

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	-0.332					
2 LWR Bottom	43.729	30.434	4.547	0.732°	0.017°				
2 LWR Top	43.730	30.355	10.547	0.732					
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	-0.008					
5 UPR Bottom	11.638	30.134	91.686	0.308°	0.071°				
5 UPR Top	11.647	30.105	97.687	0.500					
6 UPR Bottom	43.843	30.439	91.681	0.270°	-0.270°				
6 UPR Top	43.814	30.410	97.682	0.270					
7 UPR Bottom	16.784	3.877	91.648	0.548°	-0.248°				
7 UPR Top	16.761	3.814	97.656	0.540					
8 UPR Bottom	42.051	4.061	91.722	0.443°	-0.549°				
8 UPR Top	41.991	4.011	97.723	0.443					

Point Name X(in) Y(in) Z(in) Pitch Roll 1 LWR P1 12.178 29.818 5.305 ————————————————————————————————————	Mounting Pad Plane Points									
TUMR P2	Point Name	X(in)	Y(in)	Z(in)	Pitch	Roll				
LUMR P3 11.289 30.308 5.297 -0.545° -0.238° LUMR P4 11.155 29.955 5.300 -0.764° -0.113° LUMR P2 43.285 29.926 5.292 -0.764° -0.113° LUMR P3 44.280 29.786 5.286 -0.764° -0.113° LUMR P4 44.332 30.588 5.299 -1.035° -0.416° LUMR P1 16.424 4.412 5.156 -1.035° -1.035° LUMR P2 16.279 3.794 5.169 -1.035° -0.416° LUMR P3 17.019 3.753 5.164 -1.035° -1.035° LUMR P4 17.102 4.235 5.155 -1.035° -1.016° LUMR P3 42.002 3.590 5.234 -1.016°° -0.271° LUMR P3 42.002 3.590 5.234 -0.166° 0.271° SUPR P1 11.114 29.774 96.933 -0.200° -0.272° SUPR P2 11.805 <td< td=""><td>1 LWR P1</td><td>12.178</td><td>29.818</td><td>5.305</td><td rowspan="4">-0.545°</td><td rowspan="4">-0.238°</td></td<>	1 LWR P1	12.178	29.818	5.305	-0.545°	-0.238°				
1LWR P3 11.289 30.308 5.297 1LWR P4 11.155 29.955 5.300 2LWR P1 43.302 30.762 5.301 2LWR P2 43.285 29.926 5.292 2LWR P3 44.280 29.786 5.286 2LWR P4 44.332 30.588 5.299 3LWR P2 16.279 3.794 5.169 3LWR P3 17.019 3.753 5.164 3LWR P4 17.102 4.235 5.155 4LWR P4 17.102 4.235 5.155 4LWR P4 41.496 4.298 5.235 4LWR P2 41.552 3.692 5.237 4LWR P3 42.002 3.590 5.234 4LWR P4 42.097 4.348 5.232 5UPR P1 11.114 29.774 96.933 5UPR P2 11.805 29.802 96.934 5UPR P3 12.215 30.621 96.933 5UPR P4 11.262 30.635	1 LWR P2	12.171	30.232	5.301						
2 LWR P1 43.302 30.762 5.301 0.764° 0.113° 2 LWR P2 43.285 29.926 5.292 0.764° 0.113° 2 LWR P3 44.280 29.786 5.286 0.764° 0.113° 2 LWR P4 44.332 30.588 5.299 0.416° 3 LWR P1 16.424 4.412 5.156 0.416° 3 LWR P3 17.019 3.753 5.164 0.416° 3 LWR P4 17.102 4.235 5.155 0.416° 4 LWR P4 17.102 4.235 5.155 0.416° 4 LWR P3 41.952 3.692 5.237 0.166° 0.271° 4 LWR P4 42.097 4.348 5.232 0.166° 0.271° 4 LWR P4 42.097 4.348 5.232 0.166° 0.271° 5 UPR P1 11.114 29.774 96.933 0.200° 0.272° 5 UPR P3 12.215 30.621 96.933 0.200° 0.272° 5 UPR P4 43.493 30.176 96.932 0.311° 0.311° 6	1 LWR P3	11.289	30.308	5.297						
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 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 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 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 P4 44.480 30.902 96.933 6 UPR P3 44.503 30.094 96.935 6 UPR P3 44.503 30.094 96.935 6 UPR P4 44.480 30.809 96.9	1 LWR P4	11.155	29.955	5.300						
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 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 5.237 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 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 6 UPR P2 43.489 30.176 96.935 6 UPR P3 44.503 30.094 96.935 6 UPR P4 44.480 30.809 96.938 7 UPR P3 17.258 3.470 96.910 7 UPR P3 17.258 3.470 96.	2 LWR P1	43.302	30.762	5.301		0.113°				
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 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 5.237 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 5 UPR P2 11.805 29.802 96.934 5 UPR P3 12.215 30.621 96.935 5 UPR P3 12.215 30.621 96.935 5 UPR P4 43.476 30.926 96.933 6 UPR P3 44.503 30.094 96.935 6 UPR P3 44.480 30.809 96.938 7 UPR P4 17.120 4.111 96.910 7 UPR P3 17.258 3.470 96.91	2 LWR P2	43.285	29.926	5.292	0.7640					
3 LWR P1 16.424 4.412 5.156 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 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 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 P3 44.480 30.926 96.933 6 UPR P4 44.480 30.809 96.938 6 UPR P4 44.480 30.809 96.938 7 UPR P3 17.258 3.470 96.910 7 UPR P4 17.120 4.111 96.911 8 UPR P3 42.226 3.744 96.972 8 UPR P3 42.226 3.744 96.91	2 LWR P3	44.280	29.786	5.286	0.764					
3 LWR P2 16.279 3.794 5.169 -1.035° 0.416° 3 LWR P3 17.019 3.753 5.164 -1.035° 0.416° 3 LWR P4 17.102 4.235 5.155 -1.035° 0.416° 4 LWR P1 41.496 4.298 5.235 -0.166° 0.271° 4 LWR P2 41.552 3.692 5.237 -0.166° 0.271° 4 LWR P3 42.002 3.590 5.234 -0.166° 0.271° 4 LWR P4 42.097 4.348 5.232 -0.166° 0.271° 5 UPR P1 11.114 29.774 96.934 -0.200° 0.272° 5 UPR P2 11.805 29.802 96.934 -0.200° 0.272° 5 UPR P3 12.215 30.621 96.935 0.200° 0.272° 6 UPR P4 41.460 30.926 96.933 0.311° -0.370° 6 UPR P3 44.503 30.094 96.935 0.311° -0.370° 7 UPR P1 16.583 3.701 96.905 9.057° 0.587° -0.115° 7 UPR P	2 LWR P4	44.332	30.588	5.299						
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 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 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 96.994 6 UPR P3 43.476 30.926 96.933 6 UPR P4 44.503 30.094 96.935 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 7 UPR P2 16.583 3.701 96.905 7 UPR P3 17.258 3.470 96.901 7 UPR P4 41.501 3.730 96.966 8 UPR P2 41.571 3.730 96	3 LWR P1	16.424	4.412	5.156		0.416°				
3 LWR P3	3 LWR P2	16.279	3.794	5.169	4 0250					
4 LWR P1 41.496 4.298 5.235 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 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 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 7 UPR P2 16.583 3.701 96.905 7 UPR P3 17.258 3.470 96.910 7 UPR P4 17.120 4.111 96.911 8 UPR P3 42.226 3.744 96.972 8 UPR P4 42.275 3.995 96.976 8 UPR P3 42.226 3.744	3 LWR P3	17.019	3.753	5.164	-1.055					
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 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 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 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 P3 42.226 3.744 96.972 8 UPR P3 42.226 3.744 96.972 8 UPR P4 42.275 3.995 96.976 Top Mount 1 3.082 19.133	3 LWR P4	17.102	4.235	5.155						
4 LWR P3 42.002 3.590 5.234 -0.166° 0.271° 4 LWR P4 42.097 4.348 5.232 -0.200° 0.272° 5 UPR P1 11.114 29.774 96.939 -0.200° 0.272° 5 UPR P2 11.805 29.802 96.934 -0.200° 0.272° 5 UPR P3 12.215 30.621 96.936 -0.370° 6 UPR P4 43.476 30.926 96.933 -0.311° -0.370° 6 UPR P3 44.503 30.094 96.935 -0.311° -0.370° 6 UPR P4 44.480 30.809 96.938 -0.311° -0.370° 7 UPR P1 16.562 4.427 96.910 -0.587° -0.115° 7 UPR P2 16.583 3.701 96.905 -0.587° -0.115° 7 UPR P4 17.120 4.111 96.911 -0.587° -0.515° 8 UPR P1 41.494 4.326 96.972 -0.545° -0.545° 8 UPR P2 41.571 3.730 96.966 -0.545° -0.545° 8 UPR P3 42.226	4 LWR P1	41.496	4.298	5.235		0.271°				
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 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 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 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 P4 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)	4 LWR P2	41.552	3.692	5.237	0.1669					
5 UPR P1 11.114 29.774 96.939 0.200° 0.272° 5 UPR P3 12.215 30.621 96.936 0.200° 0.272° 5 UPR P4 11.262 30.653 96.940 0.200° 0.272° 6 UPR P1 43.476 30.926 96.933 0.311° 0.311° 0.370° 6 UPR P2 43.489 30.176 96.928 0.311° 0.370° 0.370° 6 UPR P3 44.503 30.094 96.935 0.311° 0.370° 0.370° 6 UPR P4 44.480 30.809 96.938 0.587° 0.587° 0.370° 7 UPR P1 16.562 4.427 96.910 0.587° <	4 LWR P3	42.002	3.590	5.234	-0.100					
5 UPR P2 11.805 29.802 96.934 0.200° 0.272° 5 UPR P3 12.215 30.621 96.936 0.200° 0.272° 5 UPR P4 11.262 30.653 96.940 0.200° 0.272° 6 UPR P1 43.476 30.926 96.933 0.311° 96.908 6 UPR P2 43.489 30.176 96.928 0.311° -0.370° 6 UPR P3 44.503 30.094 96.935 0.311° -0.370° 6 UPR P4 44.480 30.809 96.938 0.587° -0.115° 7 UPR P1 16.562 4.427 96.910 0.587° -0.115° 7 UPR P3 17.258 3.470 96.905 0.587° -0.115° 8 UPR P4 41.494 4.326 96.972 0.646° 0.646° 0.646° 8 UPR P3 42.226 3.744 96.972 0.646° 0.646° 0.545° 8 UPR P4 42.275 3.995 96.976 0.646° 0.545° Lifting Pad Hole Centers Point Name X(in) Y(in)	4 LWR P4	42.097	4.348	5.232						
5 UPR P3 12.215 30.621 96.936 0.20° 0.272° 5 UPR P4 11.262 30.653 96.940 0.21° 0.272° 6 UPR P1 43.476 30.926 96.933 0.311° -0.370° 6 UPR P2 43.489 30.176 96.928 0.311° -0.370° 6 UPR P3 44.503 30.094 96.935 0.311° -0.370° 6 UPR P4 44.480 30.809 96.938 0.587° -0.115° 7 UPR P2 16.583 3.701 96.905 0.587° -0.115° 7 UPR P3 17.258 3.470 96.901 0.587° -0.115° 8 UPR P4 17.120 4.111 96.911 0.587° -0.115° 8 UPR P3 42.226 3.744 96.972 0.646° 0.646° 0.545° 8 UPR P4 42.275 3.995 96.976 0.646° 0.545° Lifting Pad Hole Centers Point Name X(in) Y(in) Z(in) Top Mount 1 3.082 19.133 101.199 Top Mou	5 UPR P1	11.114	29.774	96.939	0.200°	0.272°				
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 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 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 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 5 1.890 33.481 101.206 Top Mount 5 1.890 33.481 101.270	5 UPR P2	11.805	29.802	96.934						
6 UPR P1 43.476 30.926 96.933 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 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 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 5 1.890 33.481 101.206 Top Mount 1 2.971 19.191 0.954 Bot Mount 2 12.258 6.077 0.918 <td>5 UPR P3</td> <td>12.215</td> <td>30.621</td> <td>96.936</td>	5 UPR P3	12.215	30.621	96.936						
6 UPR P2 43.489 30.176 96.928 0.311° -0.370° 6 UPR P3 44.503 30.094 96.935 -0.311° -0.370° 6 UPR P4 44.480 30.809 96.938 -0.587° -0.115° 7 UPR P1 16.562 4.427 96.910 -0.587° -0.115° 7 UPR P2 16.583 3.701 96.905 -0.587° -0.115° 7 UPR P3 17.258 3.470 96.901 -0.587° -0.115° 8 UPR P4 17.120 4.111 96.911 -0.545° -0.545° 8 UPR P2 41.571 3.730 96.966 -0.646° -0.545° 8 UPR P3 42.226 3.744 96.972 -0.545° -0.545° 8 UPR P4 42.275 3.995 96.976 -0.545° -0.545° 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 5 1.890 33.481 <td>5 UPR P4</td> <td>11.262</td> <td>30.653</td> <td>96.940</td>	5 UPR P4	11.262	30.653	96.940						
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 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 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 4 45.344 33.941 1.	6 UPR P1	43.476	30.926	96.933	0.311°	-0.370°				
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 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 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 3 45.546 1.796 0.998 Bot Mount 4 45.344 33.941 1.	6 UPR P2	43.489	30.176	96.928						
7 UPR P1 16.562 4.427 96.910 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 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 4 45.344 33.941 1.020	6 UPR P3	44.503	30.094	96.935						
7 UPR P2 16.583 3.701 96.905 -0.587° -0.115° 7 UPR P3 17.258 3.470 96.901 -0.115° 7 UPR P4 17.120 4.111 96.911 -0.545° 8 UPR P1 41.494 4.326 96.972 -0.545° 8 UPR P2 41.571 3.730 96.966 -0.545° 8 UPR P3 42.226 3.744 96.972 -0.545° 8 UPR P4 42.275 3.995 96.976 -0.545° 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 4 45.344 33.941 1.020	6 UPR P4	44.480	30.809	96.938						
7 UPR P3	7 UPR P1	16.562	4.427	96.910	0.587°	-0.115°				
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 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	7 UPR P2	16.583	3.701	96.905						
8 UPR P1 41.494 4.326 96.972 8 UPR P2 41.571 3.730 96.966 8 UPR P3 42.226 3.744 96.972 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	7 UPR P3	17.258	3.470	96.901						
8 UPR P2 41.571 3.730 96.966 8 UPR P3 42.226 3.744 96.972 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	7 UPR P4	17.120	4.111	96.911						
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	8 UPR P1	41.494	4.326	96.972	0.646°	-0.545°				
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	8 UPR P2	41.571	3.730	96.966						
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	8 UPR P3	42.226	3.744	96.972						
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	8 UPR P4	42.275	3.995	96.976						
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	Lifting Pad Hole Centers									
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	Point Name	X(in)	Y(in)	Z(in)						
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	Top Mount 1	3.082	19.133	101.199						
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	Top Mount 2	12.456	6.064	101.162						
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	Top Mount 4	45.534	33.918	101.206						
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	Top Mount 5	1.890	33.481	101.270						
Bot Mount 3 45.546 1.796 0.998 Bot Mount 4 45.344 33.941 1.020	Bot Mount 1	2.971	19.191	0.954						
Bot Mount 4 45.344 33.941 1.020	Bot Mount 2	12.258	6.077	0.918						
	Bot Mount 3	45.546	1.796	0.998						
Bot Mount 5 1.815 33.525 1.033	Bot Mount 4	45.344	33.941	1.020						
	Bot Mount 5	1.815	33.525	1.033						