



# Jefferson Lab Alignment Group

## Data Transmittal

**TO:** A. Gavalya, C. Soova

**DATE:** 21 Jan 2016

**FROM:** Jacob Walker

**Checked:** JD

**# :** A1693

**DETAILS:**

**Data:** Inspection\HallA\Grinch\160115A

Below are the results from the recent survey carried out on the Hall A Grinch structural weldment.

A coordinate system was established in accordance with DWG. NO. A00000-01-01-2501-REF01 REV. A. The entrance window center was created by measuring the bolthole pattern around the window. The center of this pattern was projected to the outer face of the entrance window. The coordinate system at the center of the window was then shifted -27.823in X, -1.000in Y, and -51.125in Z. All data is given in inches and degrees. Pitch and roll are reported using the right hand rule. Negative pitch is a counter clockwise rotation looking from the left. Negative roll is a counter clockwise rotation looking from upstream.

**NOTE:** All outer mounting pad axis points (LWR Bottoms and UPR Tops) were created at the intersection of the tooling rod and the plane of the mirror mounting pad. All inner mounting pad axis points (LWR Tops and UPR Bottoms) were created at the end of the tooling rod.

**NOTE:** Top mount lifting pad 3 was inaccessible due to a lifting shackle stuck in the threaded hole.

Mounting Pad Axis Points					
Point Name	X(in)	Y(in)	Z(in)	Pitch	Roll
Window Center	27.823	1.000	51.125	0.000°	0.000°
Mounting Pad Axis Points					
Point Name	X(in)	Y(in)	Z(in)	Pitch	Roll
1 LWR Bottom	11.697	30.142	4.550	-0.352°	-0.104°
1 LWR Top	11.683	30.184	10.552		
2 LWR Bottom	43.729	30.434	4.547	0.732°	0.017°
2 LWR Top	43.730	30.355	10.547		
3 LWR Bottom	16.613	3.829	4.416	-0.855°	0.542°
3 LWR Top	16.669	3.922	10.414		
4 LWR Bottom	41.836	4.004	4.484	-0.008°	0.422°
4 LWR Top	41.879	4.009	10.498		
5 UPR Bottom	11.638	30.134	91.686	0.308°	0.071°
5 UPR Top	11.647	30.105	97.687		
6 UPR Bottom	43.843	30.439	91.681	0.270°	-0.270°
6 UPR Top	43.814	30.410	97.682		
7 UPR Bottom	16.784	3.877	91.648	0.548°	-0.248°
7 UPR Top	16.761	3.814	97.656		
8 UPR Bottom	42.051	4.061	91.722	0.443°	-0.549°
8 UPR Top	41.991	4.011	97.723		

Mounting Pad Plane Points					
Point Name	X(in)	Y(in)	Z(in)	Pitch	Roll
1 LWR P1	12.178	29.818	5.305	-0.545°	-0.238°
1 LWR P2	12.171	30.232	5.301		
1 LWR P3	11.289	30.308	5.297		
1 LWR P4	11.155	29.955	5.300		
2 LWR P1	43.302	30.762	5.301	0.764°	0.113°
2 LWR P2	43.285	29.926	5.292		
2 LWR P3	44.280	29.786	5.286		
2 LWR P4	44.332	30.588	5.299		
3 LWR P1	16.424	4.412	5.156	-1.035°	0.416°
3 LWR P2	16.279	3.794	5.169		
3 LWR P3	17.019	3.753	5.164		
3 LWR P4	17.102	4.235	5.155		
4 LWR P1	41.496	4.298	5.235	-0.166°	0.271°
4 LWR P2	41.552	3.692	5.237		
4 LWR P3	42.002	3.590	5.234		
4 LWR P4	42.097	4.348	5.232		
5 UPR P1	11.114	29.774	96.939	0.200°	0.272°
5 UPR P2	11.805	29.802	96.934		
5 UPR P3	12.215	30.621	96.936		
5 UPR P4	11.262	30.653	96.940		
6 UPR P1	43.476	30.926	96.933	0.311°	-0.370°
6 UPR P2	43.489	30.176	96.928		
6 UPR P3	44.503	30.094	96.935		
6 UPR P4	44.480	30.809	96.938		
7 UPR P1	16.562	4.427	96.910	0.587°	-0.115°
7 UPR P2	16.583	3.701	96.905		
7 UPR P3	17.258	3.470	96.901		
7 UPR P4	17.120	4.111	96.911		
8 UPR P1	41.494	4.326	96.972	0.646°	-0.545°
8 UPR P2	41.571	3.730	96.966		
8 UPR P3	42.226	3.744	96.972		
8 UPR P4	42.275	3.995	96.976		
Lifting Pad Hole Centers					
Point Name	X(in)	Y(in)	Z(in)		
Top Mount 1	3.082	19.133	101.199		
Top Mount 2	12.456	6.064	101.162		
Top Mount 4	45.534	33.918	101.206		
Top Mount 5	1.890	33.481	101.270		
Bot Mount 1	2.971	19.191	0.954		
Bot Mount 2	12.258	6.077	0.918		
Bot Mount 3	45.546	1.796	0.998		
Bot Mount 4	45.344	33.941	1.020		
Bot Mount 5	1.815	33.525	1.033		