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| jlab Logo  ***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”