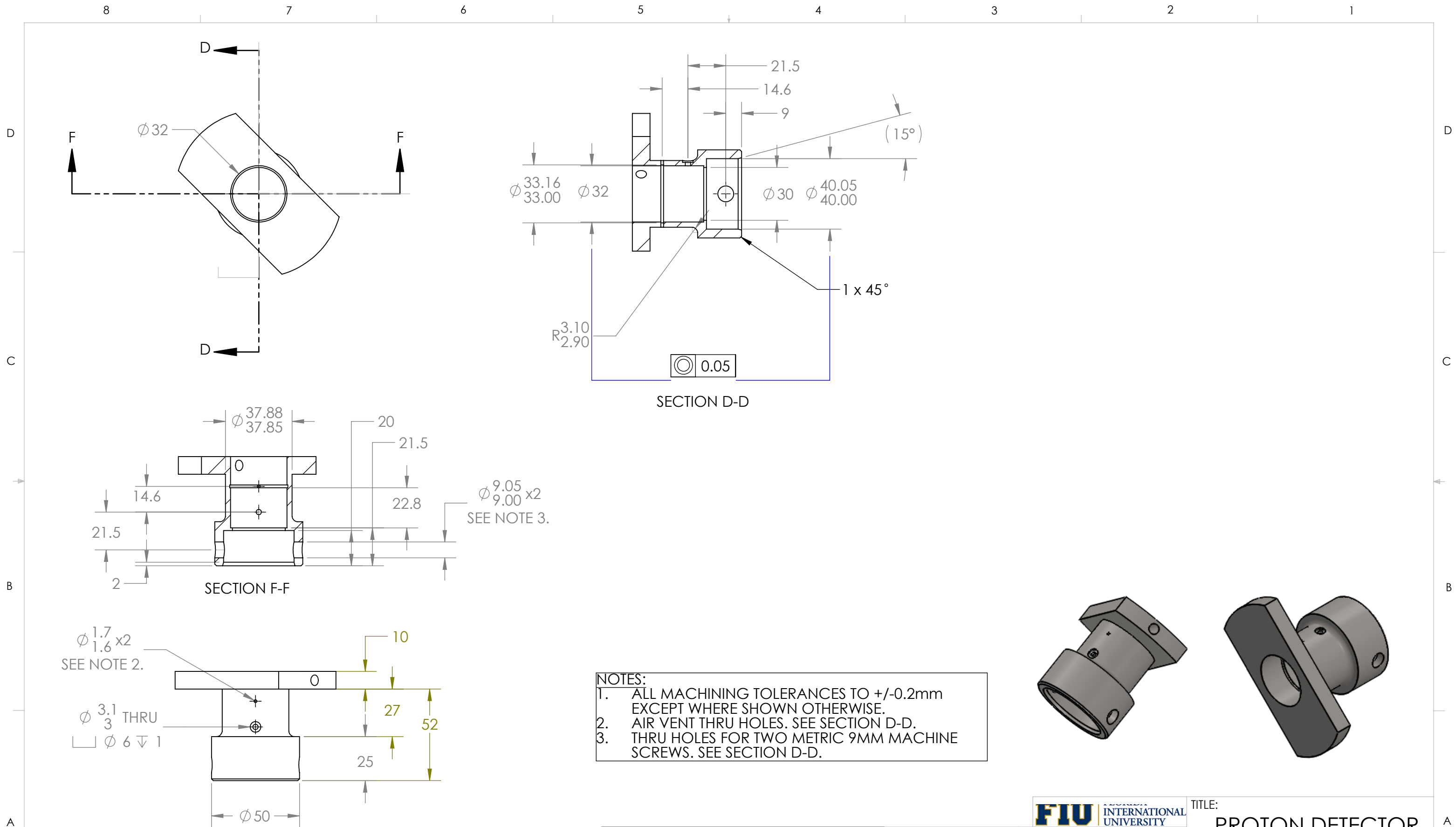
<b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY	
MATERIAL	SS316
NAME	DATE
DRAWN	RAMONA V PEREZ 06/13/13
CHECKED	RAMONA V PEREZ 07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM	REMOVE ALL BURRS AND SHARP EDGES

DO NOT SCALE DRAWING

TITLE:  
**PROTON DETECTOR CONNECTOR**

SIZE DWG. NO. REV  
**B** PD\_22\_connector

SCALE: 1:1 WEIGHT: 0.64kg SHEET 1 OF 1



NOTES:  
 1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.  
 2. AIR VENT THRU HOLES. SEE SECTION D-D.  
 3. THRU HOLES FOR TWO METRIC 9MM MACHINE SCREWS. SEE SECTION D-D.

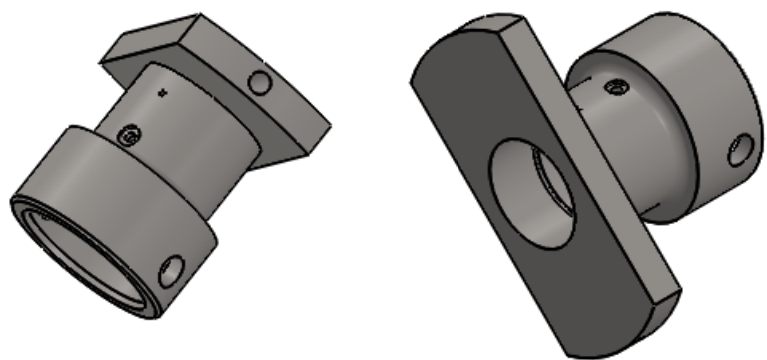
TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

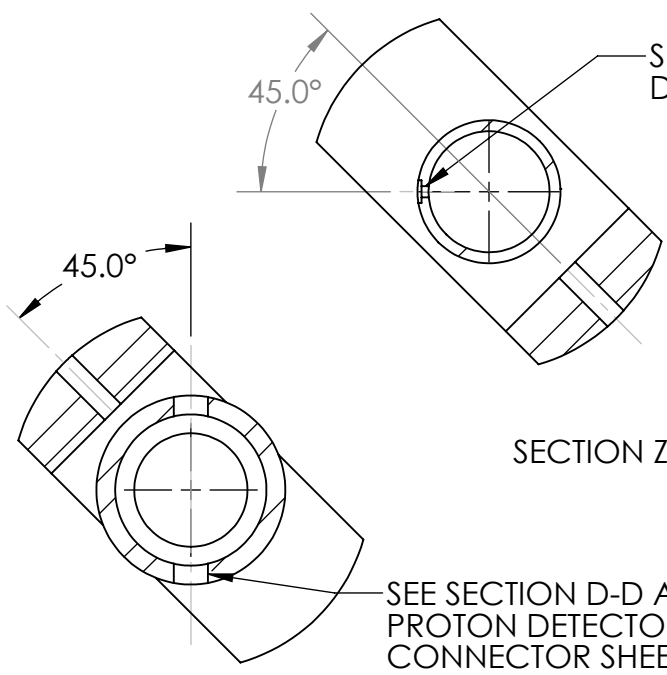
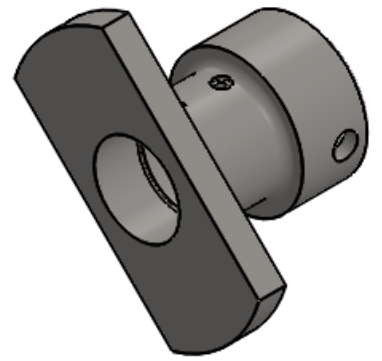
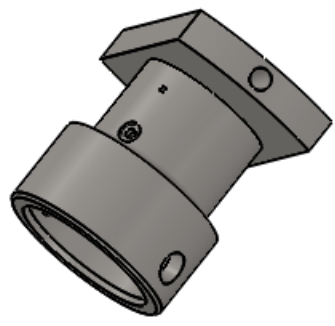
**PROPRIETARY AND CONFIDENTIAL**  
 REFER TO UNITED KINGDOM ATOMIC ENERGY AUTHORITY CULHAM CENTRE FOR FUSION ENERGY DWG M1150123 ISSUE C. DWG PROPERTIES USED TO COMPLY WITH MAST RECIPROCATING PROBE INSTALLATION OF PROTON DETECTOR.

MATERIAL		SS316
NAME	DATE	
DRAWN	RAMONA V PEREZ	05/27/13
CHECKED	RAMONA V PEREZ	07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES

TITLE: <b>PROTON DETECTOR MAST CONNECTOR</b>		
SIZE <b>B</b>	DWG. NO. MAST_connector_2	REV
SCALE: 1:2	WEIGHT: 0.49kg	SHEET 1 OF 2

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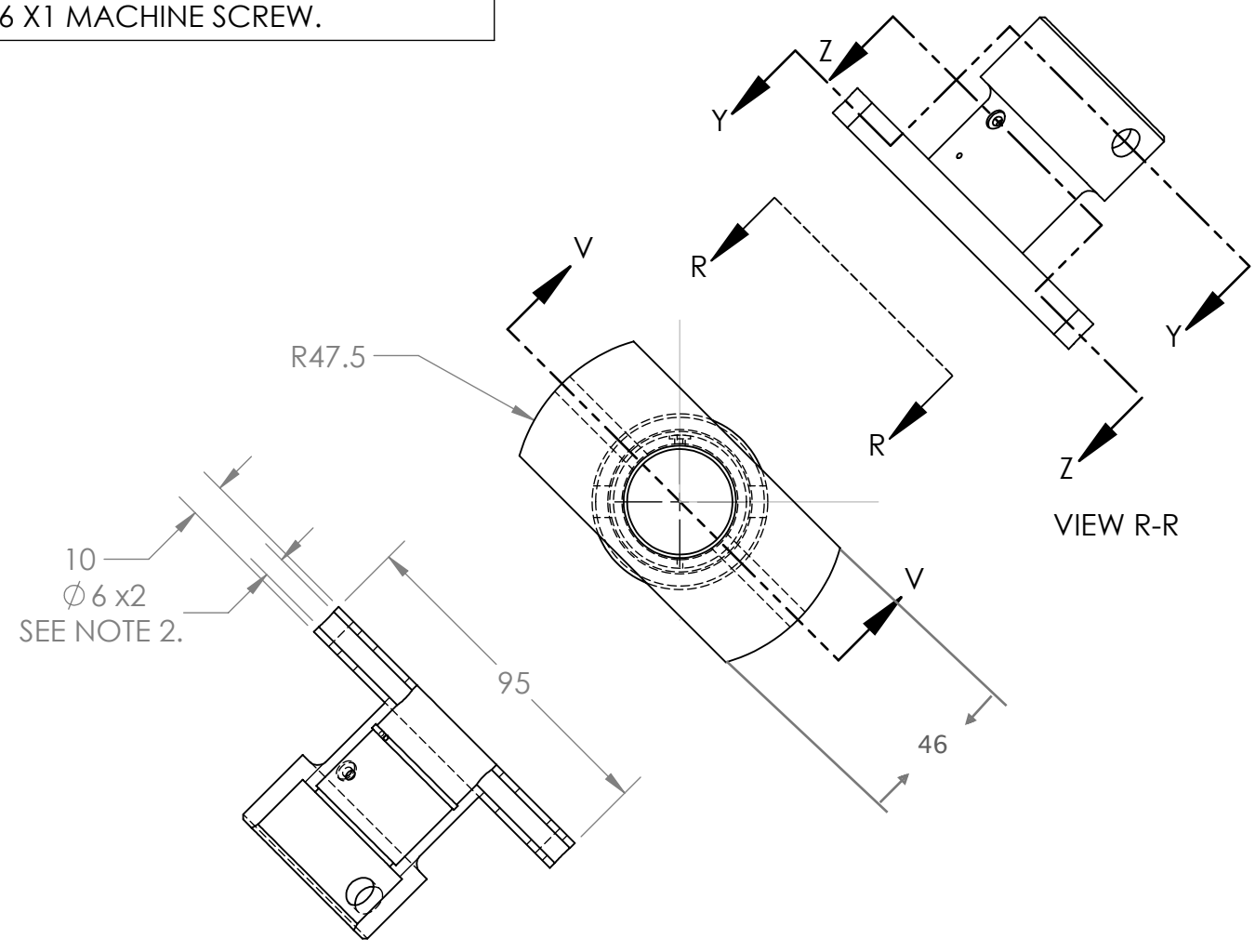
SEE SECTION D-D OF PROTON DETECTOR MAST CONNECTOR SHEET 1.

SECTION Z-Z

SEE SECTION D-D AND SECTION F-F OF PROTON DETECTOR MAST CONNECTOR SHEET 1.

SECTION Y-Y

**NOTES:**  
 1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.  
 2. THREAD FOR M6 X1 MACHINE SCREW.



SECTION V-V

VIEW R-R

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

**PROPRIETARY AND CONFIDENTIAL**  
 REFER TO UNITED KINGDOM ATOMIC ENERGY AUTHORITY CULHAM CENTRE FOR FUSION ENERGY DWG M1150123 ISSUE C. DWG PROPERTIES USED TO COMPLY WITH MAST RECIPROCATING PROBE INSTALLATION OF PROTON DETECTOR.

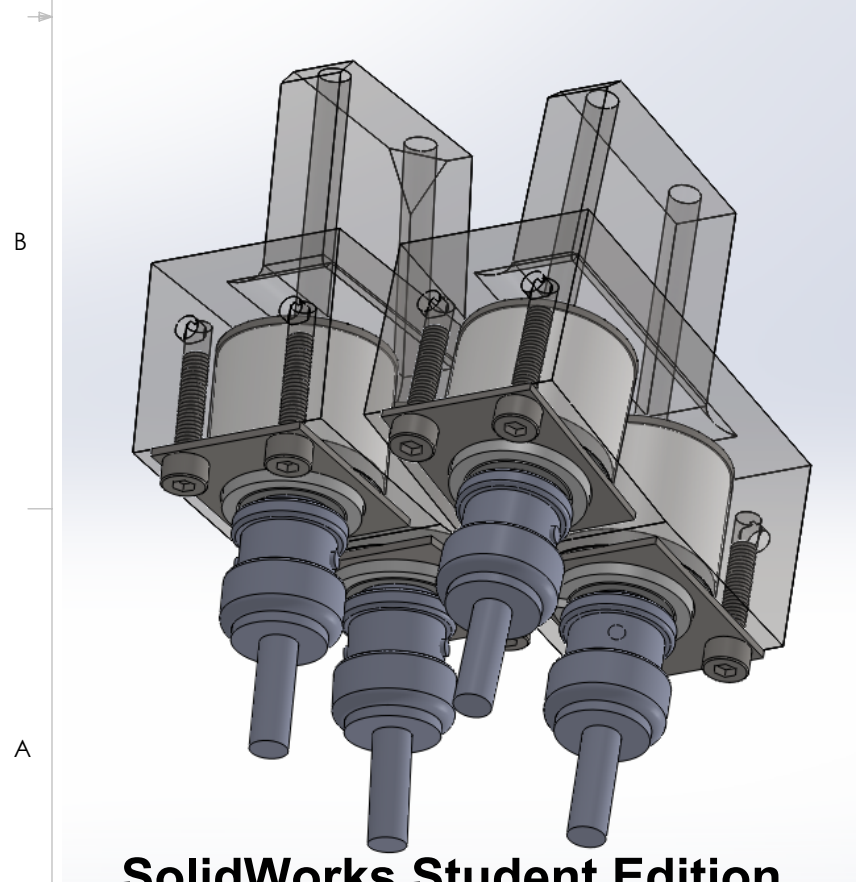
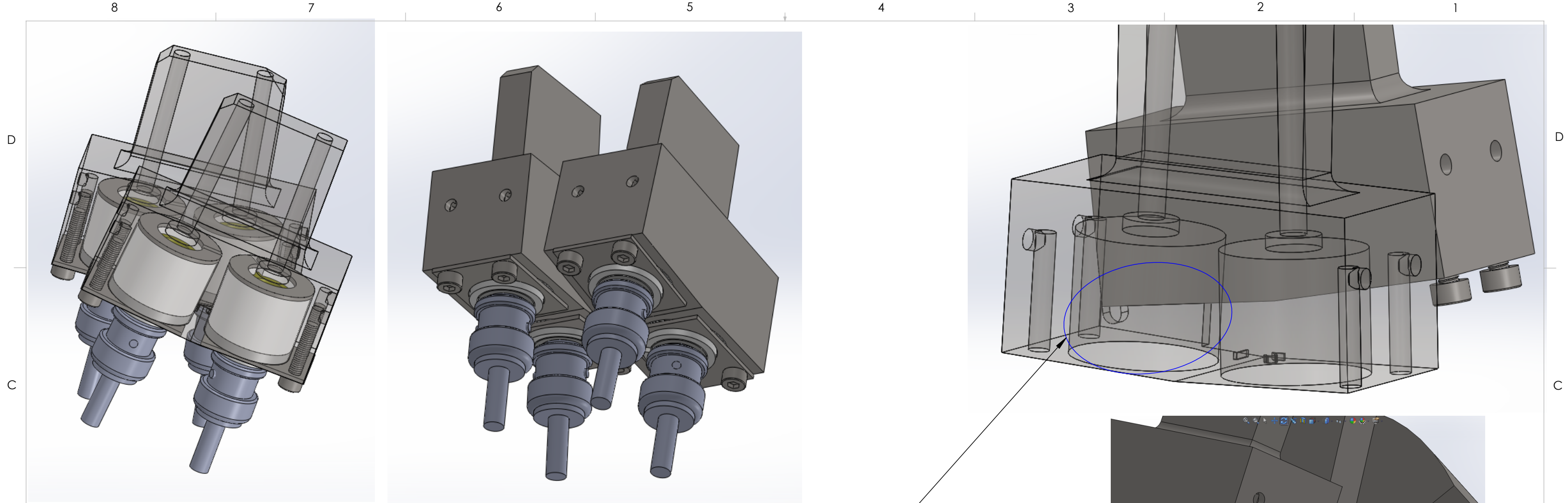
MATERIAL		SS316
NAME		DATE
DRAWN	RAMONA V PEREZ	05/27/13
CHECKED	RAMONA V PEREZ	07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES

TITLE: <b>PROTON DETECTOR MAST CONNECTOR</b>		
SIZE <b>B</b>	DWG. NO. MAST_connector_2	REV
SCALE: 1:2	WEIGHT: 0.49kg	SHEET 2 OF 2



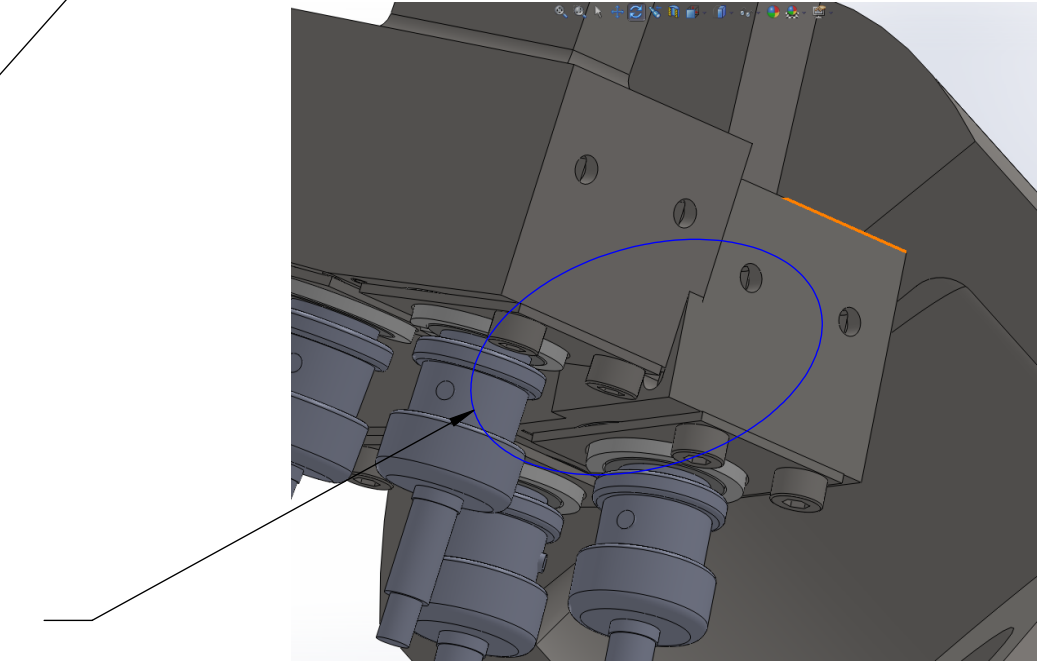
8 7 6 5 4 3 2 1

8 5 7 4 6 3 5 2 4 1 2 1



- NOTES:
1. WELD PROTON DETECTOR MODULE B TO PROTON DETECTOR MODULE A
  2. WELD FOR ULTRA HIGH VACUUM
  3. NOTE STEP ON PROTON MODULE A TO CORRECTLY POSITION PROTON DETECTOR MODULE B

NOTES:  
ANOTHER VIEW OF STEP TO USE FOR WELDING MODULE B TO MODULE A.



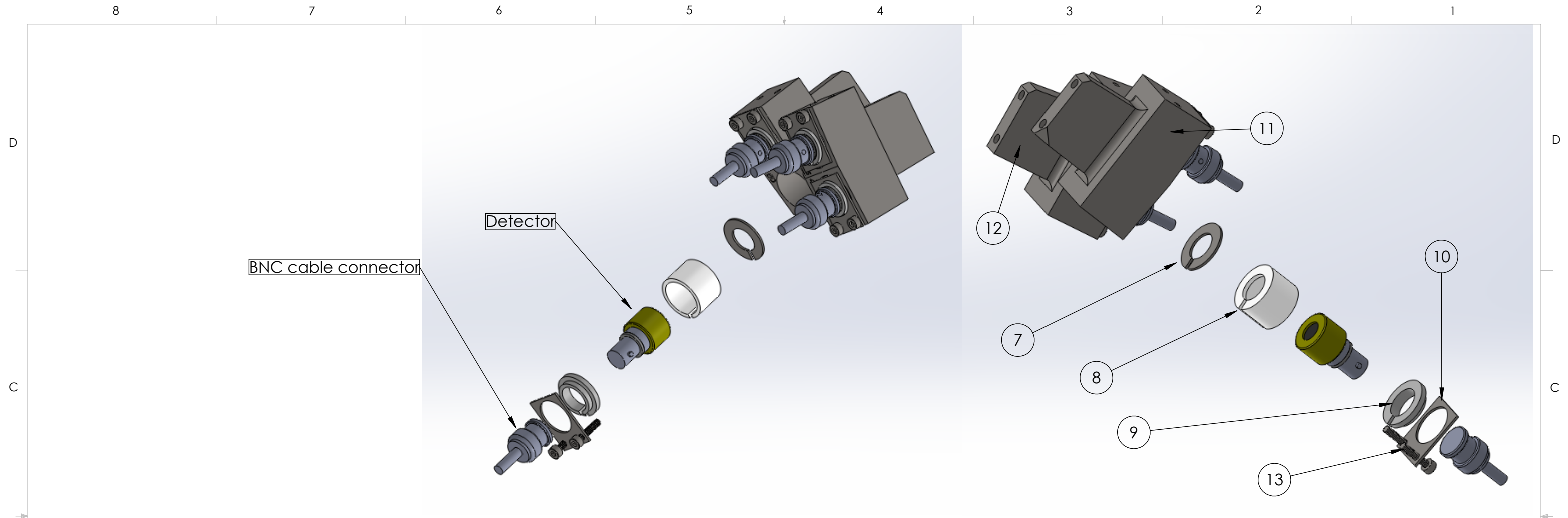
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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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<b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY	
MATERIAL	SS316, PEEK 1000
NAME	DATE
DRAWN	RAMONA V PEREZ 06/13/13
CHECKED	RAMONA V PEREZ 07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM	REMOVE ALL BURRS AND SHARP EDGES

TITLE: <b>PROTON DETECTOR ASSEMBLED MODULE</b>		
SIZE <b>B</b>	DWG. NO. PD_22_Module_assembled	REV
		SHEET 1 OF 2



PARTS LIST			
ITEM	TITLE	DWG. NO.	QUANTITY
6	NO ITEM 6	N/A	N/A
7	PROTON DETECTOR WASHER	PD_22_Washer	4
8	PROTON DETECTOR PEEK SLEEVE	PD_22_Peek_sleeve	4
9	PROTON DETECTOR PEEK BOTTOM	PD_22_Peek_bottom	4
10	PROTON DETECTOR MODULE BASE	PD_22_base	4
11	PROTON DETECTOR MODULE A	PD_22_b	1
12	PROTON DETECTOR MODULE B	PD_22_a	1
13	McMaster-Carr PN#92290A118		8

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

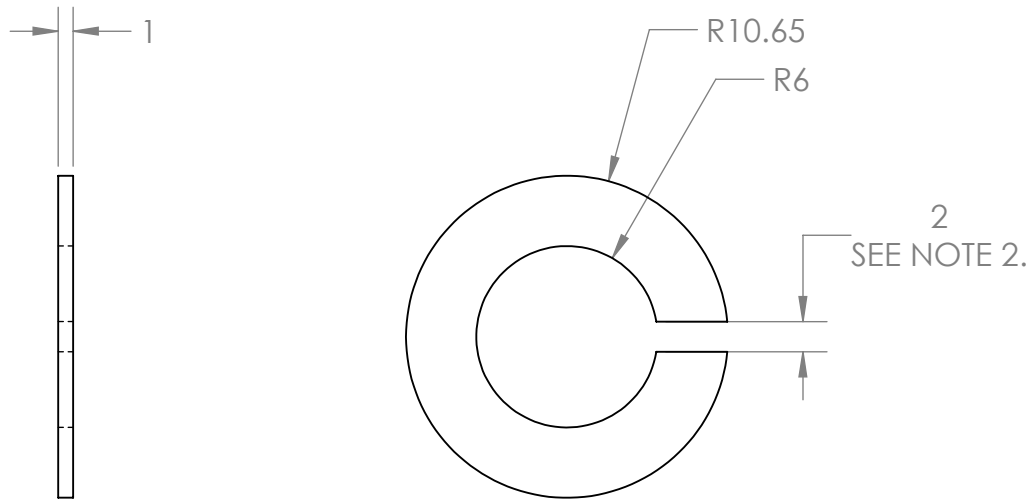
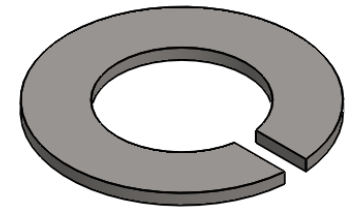
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MATERIAL		SS316, PEEK 1000
NAME		DATE
DRAWN	RAMONA V PEREZ	06/13/13
CHECKED	RAMONA V PEREZ	06/19/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES

TITLE:  
**PROTON DETECTOR ASSEMBLED MODULE**

SIZE	DWG. NO.	REV
<b>B</b>	PD_22_Module_assembled	



**NOTES:**

1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.
2. PLEASE NOTE THAT THE 2mm SLIT IS USED FOR AIR TO ESCAPE AND DOES NOT NEED A +/-0.2mm TOLERANCE. MINIMUM DIMENSION: 2mm AND MAXIMUM DIMENSION: 4mm

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.15	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8

TOLERANCES ANGULAR DIMENSIONS				
LESS THAN 10	10 TO 30	30 TO 60	60 TO 120	120 TO 400
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'

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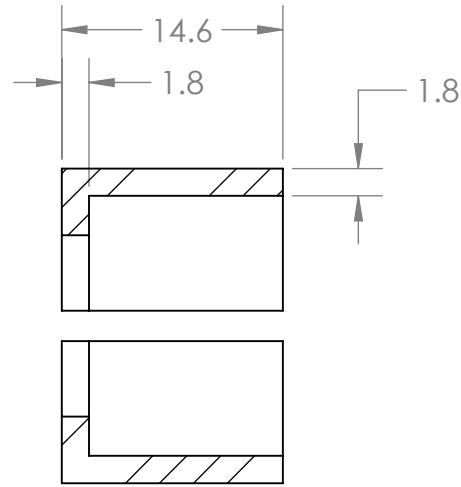
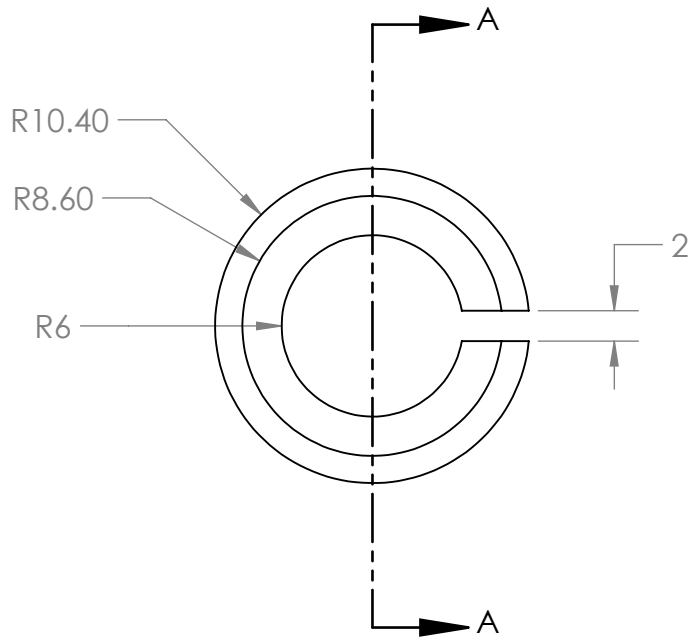
DO NOT SCALE DRAWING



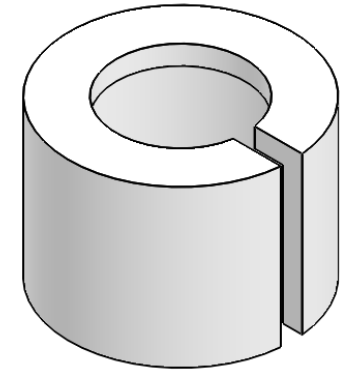
MATERIAL			SS316		
DRAWN		RAMONA V PEREZ	DATE		
CHECKED		RAMONA V PEREZ	07/02/13		
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM			REMOVE ALL BURRS AND SHARP EDGES		

TITLE:					
PROTON DETECTOR WASHER					
SIZE	DWG. NO.			REV	
<b>A</b>	PD_22_Washer				
SCALE: 2:1	WEIGHT:0.002kg	SHEET 1 OF 1			





SECTION A-A



NOTES:  
 1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.

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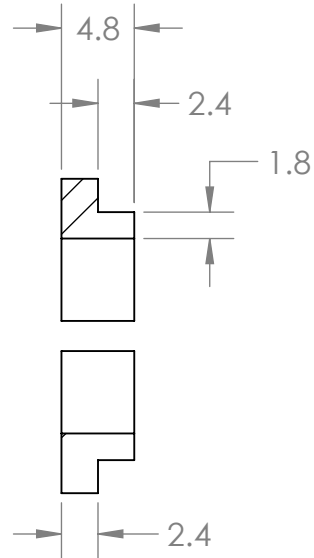
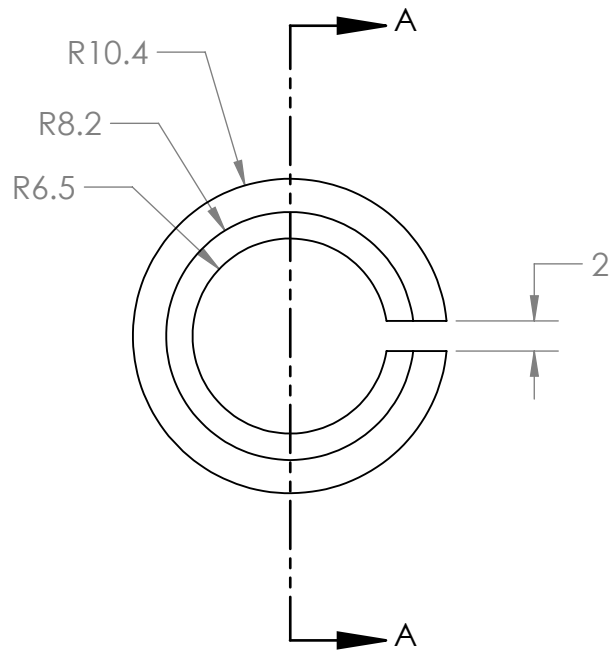
TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.15	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
LESS THAN 10°	10° TO 30°	30° TO 60°	OVER 60° TO 90°	OVER 90° TO 120°	OVER 120° TO 180°
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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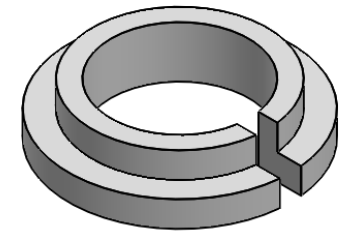


MATERIAL		PEEK 1000	
DRAWN		NAME	DATE
CHECKED		RAMONA V PEREZ	06/14/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES	

TITLE: PROTON DETECTOR PEEK SLEEVE		
SIZE <b>A</b>	DWG. NO. PD_22_Peek_sleeve	REV
SCALE: 2:1	WEIGHT: 0.002kg	SHEET 1 OF 1



SECTION A-A



NOTES:

- ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.15	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
OVER 120 TO 400	OVER 400 TO 1000	OVER 120 TO 400	OVER 400 TO 1000	OVER 120 TO 400	OVER 400 TO 1000
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

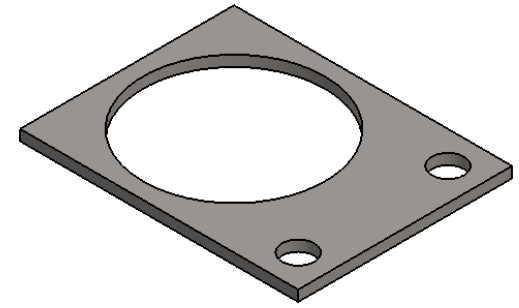
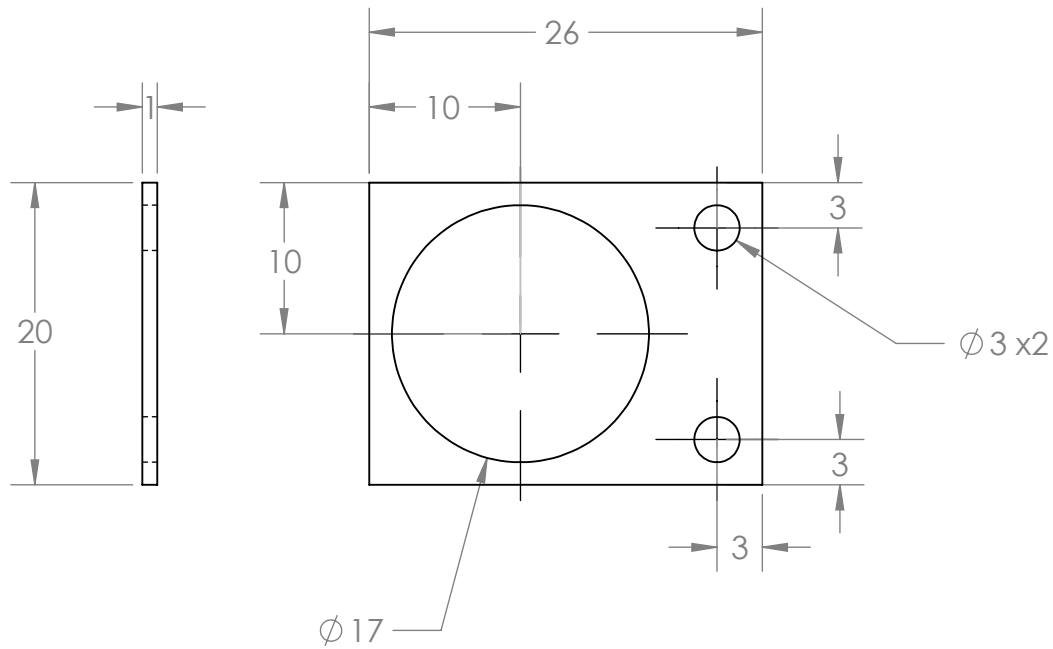
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DO NOT SCALE DRAWING



MATERIAL		PEEK 1000
NAME		DATE
DRAWN	RAMONA V PEREZ	06/13/13
CHECKED	RAMONA V PEREZ	06/14/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES

TITLE:			PROTON DETECTOR PEEK BOTTOM		
SIZE	DWG. NO.	REV			
<b>A</b>	PD_22_Peek_bottom				
SCALE: 2:1	WEIGHT: 0.001kg	SHEET 1 OF 1			



**NOTES:**

- ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.

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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.15	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
LESS OR EQU TO 30	OVER 30 TO 60	OVER 60 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

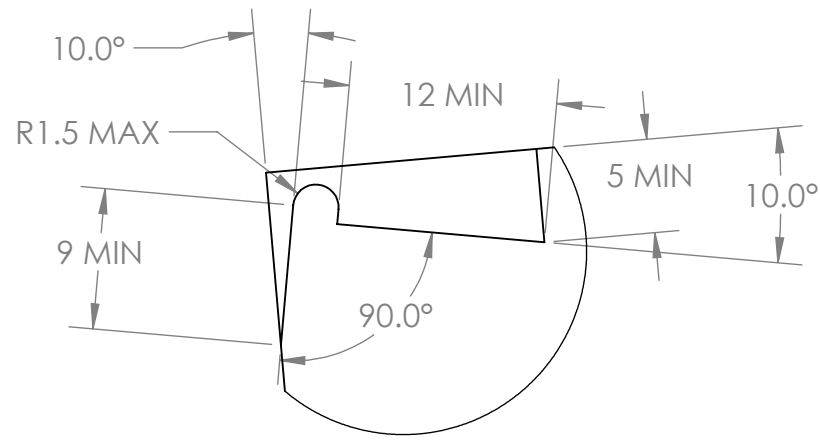
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DO NOT SCALE DRAWING

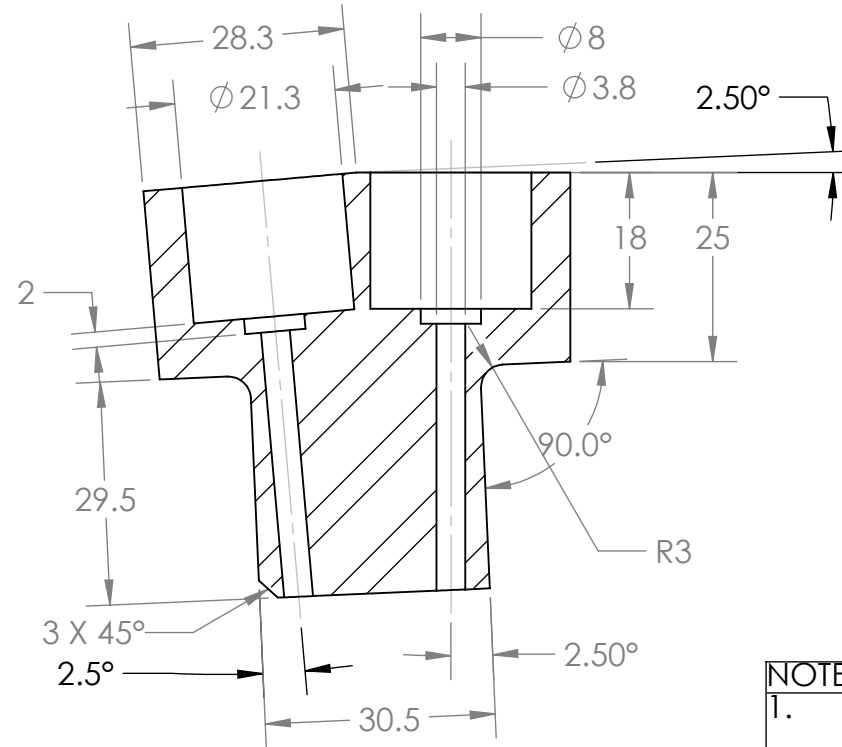
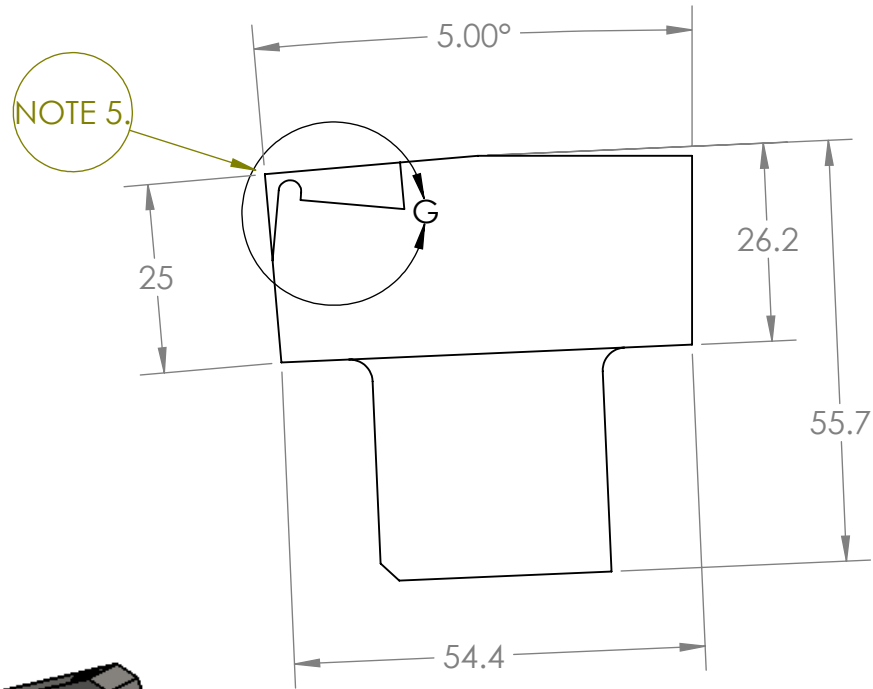
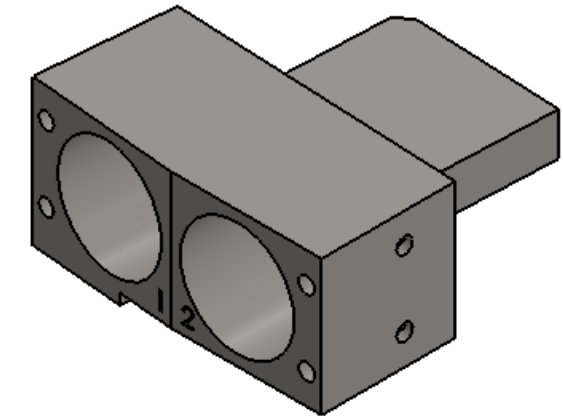
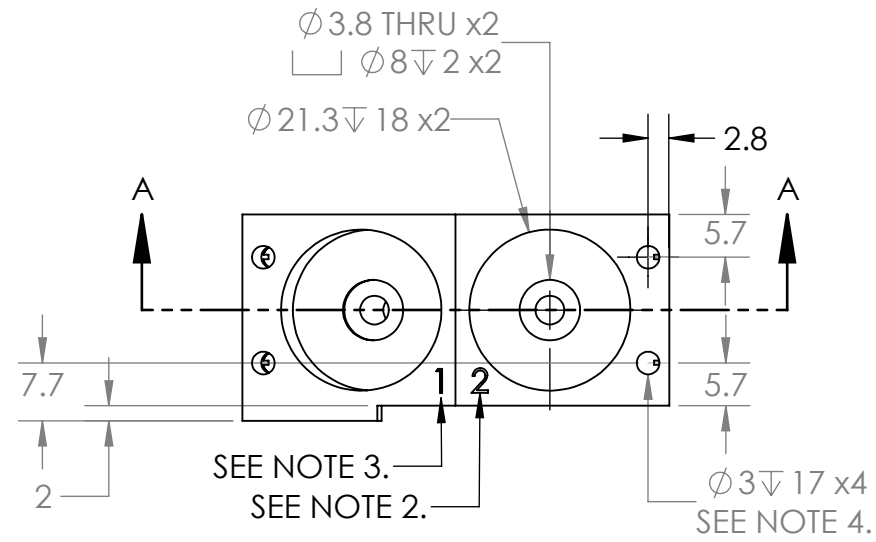


MATERIAL			SS316		
NAME		DATE			
DRAWN	RAMONA V PEREZ	06/13/13			
CHECKED	RAMONA V PEREZ	06/14/13			
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM		REMOVE ALL BURRS AND SHARP EDGES			

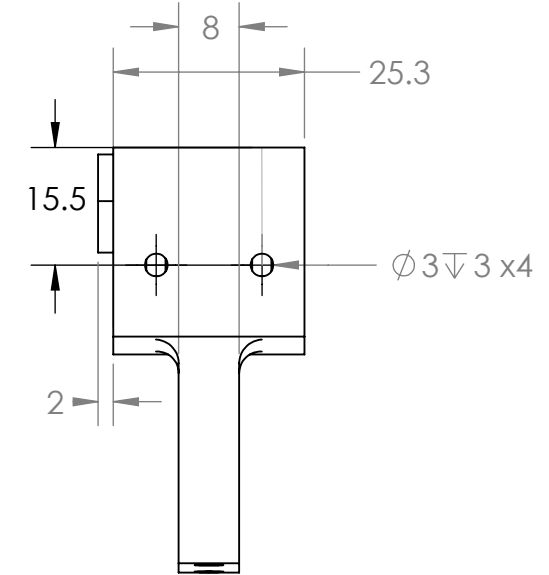
TITLE:			PROTON DETECTOR MODULE BASE		
SIZE	DWG. NO.	REV			
<b>A</b>	PD_22_base				
SCALE: 2:1	WEIGHT: 0.002kg	SHEET 1 OF 1			



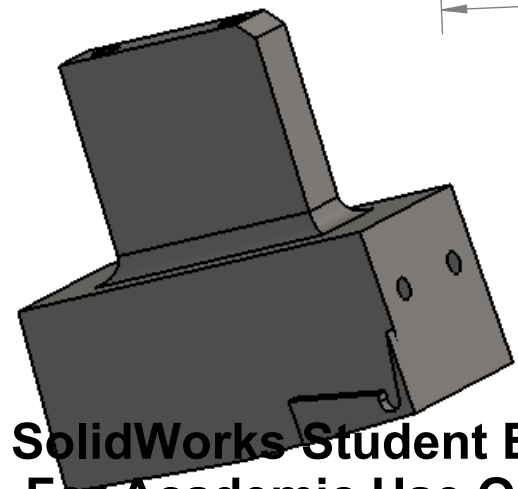
DETAIL G  
SCALE 2 : 1



SECTION A-A



- NOTES:**
1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.
  2. ENGRAVE "2."
  3. ENGRAVE "1."
  4. THREAD FOR M3X0.5 MACHINE SCREW.
  5. THIS PROVIDES FOR PLACEMENT OF CORNER OF MODULE B PIECE DURING WELDING.



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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

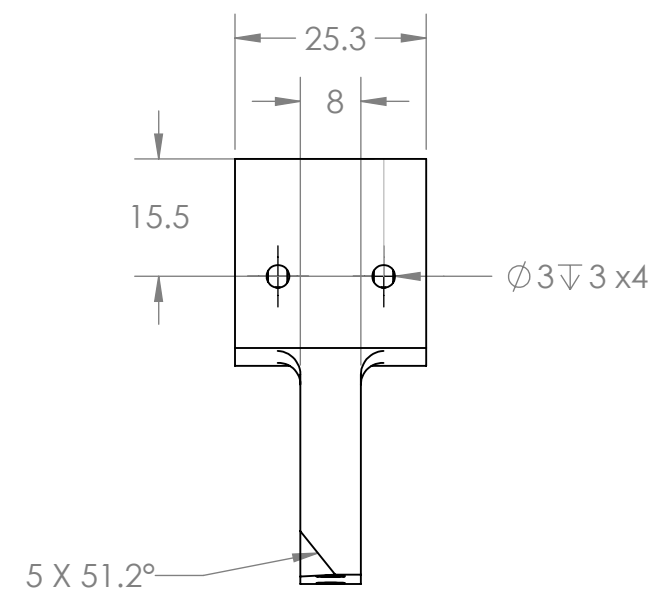
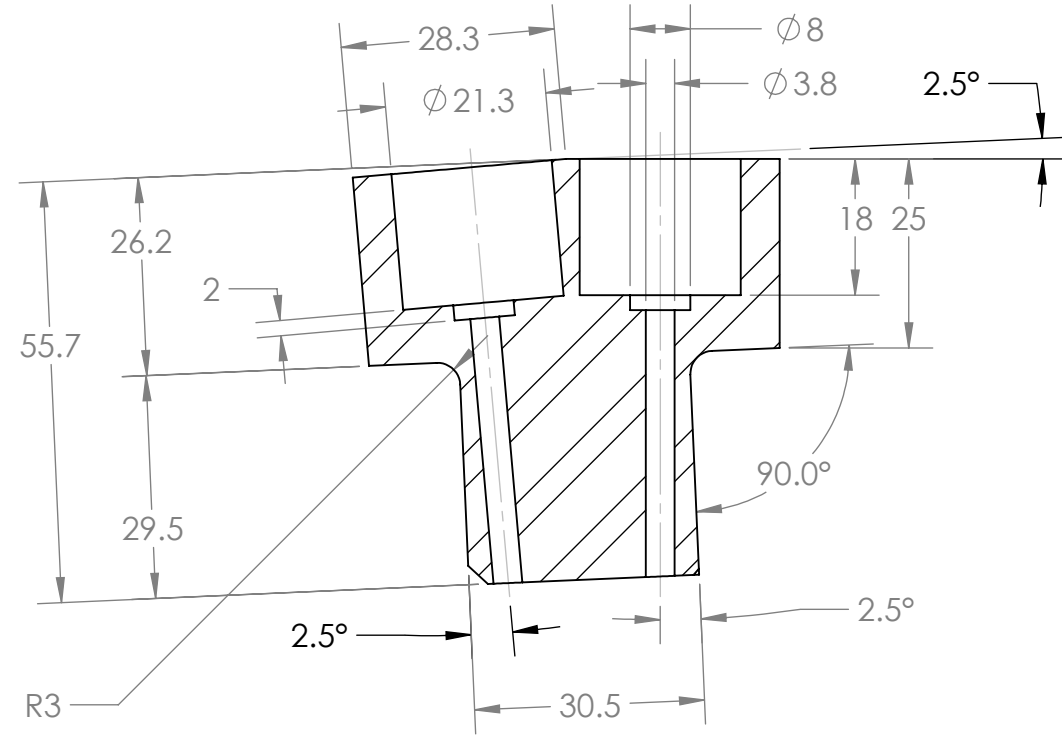
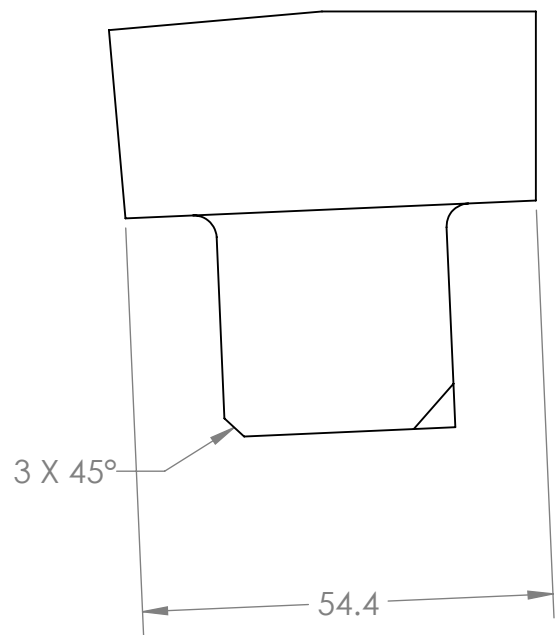
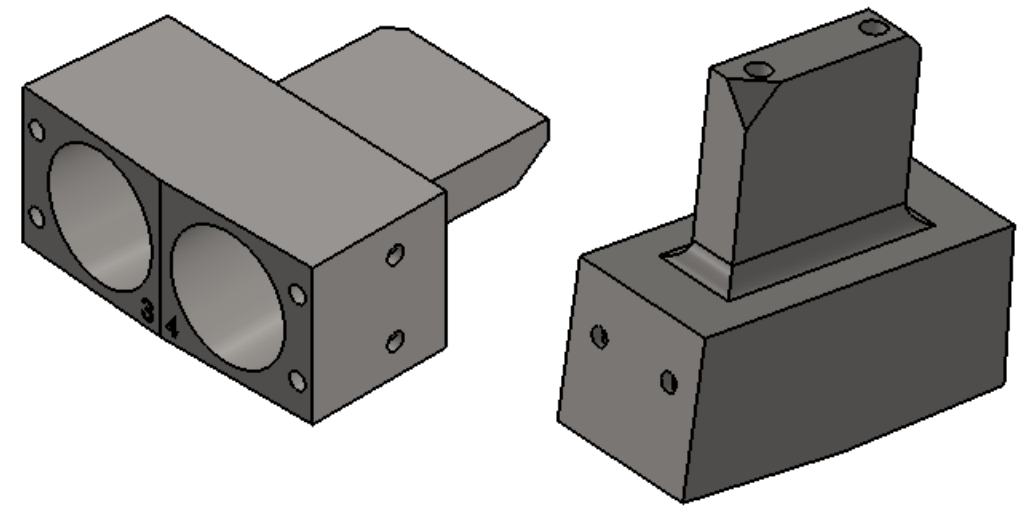
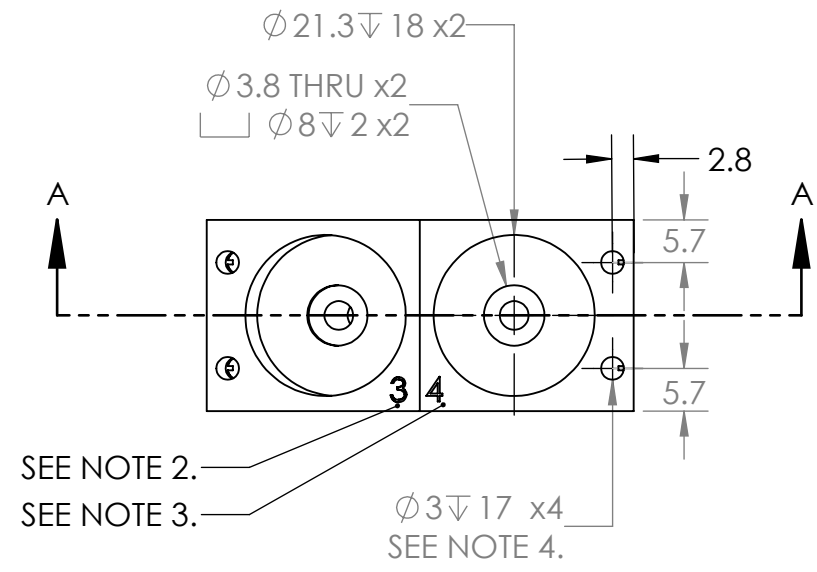
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<b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY	
MATERIAL	SS316
NAME	DATE
DRAWN	RAMONA V PEREZ 06/13/13
CHECKED	RAMONA V PEREZ 07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM	REMOVE ALL BURRS AND SHARP EDGES

TITLE: <b>PROTON DETECTOR MODULE A</b>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>PD_22_a</b>	
SCALE: 1:1	WEIGHT: .23kg	SHEET 1 OF 1

D  
C  
B  
A

D  
C  
B  
A



- NOTES:**
1. ALL MACHINING TOLERANCES TO +/-0.2mm EXCEPT WHERE SHOWN OTHERWISE.
  2. ENGRAVE "3."
  3. ENGRAVE "4."
  4. THREAD FOR M3X0.5 MACHINE SCREW.

SECTION A-A

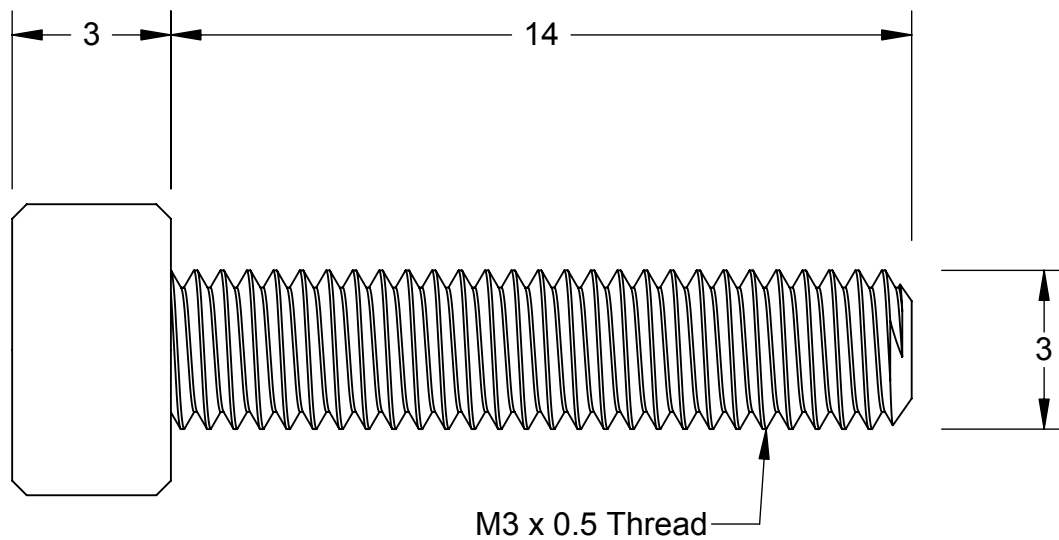
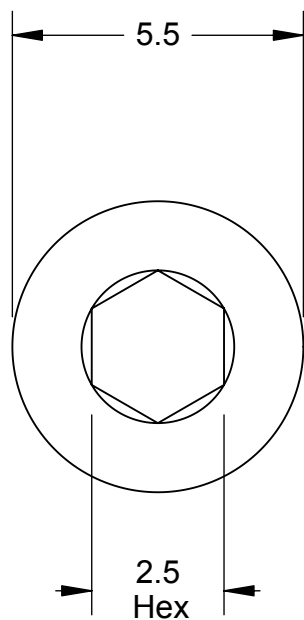
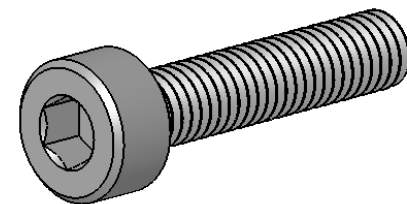
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TOLERANCES LINEAR DIMENSIONS					
OVER 0.5 TO 3	OVER 3 TO 6	OVER 6 TO 30	OVER 30 TO 120	OVER 120 TO 400	OVER 400 TO 1000
+/- 0.1	+/- 0.1	+/- 0.2	+/- 0.3	+/- 0.5	+/- 0.8
TOLERANCES ANGULAR DIMENSIONS					
10 OR LESS	OVER 10 TO 50	OVER 50 TO 120	OVER 120 TO 400	OVER 400	
+/- 1°	+/- 0°30'	+/- 0°20'	+/- 0°10'	+/- 0°5'	

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<b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY	
MATERIAL	SS316
NAME	DATE
DRAWN	RAMONA V PEREZ 06/13/13
CHECKED	RAMONA V PEREZ 07/02/13
UNLESS OTHERWISE STATED DIMENSIONS ARE IN MM	REMOVE ALL BURRS AND SHARP EDGES

TITLE: <b>PROTON DETECTOR MODULE B</b>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>PD_22_b</b>	
SCALE: 1:1	WEIGHT: 0.23kg	SHEET 1 OF 1



**McMASTER-CARR**  PART NUMBER **92290A118**

<http://www.mcmaster.com>  
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Type 316 Stainless Steel  
Socket Head Cap Screw

Unless otherwise specified, dimensions are in millimeters. Information in this drawing is provided for reference only.