Jefferson Lab Alignment Group

Data Transmittal

TO: M. Stutzman, J. Grames		**DATE:** 29 Jun 2015
FROM: J. Dahlberg	**Checked:**	**# :** L1655

DETAILS: Data: Step2b\Inj\150618a, 150619a, 150624a, Fid\Inj\wien\150623a

Below are the results from the recent survey carried out on the A1/Brock cavity girder. Values are in millimeters and are relative to ideal beam center in X and Y and relative to the chopper cavity in Z. A +X is to the beam left, a +Y is up, and a –Z value is upstream. A +yaw angle is counter clockwise looking from above, a +pitch angle is ccw looking from the beam right side, and a +roll angle is cw looking from upstream. Z values for BPM's are to the connectors and Z values to the apertures are to the upstream face of the 4mm hole.

The inside 4mm aperture data for the as found locations of A1 and A2 are based on the 2003 fiducial data without vacuum effect.
The new A1 top flange roll angle was measured in the lab and then again after installed. Based on the change in the roll angle relative to the block, the 4mm hole was calculated to have moved -0.32mm to the beam right. This correction is applied to the 6-24-2015 results.

No changes were seen in the undisturbed girder components other than a shift downstream of 0.1mm.

AS FOUND LOCATION 6-19-2015

LOCATION	X	Y	Z	YAW	PITCH	ROLL
MFQ0I01A	1.40	0.95	-2123.8	-0.109	-0.514	
IPM0I01	1.19	0.12	-1998.3	-0.175	-0.446	-0.480
IPM0I01A	0.60	-1.27	-1683.1	-0.196	+0.010	-0.140
IFY0IA1	-0.44	-0.28	-1406.0	+0.173	+0.152	
MWF0I02 CL	0.17	0.12	-1109.8	-0.007	+0.001	
MWF0I02 US hole	0.28	0.14	-1287.2			
IPM0I02	0.37	0.00	-798.8	+0.240	-0.170	+0.027
IFY0IA2	0.98	0.01	-414.7	+0.035	-0.061	
IPM0I02A	0.57	-0.30	-294.5	-0.279	-0.154	-0.862

AS FOUND LOCATION 6-24-2015

LOCATION	X	Y	Z	YAW	PITCH	ROLL
IPM0I01	1.39	0.19	-1995.3	-0.072	-0.448	-0.692
IPM0I01A	0.80	-1.03	-1697.2	-0.164	-0.127	-0.715
IFY0IA1	0.31	-0.08	-1424.6			
BROCK	0.49	-0.11	-1334.1	-0.011	-0.023	
MWF0I02 CL	0.17	0.12	-1109.7			

A1 spacer specifications:
2 mm hole: 17.80 mm = 0.700”
3 mm hole: 27.60 mm = 1.085”
4 mm hole: 34.64 mm = 1.480”