



Jefferson Lab Alignment Group

Data Transmittal

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DATE: 13 May 2022

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Checked: KJT

: L2032

DETAILS:

The following are the results of the torque survey of west arc stands conducted during the Spring '22 SAD. All quad stands and two thirds of the dipole stands were torqued. The quad data shows the number of bolts torqued out of 8, and the minimum and maximum turns for that stack. Nine stacks were known to have been previously torqued. Four other stacks may have been torqued early on, given their location and the current results. The other twenty stacks (02-17 & 26-29) are grouped together and had not knowingly been torqued since their installation. For the dipole data the number of bolts torqued is out of a total of 16, and shows a fairly clear relationship between time last torqued and the number of turns needed. The arc stands torqued almost 3 years ago all needed attention. However, those in 3R did not.

QUADS		Previously Torqued				
<u>Top Quad / Stack</u>	<u>Date</u>	<u># Tightened</u>	<u>Min Turns</u>	<u>Max Turns</u>	<u>Last Tight'd</u>	<u>Time B/w</u>
QC2A23 / 18	28-Mar	5	0.00	0.50	4/16/19	2 yr. 11 mo.
QC2A24 / 19	28-Mar	6	0.00	0.06	4/16/19	2 yr..11 mo.
QC2A25 / 20	28-Mar	5	0.00	0.13	4/16/19	2 yr. 11 mo.
QC2A26 / 21	28-Mar	6	0.00	4.00	4/16/19	2 yr. 11 mo.
QC2A27 / 22	29-Mar	4	0.00	0.75	4/16/19	2 yr. 11 mo.
QN2A28 / 23	30-Mar	6	0.00	0.13	4/16/19	2 yr. 11 mo.
QC2A29 / 24	30-Mar	4	0.00	0.13	4/16/19	2 yr. 11 mo.
QC2A31 / 25	31-Mar	3	0.00	0.13	4/29/19	2 yr. 11 mo.
				Avg:	0.363	

Possibly Torqued					
<u>Top Quad</u>	<u>Date</u>	<u># Tightened</u>	<u>Min Turns</u>	<u>Max Turns</u>	<u>Last Tight'd</u>
QC2A01 / 01	20-Apr	0	0.00	0.00	???
QC2A37 / 30	7-Apr	5	0.00	1.25	???
QN2A38 / 31	7-Apr	6	0.00	3.25	???
QC2A39 / 32	8-Apr	6	0.00	1.25	???
				Avg:	0.719

Not Torqued					
<u>Top Quad</u>	<u>Date</u>	<u># Tightened</u>	<u>Min Turns</u>	<u>Max Turns</u>	<u>Avg Turns</u>
QC2A03-21, 33-36 Stacks 02-17, 26-29	4-19 Apr	8	0.25	4.50	1.37

DIPOLES	Date	# Tightened	Min Turns	Max Turns	Last Tight'd	Time B/w
WA01	24-Feb	0			4/21/21	10 mo.
WA06	23-Feb	0			4/26/21	10 mo.
WA07	16-Feb	0			10/14/19	2 yr. 4 mo.
WA08	16-Feb	0			10/14/19	2 yr. 4 mo.
WA09	14-Feb	8	0.0	0.25	4/16/19	2 yr. 10 mo.
WA10	14-Feb	4	0.0	0.75	4/16/19	2 yr. 10 mo.
WA11	11-Feb	9	0.0	0.25	4/16/19	2 yr. 10 mo.
WA12	10-Feb	7	0.0	0.38	4/29/19	2 yr. 10 mo.
WA13	10-Feb	1	0.0	0.13	4/29/19	2 yr. 10 mo.
WA14	10-Feb	2	0.0	0.06	10/11/19	2 yr. 4 mo.
WA15	9-Feb	0			10/11/19	2 yr. 4 mo.
WA16	9-Feb	1	0.0	0.13	10/11/19	2 yr. 4 mo.
3R	2-Mar	0			5/5/19	2 yr. 10 mo.