

Jefferson Lab Alignment Group

DATA TRANSMITTAL

TO: Tim Whitlatch, Brian Carpenter

DATE: Sept. 11, 02

FROM: Richard Schwartz

Checked:

: Z806

DETAILS:

The following are the results of the SNS space frame 03 inspection performed the week of August 26, 2002. A right hand coordinate system was established with the central axis running through the average outer diameters of the six support rings. Ring one is upstream and ring six 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	Thickness
1	0.04	0.05	36.64	0.70
2	-0.06	-0.06	36.50	1.51
3	0.00	0.05	36.69	0.73
4	-0.02	-0.04	36.71	0.78
5	0.02	-0.08	36.78	1.48
6	0.00	0.07	36.71	0.75

	Ring 2	Ring 5
.750-10 UNC thru hole (Drawing value = 14.8° Top 14.9° Bot)		
BL Top	14.7	14.8
BL Bot	14.8	14.9
BR Top	14.8	14.7
BR Bot	15.1	15.0
Bolt circle (Drawing value = 17.04 Radial dist.)		
BL Top	17.15	17.04
BL Bot	17.18	17.05
BR Top	16.92	17.04
BR Bot	16.94	17.06
Counterbore diameter	1.25	1.25
Counterbore angle	8.0	8.2
Counterbore depth	0.64	0.69

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*The tube hole locations are defined by the average location of the adjacent upstream and downstream tube position.
(Drawing Value = 11.93)

Ring1	X	Y
Tube Hole top BL	12.03	11.92
Tube Hole bot BL	12.12	-11.87
Tube Hole top BR	-11.81	11.92
Tube Hole bot BR	-11.81	-11.89
Ring 2		
Tube Hole top BL	12.00	11.86
Tube Hole bot BL	12.10	-11.91
Tube Hole top BR	-11.81	11.86
Tube Hole bot BR	-11.84	-11.91
Ring 3		
Tube Hole top BL	11.95	11.86
Tube Hole bot BL	12.03	-11.91
Tube Hole top BR	-11.88	11.87
Tube Hole bot BR	-11.87	-11.91
Ring 4		
Tube Hole top BL	11.94	11.86
Tube Hole bot BL	11.99	-11.91
Tube Hole top BR	-11.88	11.85
Tube Hole bot BR	-11.88	-11.94
Ring 5		
Tube Hole top BL	11.91	11.89
Tube Hole bot BL	11.87	-11.86
Tube Hole top BR	-11.86	11.87
Tube Hole bot BR	-11.85	-11.89
Ring 6		
Tube Hole top BL	11.89	11.90
Tube Hole bot BL	11.89	-11.87
Tube Hole top BR	-11.92	11.97
Tube Hole bot BR	-11.96	-11.85

	Ring1	Ring2	Ring 3	Ring 4	Ring5	Ring 6
Offset Hole (drawing value = .88)						
BL	1.00	0.98	0.94	0.93	0.89	0.90
BR	-0.82		-0.89	-0.88		-0.92

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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
Ring1	Upst. BL	7.36	-14.67
	Upst. BR	-6.77	-14.51
	Dnst. BL	7.36	-14.66
	Dnst. BR	-6.77	-14.58
Ring2	Upst. BL	7.09	-14.63
	Upst. BR	-6.91	-14.72
	Dnst. BL	7.12	-14.59
	Dnst. BR	-7.05	-14.07
Ring3	Upst. BL	7.14	-14.80
	Upst. BR	-6.90	-14.54
	Dnst. BL	7.15	-14.67
	Dnst. BR	-6.88	-14.60
Ring4	Upst. BL	7.18	-14.43
	Upst. BR	-6.91	-14.47
	Dnst. BL	7.17	-14.53
	Dnst. BR	-6.87	-14.63
Ring5	Upst. BL	7.20	-13.87
	Upst. BR	-6.94	-14.75
	Dnst. BL	7.08	-14.53
	Dnst. BR	-6.90	-14.83
Ring6	Upst. BL	6.88	-14.37
	Upst. BR	-7.01	-14.50
	Dnst. BL	6.93	-14.23
	Dnst. BR	-6.98	-14.64

Slots for nitronic rods.

	2.50 Outer Dia.	0.80 Feature Size	1.50 Feature Size	0.625 Feature Size
R1 slot top BR	2.52	0.79	1.50	0.64
R1 slot bot BR	2.51	0.79	1.51	0.64
R1 slot top BL	2.50	0.76	1.58	0.63
R1 slot bot BL	2.50	0.74	1.50	0.63
R6 slot top BR	2.50	0.79	1.52	0.63
R6 slot bot BR	2.48	0.79	1.51	0.64
R6 slot top BL	2.51	0.78	1.52	0.64
R6 slot bot BL	2.47	0.77	1.53	0.65

