Jefferson Lab Alignment Group

-Jefferson Lab ⁻

Data Transmittal

TO: B. Miller, D. Kashy		DATE:	21 Dec 2015
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DETAILS:

data: inspection\hallb\torus12g\151214a\dc 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	Х	Y	Z		SECTOR 4	Х	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 F= Front 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 x y 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	х	у	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 689.4mm for the outside distances and 416.6 for the inside. The distances from the bisecting plane and mounting points are shown also.

	Sector 1			Sector 2			Sector 3	
	Meas	Corrected		Meas.	Corrected		Meas.	Corrected
inside dist	390.58	415.98	inside dist	392.04	417.44	inside dist	391.57	416.97
outside dist	663.46	688.86	outside dist	664.66	690.05	outside dist	665.51	690.91
					-			
dist to mid pla	ne		dist to mid pla	ne		dist to mid pla	ne	
R2BMEFI	-194.43		R2BMABI	196.98		R2BMAFI	-196.15	
R2BMEFO	-331.53		R2BMABO	332.6		R2BMAFO	-332.65	
R2BMFBI	196.15		R2BMFFI	-195.06		R2BMBBI	195.42	
R2BMFBO	331.93		R2BMFFO	-332.05		R2BMBBO	332.85	
	Sector 4			Sector 5			Sector 6	
	Meas	Corrected		Meas.	Corrected		Meas.	Corrected
inside dist	389.08	414.48	inside dist	389.56	414.96	inside dist	388.7	414.10
outside dist	661.98	687.37	outside dist	661.69	687.09	outside dist	659.45	684.85
dist to mid pla	ne		dist to mid pla	dist to mid plane		dist to mid pla	ne	
R2BMBFI	-197.42		R2BMCFI	-196.72		R2BMDFI	-193.78	

outside dist	661.98	687.37	outside
dist to mid pla	ne		dist to m
R2BMBFI	-197.42		R2BMC
R2BMBFO	-332.7		R2BMC
R2BMCBI	191.66		R2BMD
R2BMCBO	329.28		R2BMD

Sector 5					
	Meas.	Corrected			
inside dist	389.56	414.96			
outside dist 661.69		687.09			
dist to mid pla					
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 pla	ine				
R2BMDFI	-193.78				
R2BMDFO	-330.5				
R2BMEBI	194.92				
R2BMEBO	328.95				