# - çefersan Lgab Jefferson Lab Alignment Group Data Transmittal 

TO: B. Miller, D. Kashy
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FROM: C. Gould / K. Tremblay

Checked:

(CG)
\# : B1688

## DETAILS:

data: inspection\hallbltorus12g\151214aldc supports
The DC Supports were measured by rolling the magnet so that the each sector was in the 180 degree position. A best fit transformation was established to the Torus to relate the supports to the coordinate system established using a best fit transformation to the coil fiducials (Memo B1687). Units are in millimeters.

| DC SUPPORTS |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SECTOR 1 | X | Y | Z | SECTOR 4 | X | Y | Z |
| R2BMEFI | 539.80 | -194.92 | 2195.16 | R2BMBFI | -540.53 | 193.99 | 2194.77 |
| R2BMEFO | 772.24 | -332.06 | 2306.71 | R2BMBFO | -773.98 | 328.99 | 2305.85 |
| R2BMFBI | 539.46 | 195.66 | 2194.63 | R2BMCBI | -540.58 | -195.09 | 2194.63 |
| R2BMFBO | 772.69 | 331.40 | 2305.84 | R2BMCBO | -772.43 | -332.98 | 2306.03 |
| SECTOR 2 |  |  |  | SECTOR 5 |  |  |  |
| R2BMABI | 98.90 | 565.67 | 2194.89 | R2BMCFI | -438.65 | -371.49 | 2194.30 |
| R2BMABO | 98.11 | 835.43 | 2305.79 | R2BMCFO | -672.89 | -505.59 | 2305.70 |
| R2BMFFI | 439.43 | 371.41 | 2196.05 | R2BMDBI | -100.82 | -565.47 | 2194.98 |
| R2BMFFO | 674.48 | 504.43 | 2306.86 | R2BMDBO | -99.03 | -835.02 | 2305.95 |
| SECTOR 3 |  |  |  | SECTOR 6 |  |  |  |
| R2BMAFI | -101.18 | 565.18 | 2195.41 | R2BMDFI | 101.29 | -563.71 | 2195.36 |
| R2BMAFO | -99.46 | 835.05 | 2306.58 | R2BMDFO | 99.20 | -833.52 | 2307.21 |
| R2BMBBI | -440.15 | 369.15 | 2195.08 | R2BMEBI | 438.12 | -369.71 | 2195.19 |
| R2BMBBO | -675.28 | 501.39 | 2306.15 | R2BMEBO | 671.34 | -505.60 | 2306.43 |

Naming convention: "R2BMEFI"
R2BM = Region 2 Boss Mount
"E"= Coil designation
$\mathrm{F}=$ Front $\mathrm{B}=$ Back
I = Inner O= Outer
The mid planes between the coil planes were established to determine bisecting points between opposite mounting points. The midpoints are shown below :

| Points intersecting bisecting plane |  |  |  |
| :--- | :--- | :--- | :--- |
| Sector line | $\mathbf{x}$ | $\mathbf{y}$ | $\mathbf{z}$ |
| Sector 1 outer | 772.46 | -0.53 | 2306.26 |
| Sector 1 inner | 539.63 | -0.48 | 2194.88 |


| Points intersecting bisecting plane |  |  |  |
| :--- | ---: | ---: | :--- |
| Sector line |  | $\mathbf{y}$ | $\mathbf{z}$ |
| Sector 2 outer | 386.53 | 669.79 | 2306.31 |
| Sector 2 inner | 270.00 | 468.06 | 2195.46 |
| Sector 3 outer | -387.27 | 668.25 | 2306.28 |
| Sector 3 inner | -270.96 | 466.97 | 2195.14 |
| Sector 4 outer | -773.18 | -3.70 | 2305.89 |
| Sector 4 inner | -540.54 | -3.42 | 2194.64 |
| Sector 5 outer | -384.34 | -671.24 | 2305.84 |
| Sector 5 inner | -268.05 | -469.45 | 2194.66 |
| Sector 6 outer | 385.95 | -669.18 | 2306.85 |
| Sector 6 inner | 269.22 | -467.00 | 2195.32 |

Below are values for distances between the mounting points. The corrected distance takes into account the fixture offset. Ideal distances are 689.4 mm for the outside distances and 416.6 for the inside. The distances from the bisecting plane and mounting points are shown also.

| Sector 1 |  |  |
| :--- | ---: | ---: |
|  | Meas | Corrected |
| inside dist | 390.58 | 415.98 |
| outside dist | 663.46 | 688.86 |
|  |  |  |
| dist to mid plane |  |  |
| R2BMEFI | -194.43 |  |
| R2BMEFO | -331.53 |  |
| R2BMFBI | 196.15 |  |
| R2BMFBO | 331.93 |  |


| Sector 2 |  |  |
| :--- | ---: | ---: |
|  | Meas. | Corrected |
| inside dist | 392.04 | 417.44 |
| outside dist | 664.66 | 690.05 |
|  |  |  |
| dist to mid plane |  |  |
| R2BMABI | 196.98 |  |
| R2BMABO | 332.6 |  |
| R2BMFFI | -195.06 |  |
| R2BMFFO | -332.05 |  |


| Sector 3 |  |  |
| :--- | ---: | ---: |
|  | Meas. | Corrected |
| inside dist | 391.57 | 416.97 |
| outside dist | 665.51 | 690.91 |
|  |  |  |
| dist to mid plane |  |  |
| R2BMAFI | -196.15 |  |
| R2BMAFO | -332.65 |  |
| R2BMBBI | 195.42 |  |
| R2BMBBO | 332.85 |  |


| Sector 4 |  |  |
| :--- | ---: | ---: |
|  | Meas | Corrected |
| inside dist | 389.08 | 414.48 |
| outside dist | 661.98 | 687.37 |
|  |  |  |
| dist to mid plane |  |  |
| R2BMBFI | -197.42 |  |
| R2BMBFO | -332.7 |  |
| R2BMCBI | 191.66 |  |
| R2BMCBO | 329.28 |  |


| Sector 5 |  |  |
| :--- | ---: | ---: |
|  | Meas. | Corrected |
| inside dist | 389.56 | 414.96 |
| outside dist | 661.69 | 687.09 |
|  |  |  |
| dist to mid plane |  |  |
| R2BMCFI | -196.72 |  |
| R2BMCFO | -332.72 |  |
| R2BMDBI | 192.84 |  |
| R2BMDBO | 328.97 |  |


| Sector 6 |  |  |
| :--- | ---: | ---: |
|  | Meas. | Corrected |
| inside dist | 388.7 | 414.10 |
| outside dist | 659.45 | 684.85 |
|  |  |  |
| dist to mid plane |  |  |
| R2BMDFI | -193.78 |  |
| R2BMDFO | -330.5 |  |
| R2BMEBI | 194.92 |  |
| R2BMEBO | 328.95 |  |

