

I	I	2	I	3	I	4B	I	5	I	6	I	7	I	8	I	9	I	10	I	11	I	12	I	13	I	14	I	15	
NO.	REVISION	WP NO.	BY	CH	SUP	APPROVED	DATE																						
O	ISSUED PER ECN 7725	2064	MS	JM	M.	SIBILLA	03-03-2014																						
I	REVISED PER ECN 7922	2064	YM	LM	N.	ALLEN	04-14-2017																						

SCALE 0.550

SCALE 0.550

FRONT END VIEW
SCALE 1.000

BACK END VIEW
SCALE 1.000

FRONT END VIEW
SCALE 1.000

BACK END VIEW
SCALE 1.000

NOTES:

1. REMOVE ALL SHARP CORNERS AND BURRS.
2. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH ASME B31.3
3. WELD INSPECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE ACCEPTANCE STANDARDS FOR THE WELDING PROCESS.
4. MAGNETIC PERMEABILITY OF S/S PARTS USING SEVERN GAUGE SHALL NOT EXCEED THE FOLLOWING:

 - 5. BASE MATERIAL: 1.4 ms
 - 6. MACHINED: 1.4 ms
 - 7. WELDED: 1.4 ms
 - 8. HELIUM LEAK TEST EACH SUBASSEMBLY TO 10⁻⁹ TORR LITER/SEC.

MAGNETIC PERMEABILITY REQUIREMENT (SEE NOTES)

YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
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RELEASE LEVEL: Fabrication

DWG VERSION NO: 10

RELEASING ENGINEER: APPROVED DATE: 04-14-2017

ITEM NO.	DRAWING NO.	DESCRIPTION	MATERIAL	QTY	REV/C
25	NS153116	1/4-20 UNC X 1 LNG BUTTON HD CAP SCREW	STN STL	1	
24	NS151317	1/4 (NOM) FLAT WASHER (.264 ID X .50 OD X .040 THK)	316 S/S	1	H
23	980408120	E-STYLE EXTERNAL RETAINING RING - 1/4 DIA SHAFT - McMaster-Carr 980408120	17-7 PH S/S	1	
22	981644182	#10-32 EX-24 BUTTON HEAD SOCKET CAP SCREW, 1/4" LG, 1.5" OAL - McMaster-Carr 981644182	316 SS/STL	2	
21	971354360	1/4-20UNC-2A X 3/8 LG SOC HD CAP SCREW - MNC 9921854988 OR EQ	316 SS/STL	2	
20	921854988	#10-32UNC-2A X 3/8 LG SOC HD CAP SCREW - MNC 9921854988 OR EQ	316 SS/STL	4	
19	905504320	#6-32UNC-2A X 3/8 LG FLAT HD SOC CAP SCREW - MNC 9905504320 OR EQ	18-8 SS/STL	4	
18	902574411	#10-32UNC-2B HEX NUT - MNC 9902574411 OR EQ	316 SS/STL	2	
17	151333	#10 FLAT WASHER	316 SS/STL	5	
16	151332	#10 SPLIT LOCK WASHER	316 SS/STL	4	
15	151316	#10 FLAT WASHER	316 SS/STL	8	
14	150719	1/4-20 UNC X 1/2 LG HEX HD CAP SCREW	STN STL	4	
13	9011443-23	1/4" GROUND CLEAR PIN	18-8 SS/STL	2	
12	9011443-20	ANGLE BRACKET	316 SS/STL	1	
11	E-9011443-20	HEAD COVER ASSEMBLY	1		
9	E-9011443-6	CRANE, TYPE 2	316 SS/STL	1	
8	E-9011443-5	CRANE ARM WASHER	VESPTEL	1	
7	E-9011443-5	CRANE ARM PIN	VESPTEL	1	
6	E-9011443-5	BEARING, SHAFT END	VESPTEL	1	
4	E-9011443-1	ANGLE BRACKET, TYPE 1	316 SS/STL	2	
3	E-9011443-04	DETECTOR HEAD ASSEMBLY	..	1	
2	E-9011443-03	HEAD MOUNT ASSEMBLY	..	1	J
1	E-9011443-01	CRANE ARM PIN	..	1	
-	E-9011443-01	CRANE SHAFT HEAD ASSEMBLY	..	1	

ITEM NO.		DRAWING NO.		DESCRIPTION		PARTS LIST	
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COMPUTER GENERATED DRAWINGS

NOTICE: THIS DRAWING IS THE PROPERTY OF PRINCETON PLASMA PHYSICS LABORATORY, PRINCETON UNIVERSITY, NATIONAL INSTITUTE OF ENERGY, AND NATIONAL INSTITUTE OF DIAGNOSTIC SYSTEMS. IT IS THE PROPERTY OF BAY L FUSION PRODUCTS COMPANY AND IS NOT TO BE COPIED OR REPRODUCED.

RELEASED FOR
ENGINEERING AND MANUFACTURE
PRINTED ON 04-14-2017 BY: M. SIBILLA

RELEASING ENGINEER: APPROVED DATE: 04-14-2017

NEXT ASSEMBLY: RECALLING INDEX: FUNCTIONS:

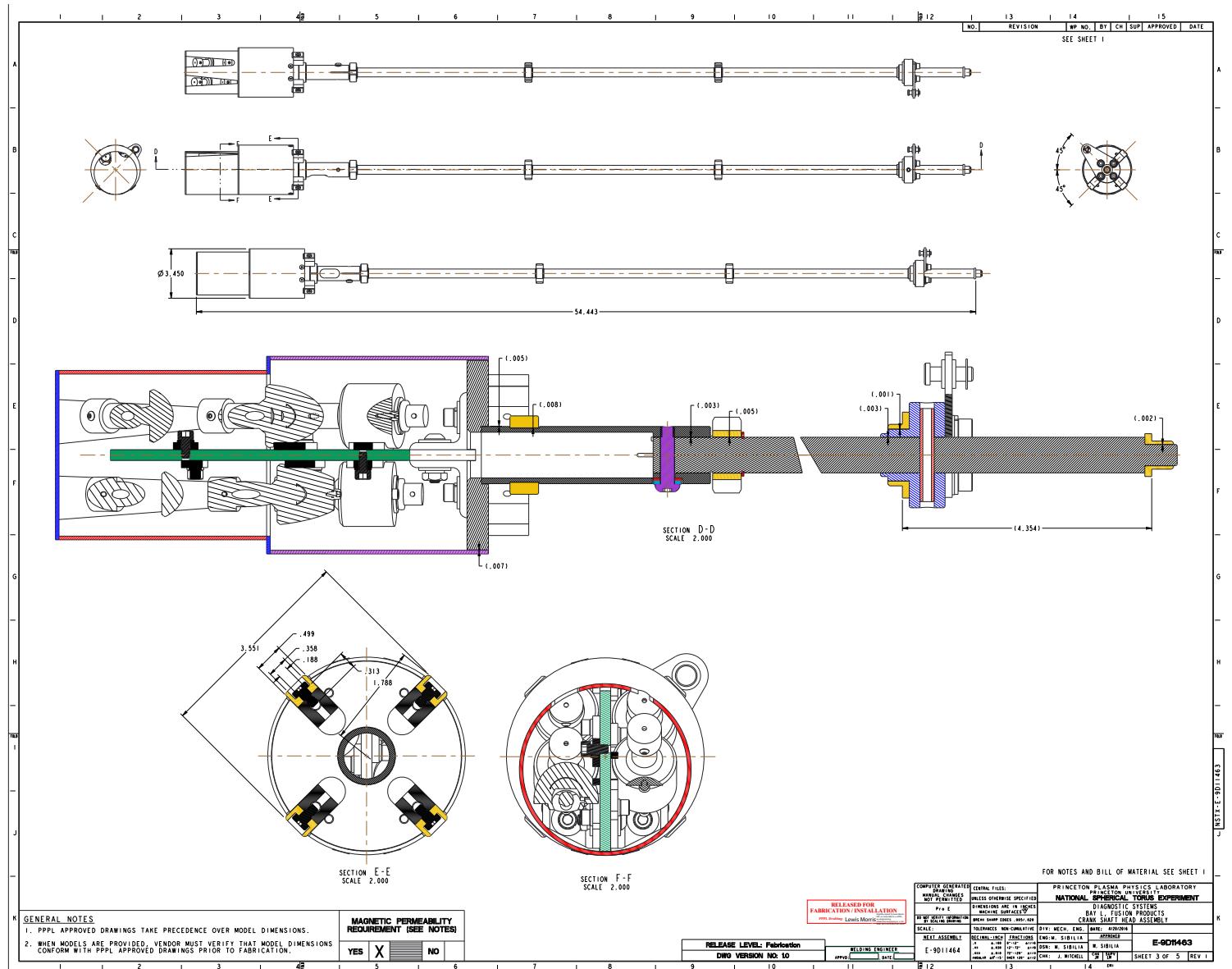
RELEASED FOR:
MANUFACTURE: APPROVED DATE: 04-14-2017

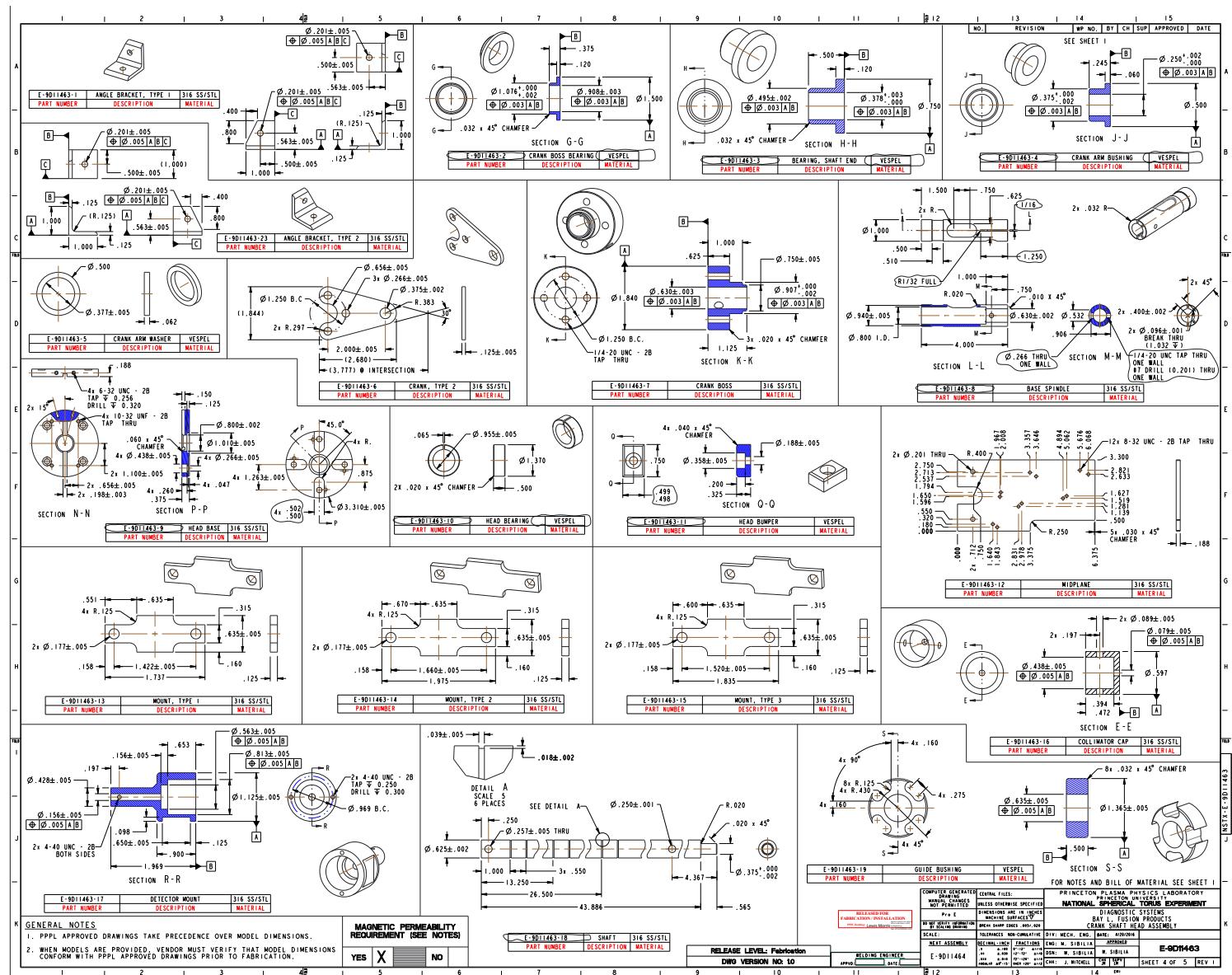
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A	<p>NOTE: THIS HEATSHIELD IS USED ON E-9011463-31 THRU E-9011466.</p> <table border="1"> <tr> <td>E-9011463-24</td><td>HEATSHIELD, BACK</td><td>316 SS/STL</td> </tr> <tr> <td>PART NUMBER</td><td>DESCRIPTION</td><td>MATERIAL</td> </tr> </table>												E-9011463-24	HEATSHIELD, BACK	316 SS/STL	PART NUMBER	DESCRIPTION	MATERIAL	<p>BRAZE SEE NOTES 2,3,8,4</p> <table border="1"> <tr> <td>Z E-9011463-23</td><td>SENSOR HOUSING ASSEMBLY, #3</td><td>316 SS/STL</td> </tr> <tr> <td>I E-9011463-15</td><td>MOUNT, TYPE 3</td><td>316 SS/STL</td> </tr> <tr> <td>- E-9011463-80</td><td>DETECTOR MOUNT, TYPE 3 ASS'Y</td><td>...</td> </tr> <tr> <td>ITEM NO.</td><td>DRAWING NO.</td><td>NONCENCLATURE OR DESCRIPTION</td><td>MATERIAL</td><td>QTY</td><td>RECD</td> </tr> <tr> <td colspan="6">PARTS LIST</td> </tr> </table>												Z E-9011463-23	SENSOR HOUSING ASSEMBLY, #3	316 SS/STL	I E-9011463-15	MOUNT, TYPE 3	316 SS/STL	- E-9011463-80	DETECTOR MOUNT, TYPE 3 ASS'Y	...	ITEM NO.	DRAWING NO.	NONCENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD	PARTS LIST																																																					
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H													<p>SECTION C-C SCALE 0.750</p> <p>SEE DETAIL Z</p> <table border="1"> <tr> <td>7 92185A502</td><td>1/4-20 UNC-2A x 5/16 LG HEX SOCKET HD CAP SCR - MMC #92185A502 OR EO</td><td>316 S/S</td> </tr> <tr> <td>6 E-9011463-21</td><td>BUMPER SUPPORT</td><td>316 SS/STL</td> </tr> <tr> <td>5 E-9011463-11</td><td>HEAD BUMPER</td><td>VESPEL</td> </tr> <tr> <td>4 E-9011463-10</td><td>ADAPTER</td><td>316 SS/STL</td> </tr> <tr> <td>3 E-9011463-03</td><td>BASE SPINDLE</td><td>316 SS/STL</td> </tr> <tr> <td>2 9033TA181</td><td>#8-32UNC-2A SCT HD SHLDR SCR 3/16" SHLD DIA 1/8" SHLD LG 3/16 MMC #9033TA181</td><td>18-8 SS/STL</td> </tr> <tr> <td>1 E-9011463-8</td><td>BASE SPINDLE</td><td>316 SS/STL</td> </tr> <tr> <td>- E-9011463-03</td><td>HEAD MOUNT ASSEMBLY</td><td>...</td> </tr> <tr> <td>ITEM NO.</td><td>DRAWING NO.</td><td>NONCENCLATURE OR DESCRIPTION</td><td>MATERIAL</td><td>QTY</td><td>RECD</td> </tr> <tr> <td colspan="6">PARTS LIST</td> </tr> </table>												7 92185A502	1/4-20 UNC-2A x 5/16 LG HEX SOCKET HD CAP SCR - MMC #92185A502 OR EO	316 S/S	6 E-9011463-21	BUMPER SUPPORT	316 SS/STL	5 E-9011463-11	HEAD BUMPER	VESPEL	4 E-9011463-10	ADAPTER	316 SS/STL	3 E-9011463-03	BASE SPINDLE	316 SS/STL	2 9033TA181	#8-32UNC-2A SCT HD SHLDR SCR 3/16" SHLD DIA 1/8" SHLD LG 3/16 MMC #9033TA181	18-8 SS/STL	1 E-9011463-8	BASE SPINDLE	316 SS/STL	- E-9011463-03	HEAD MOUNT ASSEMBLY	...	ITEM NO.	DRAWING NO.	NONCENCLATURE OR DESCRIPTION	MATERIAL	QTY	RECD	PARTS LIST																																												
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GENERAL NOTES

- PPPL APPROVED DRAWINGS TAKE PRECEDENCE OVER MODEL DIMENSIONS.
- WHEN MODELS ARE PROVIDED, VENDOR MUST VERIFY THAT MODEL DIMENSIONS CONFORM WITH PPPL APPROVED DRAWINGS PRIOR TO FABRICATION.

MAGNETIC PERMEABILITY REQUIREMENT (SEE NOTES)

YES	X	NO
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SCALE 0.500

PARTS LIST

ITEM NO.	DRAWING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL	QTY REQ'D
4	E-9011463-28	END CAP, TYPE 2	316 SS/STL	1
3	E-9011463-27	END CAP, TYPE 1	316 SS/STL	1
2	E-9011463-25	SHEATHED BACK SLITS	316 SS/STL	1
1	E-9011463-24	HEATSHIELD BACK	316 SS/STL	1
-	E-9011463-20	HEAD COVER ASSEMBLY	---	1

SEE SHEET 1

SECTION T-T

E-9011463-24 HEATSHIELD, BACK 316 SS/STL

E-9011463-25 SHIELD WITH SLITS 316 SS/STL

E-9011463-22 END CAP, TYPE 1 316 SS/STL

E-9011463-37 1/4" GROOVED CLEVIS PIN 18-0 SS/STL

E-9011463-28 END CAP, TYPE 2 316 SS/STL

E-9011463-21 BUMPER SUPPORT 316 SS/STL

E-9011464 DWO VERSION NO. 0.2

RELEASE LEVEL: Fabrication

Welding Engineer: [Signature] **Date:** [Signature]

RELEASER FOR FABRICATION AND VALIDATION: [Signature] **Date:** [Signature]

RELEASED FOR: [Signature] **Date:** [Signature]

COMPUTER GENERATED

CENTRAL FILE: [Signature]

MANUAL CHANGES: [Signature]

NOTES OTHERWISE SPECIFIED: [Signature]

PRC E

DIMENSIONS ARE IN INCHES

UNLESS OTHERWISE SPECIFIED

INCHES SHOWN ARE MM + .005

CRANE SHACK HEAD ASSEMBLY

TOOLING: NO-COMPENSATING

DIAGNOSTIC SYSTEMS

ENG. MECH. ENG. ANH. KINHORN

NET ASSEMBLY

DECOMPLIMENTATION

FRAC. TOLERANCE

TOLERANCE: .005

ENG. M. SIBILIA

E-9011463

SEE SHEET 1

NO. 13

REVISION

WF. NO. 1

BY CH SUP APPROVED DATE