



Jefferson Lab Alignment Group

Data Transmittal

TO: Tim Whitlatch and Brian Carpenter

DATE: May 12, 2003

FROM: Chris Gould

Checked:

Z861r

Details:

The following are the results of the SNS high beta space frame 01 inspection performed the week of April 28, 2003. A right hand coordinate system was established with the central axis running through the average outer diameters of the eight support rings. Ring one is upstream and ring eight is downstream. An average plane through the top two tubes controls roll. Positive X is to the beam left and positive Y is up. Positive Z runs downstream with Z = 0 as the average of the four upstream tubes. Values are in inches. Attached is the check sheet with measured values to the corresponding features.

Ring	X	Y	OD	ID	Thickness
1	-0.02	0.23	36.72	30.89	0.74
2	0.00	0.01	36.69	30.85	1.48
3	-0.01	-0.07	36.83	30.87	0.75
4	0.01	-0.13	36.71	30.83	0.75
5	-0.05	-0.18	36.64	30.79	0.75
6	0.04	-0.11	36.74	30.85	0.74
7	0.01	0.04	36.65	30.72	1.46
8	-0.01	0.22	36.67	30.77	0.74

.750-10 UNC thru hole
(Drawing value = 14.8 Top 14.9 Bot)

	Ring 2	Ring 7
BL Top	14.9	14.4
BL Bot	14.8	15.3
BR Top	14.9	15.2
BR Bot	14.8	14.6

Bolt circle
(Drawing value = 17.04 Radial dist.)

	Ring 2	Ring 7
BL Top	17.02	17.06
BL Bot	17.00	17.07
BR Top	17.06	16.99
BR Bot	17.04	16.99

	Ring 2	Ring 7
Counter bore diameter	1.26	1.26
Counter bore angle	7.0	9.1
Counter bore depth	0.70	0.73

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Tube Hole Locations

(Drawing Value = 11.93)

	X	Y
Ring1		
Tube Hole top BR	-12.01	12.14
Tube Hole bot BR	-12.01	-11.72
Tube Hole top BL	11.79	12.22
Tube Hole bot BL	11.93	-11.66
Ring 2		
Tube Hole top BR	-11.96	11.95
Tube Hole bot BR	-11.92	-11.90
Tube Hole top BL	11.89	12.01
Tube Hole bot BL	11.91	-11.87
Ring 3		
Tube Hole top BR	-11.95	11.87
Tube Hole bot BR	-11.89	-12.00
Tube Hole top BL	11.90	11.92
Tube Hole bot BL	11.88	-11.94
Ring 4		
Tube Hole top BR	-11.90	11.80
Tube Hole bot BR	-11.89	-11.80
Tube Hole top BL	11.95	11.78
Tube Hole bot BL	11.93	-12.06
Ring 5		
Tube Hole top BR	-11.88	11.80
Tube Hole bot BR	-11.92	-12.09
Tube Hole top BL	11.94	11.76
Tube Hole bot BL	11.87	-12.14
Ring 6		
Tube Hole top BR	-11.85	11.87
Tube Hole bot BR	-11.91	-12.03
Tube Hole top BL	11.99	11.78
Tube Hole bot BL	11.93	-12.07
Ring 7		
Tube Hole top BR	-11.86	12.00
Tube Hole bot BR	-11.91	-11.88
Tube Hole top BL	11.98	11.93
Tube Hole bot BL	11.91	-11.96
Ring 8		
Tube Hole top BR	-11.92	12.14
Tube Hole bot BR	-11.93	-11.70
Tube Hole top BL	11.95	12.09
Tube Hole bot BL	11.96	-11.76

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Offset Hole
(drawing value = .88)

BL

BR

Ring 1	0.78	-1.04
Ring 2	0.82	
Ring 3	0.86	-0.94
Ring 4	0.88	-0.86
Ring 5	0.93	-0.83
Ring 6	0.98	-0.80
Ring 7		-0.78
Ring 8	0.95	-0.86

Location of ring cut-outs using the intersections of the top and bottom planes projected to the upstream and downstream sides of each ring.

X

Y

Ring 1	Upst. BL	7.01	-14.73
	Upst. BR	-6.90	-14.40
	Dnst. BL	7.01	-14.48
	Dnst. BR	-6.89	-14.56
Ring 2	Upst. BL	6.94	-14.59
	Upst. BR	-7.12	-15.02
	Dnst. BL	6.96	-15.31
	Dnst. BR	-7.13	-14.76
Ring 3	Upst. BL	7.12	-14.74
	Upst. BR	-7.17	-14.46
	Dnst. BL	7.10	-14.53
	Dnst. BR	-7.16	-14.61
Ring 4	Upst. BL	7.17	-14.84
	Upst. BR	-7.11	-14.72
	Dnst. BL	7.15	-14.81
	Dnst. BR	-7.08	-14.84
Ring 5	Upst. BL	7.04	-15.10
	Upst. BR	-7.05	-15.00
	Dnst. BL	7.04	-14.88
	Dnst. BR	-7.05	-14.97
Ring 6	Upst. BL	6.99	-14.92
	Upst. BR	-7.12	-14.73
	Dnst. BL	7.01	-14.85
	Dnst. BR	-7.13	-14.80
Ring 7	Upst. BL	7.16	-14.46
	Upst. BR	-7.22	-14.52
	Dnst. BL	7.16	-14.91
	Dnst. BR	-7.22	-14.78
Ring 8	Upst. BL	7.09	-14.79
	Upst. BR	-7.19	-14.48
	Dnst. BL	6.84	-14.23
	Dnst. BR	-7.18	-14.61

