D/S End of BL4 Wig

Final As Built PostionsDate: 05-02-2085 T:

Station:	TP1	X	Y	Difference units =	Inches
Operator:	Z MR	Gopher #1:		HI Gopher #2:	none
SC14QFC1	0.00105	-0.01648 -.001	0.02433	-001	
SC14QFC2	0.00000	0.00000	0.00000		
SC14QFC3	-0.00268	-0.01435 +.001	0.02413	-001	
SC14QFC4	-0.00370	-0.01629 -.001	0.03006	+005	
SC13ID22	0.04086	-0.01008 +.007	0.02534	0	
SC13ID23	0.05748	-0.00924 +.004	0.02705	+002	
SC13ID24	0.04141	-0.00280 +.015	0.01346	-012	
SC13ID2M	48.28089	-0.16169	5.76669	5.742 ✓	
SC13ID2M	48.25083	-5.73899 -5.724	0.15362	7.456	
SC13ID2M	47.23422	-2.00301	7.48064	7.461	
SC13ID2M	47.33854	3.10301	7.48569		

o/s = 6.446 (chamber = 2"

val. 1 / 7.446 S/R

Assumed shift in (Y)

-.025"

(X) +.015"

Box Chamber

Mic top surface to bottom surface

u/s: 2.005" } crude measurements, difficult
d/s: 2.010" } to access under shields

≈ 2.00"

Flange Ø

Pi Tape → 9.980"

rad. → 4.990" ✓

½ prism .750

5.740" ✓

D/s arm → 5" extension → 5.446" w/ ¼" shank

total = 5.446
1.000 cup & ball
6.446" ✓

U/S End of BL4 Wig

Final As Built PostionsDate: 05-02-2085

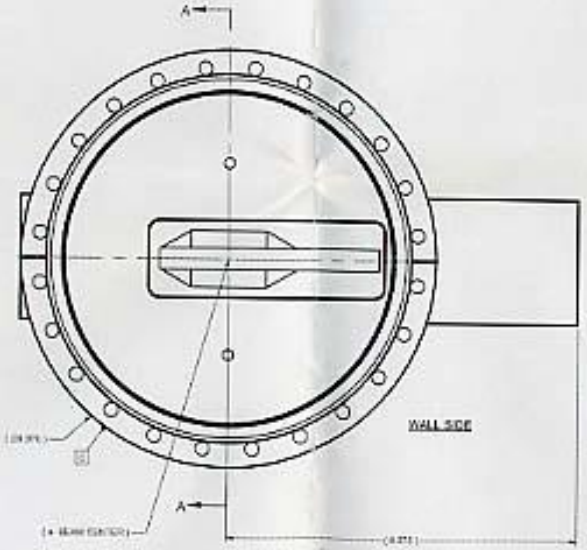
T:

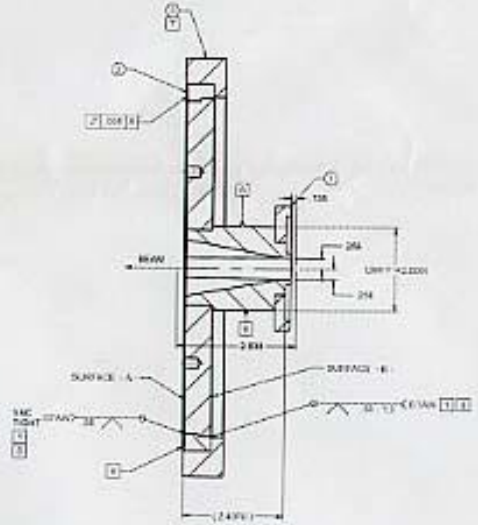
Station:	TP2		Difference units =	Inches
Operator:	MR	Gopher #1:	HI	Gopher #2: none
SC13QFC2	-0.00940	-0.00561	-0.00067	
SC13QFC3	-0.00844	-0.01444	-0.00619	
SC13QFC4	-0.00674	-0.00908	-0.01280	
SC13ID26	-0.02285	-0.02328	-0.00366	
SC13ID27	-0.02629	-0.01806	-0.00522	
SC13ID28	-0.03890	-0.02966	-0.00210	
SC13ID2M	-48.13234	-0.05684	5.72081	
SC13ID2M	-48.18646	-5.76257	0.05364	
SC13ID2M	-47.48748	-2.28303	7.44063	}
SC13ID2M	-47.50201	3.06650	7.42894	}

6.446 d/s

Chamber = 2"

6.446
1
7.446 s/R





SECTION A-A

NOTES: (UNLESS OTHERWISE SPECIFIED)

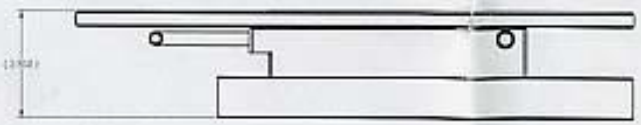
1. GAS TUNGSTEN ARC WELDING. WELD PREPARATION AND CLEANING WITH METAL TOOLS ONLY ! NO ABRASIVE GRINDING ! INTERPRET WELDING SYMBOLS PER ANSI / AWS A2.4 - 98.
2. LEAK TESTING : USE A HELIUM MASS SPECTROMETER LEAK DETECTOR, CALIBRATE TO 2.8 TO 10 X E-10 CC / SEC PROBE WITH HELIUM FOR 1 MINUTE AND REJECT ANY PART WITH A LEAK RATE OF 2.8 TO 10 X E-10 CC / SEC ABOVE BACKGROUND. USE OF SILICONE GREASE IS PROHIBITED.
3. ULTRA HIGH VACUUM HANDLING: AFTER UHV CLEANING, HANDLE WITH CLEAN POLYESTER GLOVES IN I ON A CLEAN ROOM SURFACE. FOR STORAGE OR SHIPPING, WRAP PARTS IN LINT - FREE TISSUE AND FOOD GRADE ALUMINUM FOIL. STORE IN CLEAN TOTE BOXES.
4. KNIFE EDGE IS TO BE PROTECTED AT ALL TIMES. KNIFE EDGE IS TO BE FREE FROM NICKS, SCRATCHES & ANY IMPERFECTIONS.
5. WELD BEAD IS NOT TO EXCEED SURFACE - A -
6. WELD BEAD IS NOT TO EXCEED SURFACE - B -
7. INSTALL ITEM 3 PRIOR TO # 6.

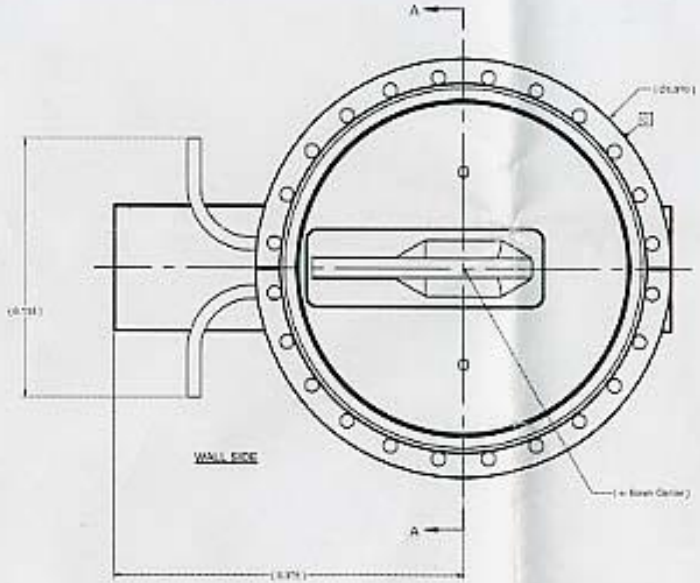
SPEAR 3
UHV PART

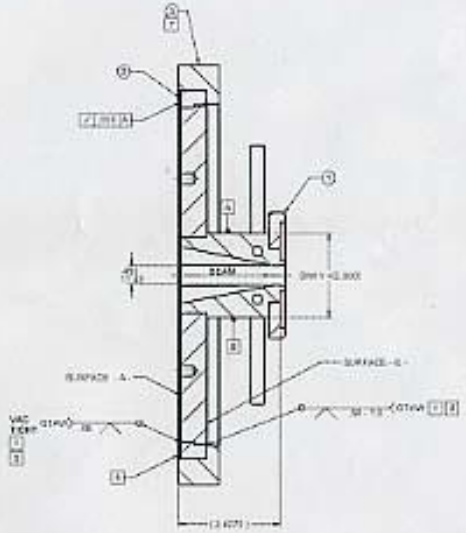
ITEM	STOCK OR PART NO	TITLE OR DESCRIPTION	QTY
3	SO-230476-01	10" OD FLANGE RACETRAK, TWO HOLES, EDT	1
2	FT-444-350-02	10" PROFIT OUTER RING - MOD	1
1	SA-444-350-40	EXIT TRANSITION ASSEMBLY	1

SSRL SPEAR 3
BL 4 & 7 WIGGLER CHAMBER
FINAL WELD ASSEMBLY
EXIT TRANSITION WELDMENT

SA-444-350-39 | 0 | E







SECTION A-A

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. GAS TUNGSTEN ARC WELDING. WELD PREPARATION AND CLEANING WITH METAL TOOLS ONLY (NO ABRASIVE GRINDING). WELDING TO BE PERFORMED PER AWS D1.1/D1.1M:2010 AND AWS D17.1/D17.1M:2001.
2. LEAK TESTING: USE A HELIUM MASS SPECTROMETER LEAK DETECTOR. CALIBRATE TO 2 X 10-10 STD CC / SEC PROBE WITH HELIUM FOR 1 MINUTE AND REJECT ANY PART WITH A LEAK RATE OF 2 X 10-10 STD CC / SEC OR GREATER. BACKGROUND: USE OF SILICONE GREASE IS PROHIBITED.
3. ULTRA HIGH VACUUM HANDLING: AFTER UHV CLEANING, HANDLE WITH CLEAN POLYESTER GLOVES IN UHV OR CLEAN ROOM (5 OR BETTER). FOR STORAGE OR SHIPPING, WRAP PARTS IN LINT - FREE TISSUE AND FOOD GRADE ALUMINUM FOIL. STORE IN CLEAN TOTE BOXES.
4. KNIFE EDGE IS TO BE PROTECTED AT ALL TIMES. KNIFE EDGE IS TO BE FREE FROM NICKS, SCRATCHES & ANY IMPERFECTIONS.
5. WELD BEAD IS NOT TO EXCEED SURFACE - A -
6. WELD BEAD IS NOT TO EXCEED SURFACE - B -
7. INSTALL ITEM 3 PRIOR TO WELD

SPEAR 3
UHV PART

ITEM	STOCK OR PART NO	TITLE OR DESCRIPTION	QTY
3	30-230-614-03	10" OD FLANGE RECEIVER, TYPE 1 HOLES, EBT	1
2	SA-444-350-35	10" INSERT OUTER RING - MOD	1
1	SA-444-350-33	ENTRANCE MASK ASSEMBLY	1

SCALE: 1 : 1 | SCHMIT BOHLE DRAWING | CAD FILE NAME: MASKENTUR

SSRL SPEAR 3
SL 4 & 7 WIGGLER CHAMBER
FINAL WELD ASSEMBLY
ENTRANCE MASK WELDMENT

SA-444-350-27 | 0 | E

SC13 ID2

Imfeld, Hans Louis

From: LeCocq, Catherine M.
Sent: Friday, April 29, 2005 6:58 AM
To: Gaudreault, Francis M.; Imfeld, Hans Louis
Subject: BL4ID on SPEAR3 Maintenance - May 2nd

Attachments: sa44435027_survey.pdf; sa44435039_survey.pdf

sa44435027_survey.pdf (43 KB) sa44435039_survey.pdf (41 KB)

Alignment work scheduled for Monday May 2nd:

On the BL4 insertion device chamber in the Spear3 13S straight, perform the following after reading the following caution:

CAUTION: BE VERY CAREFUL WORKING AROUND THE WIGGLER MAGNETS. THE POLE GAP IS OPEN. LARGE MAGNETIC FORCES CAN DEVLEOP BETWEEN THE MAGNETS AND STEEL OR FERROMAGNETIC TOOLS. DO NOT LEAVE STEEL TOOLS WITHIN 25 INCHES OF THE MAGNETS.

THE WIGGLER COVERS MAY NEED TO BE REMOVED FOR ACCESS.

1) measure and record all (or as many as possible) chamber TB's; Y values are most important, X values are useful, Z values are not important.

2) for the entrance mask measure and record Y (near X =0) and roll of datums A and B and Y of datum C as noted on drawing sa44435027_survey. Use an OD mic or calipers to measure and record dim Y.

3) for the exit mask, measure and record Y (near X =0) and roll of datums A and B and Y of datum C as noted on drawing sa44435039_survey. Use on OD mic or calipers to measure and record dim Y.

4) survey results to Andy Ringwall, MS 69, x8508

	Y	X	roll	Z	
U/S TB's	~~-.038~~ -.063 ✓	-.020 ✓	+.2 mr	-.025	#1
D/S TB's	-.005 ✓	+.005 ✓	-1.5 mr	+.045	
U/S Flange	-.019 ✓	-.022 ✓	—	—	#2 + #3
D/S Flange	+.002 ✓	+.016 ✓	—	—	
U/S Top	-.014 ✓	—	-2 mr	—	
D/S Top	+.012 ✓	—	+1 mr	—	

Dim Y = 2.00" ✓