

LCLS II 2Q10 Fiducialization Report



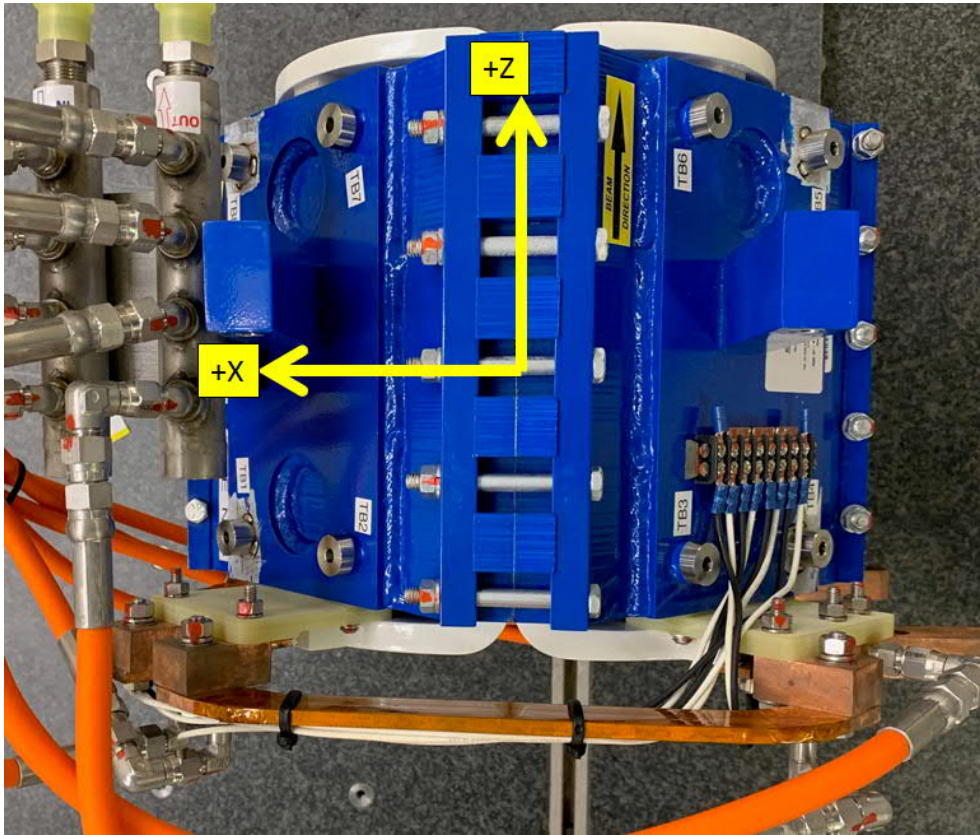
Inspector : K. Caban
Engineer : J. Amann
Drawing No. : SA-344-113-30
Barcode # : 4216
Mfg. S/N : MFG SN 05

Coordinate System Setup

Spatial Alignment

The Spatial Alignment of the magnet is created through a composite best-fit of the pole tips. Each pole tip scanned 0.150 inch inboard from the upstream magnet face and the downstream magnet face. A composite best-fit of the upstream poles and the downstream poles is made with the nominal pole tip shape and location. An axis is created through the two best-fit centerpoints. This axis is the spatial alignment of the magnet and defines the Z axis.

Tooling Ball Locations



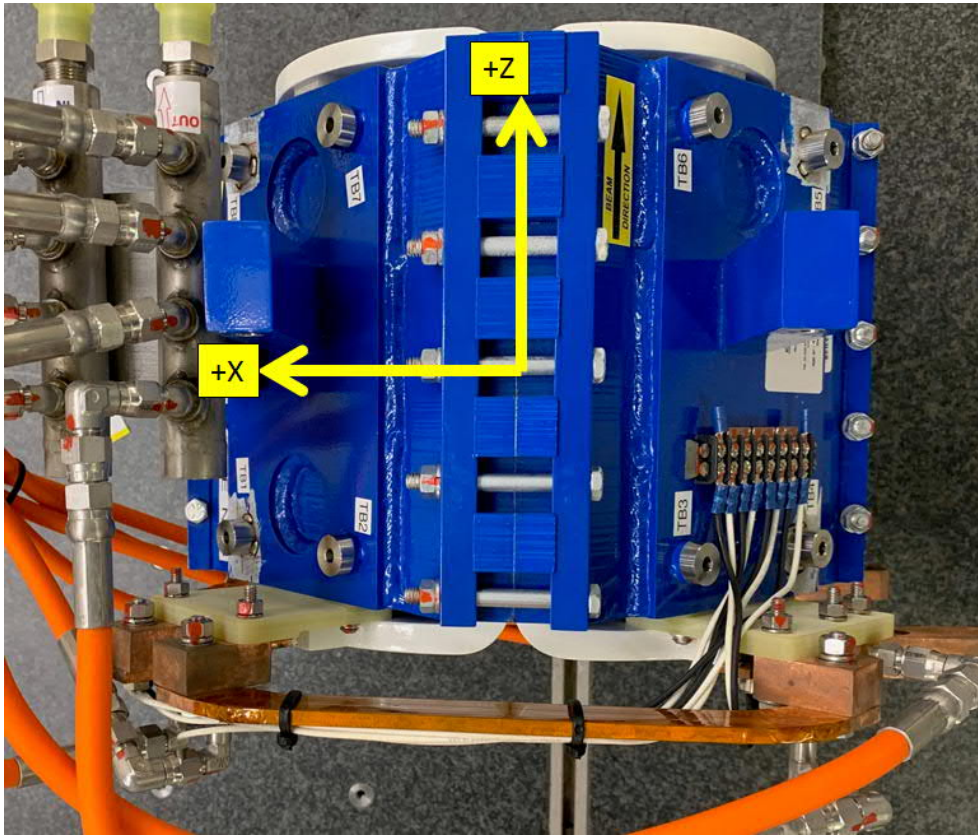
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	6.4905	4.0211	-3.7434
TB 2	3.9753	6.4714	-3.7382
TB 3	-3.9685	6.4768	-3.7429
TB 4	-6.5388	3.9627	-3.7391
TB 5	-6.5295	3.9669	3.7398
TB 6	-3.9668	6.4781	3.7361
TB 7	3.9768	6.4701	3.7430
TB 8	6.5028	4.0142	3.7192

Tooling Ball Locations are 1 inch above Tooling Ball Adapter Plane
Dimensions in Inch

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Tooling Ball Locations



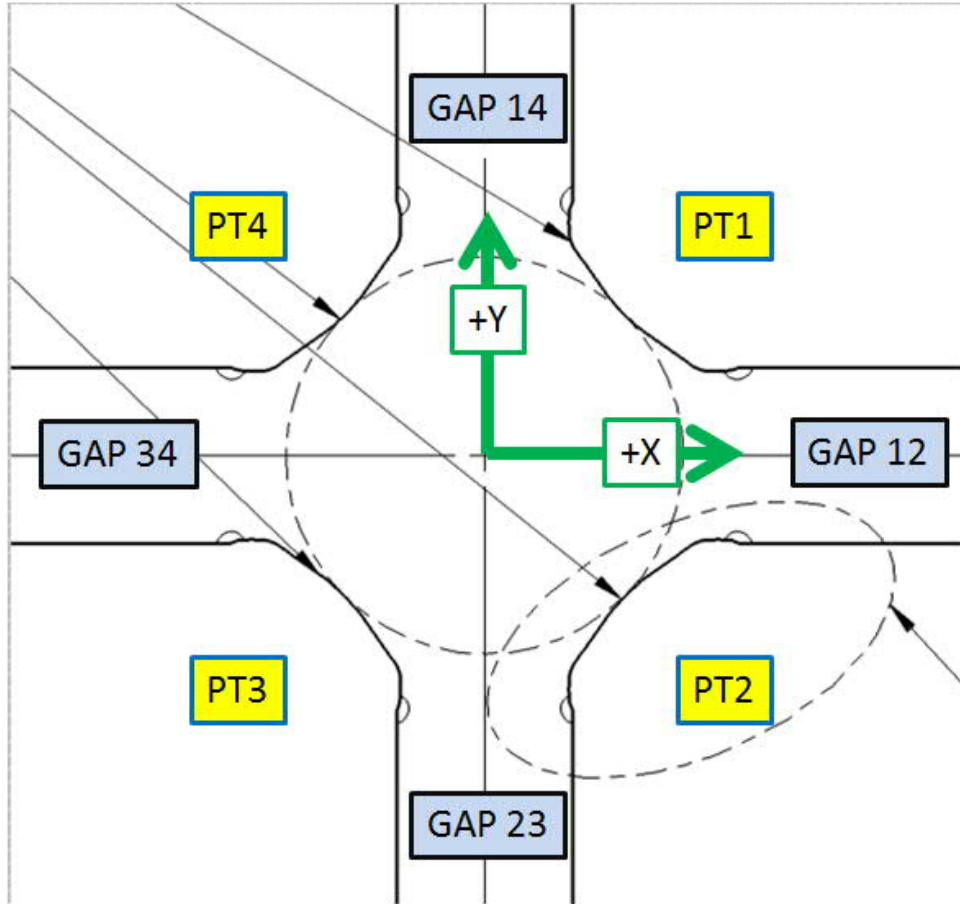
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	6.0047	3.5348	-3.7439
TB 2	3.4880	5.9859	-3.7385
TB 3	-3.4825	5.9908	-3.7427
TB 4	-6.0512	3.4783	-3.7408
TB 5	-6.0419	3.4827	3.7393
TB 6	-3.4809	5.9916	3.7366
TB 7	3.4906	5.9849	3.7432
TB 8	6.0143	3.5268	3.7233

Tooling Ball Locations are 5/16 inch above Tooling Ball Adapter Plane
Dimensions in Inch

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Pole Tip Gap Measurements



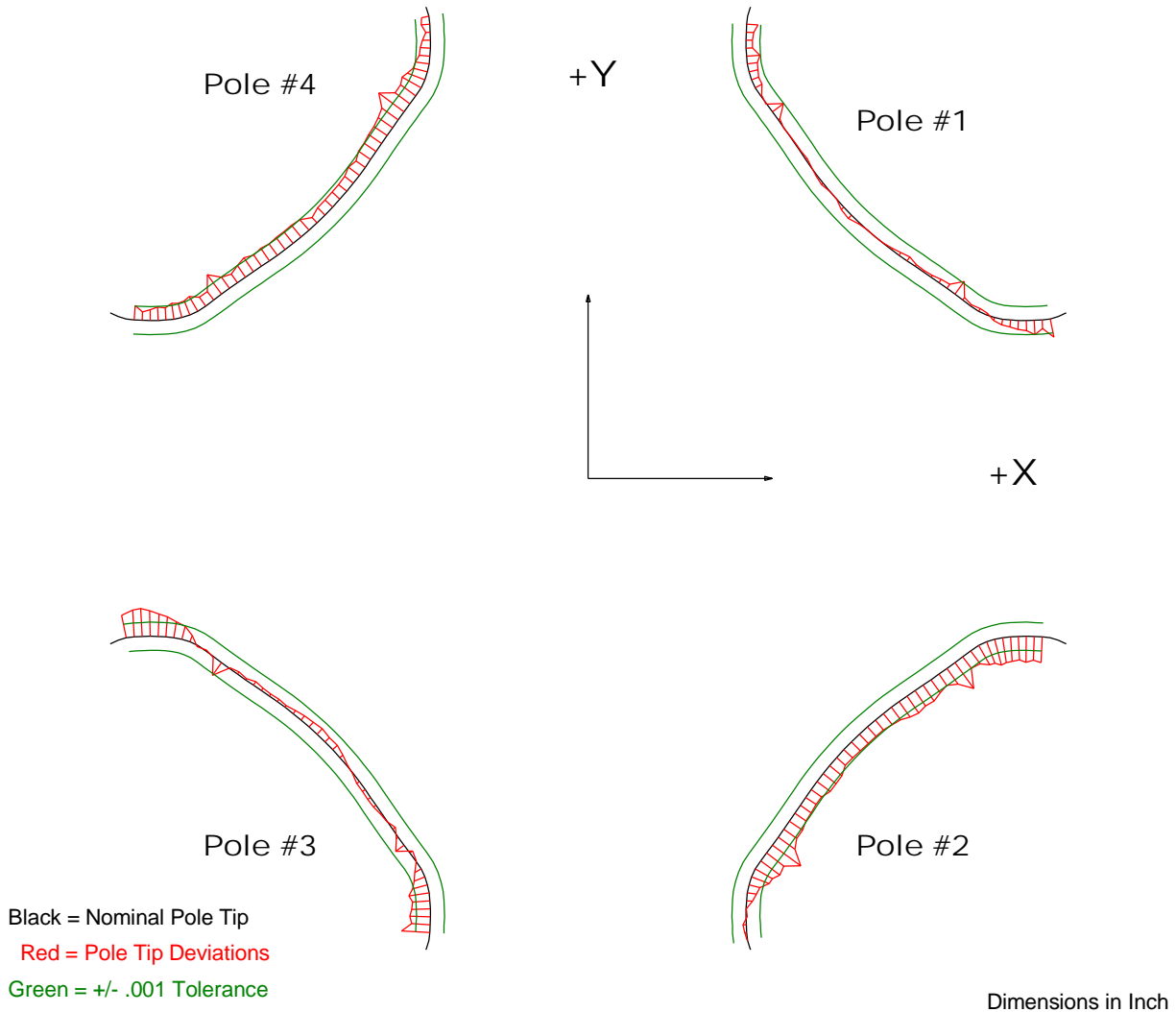
	Nominal Distance	Downstream Pole End	Upstream Pole End
PT Distance 1-3	2.026	2.02523	2.02496
PT Distance 2-4	2.026	2.02765	2.02677
Gap 1-2	0.8602	0.86029	0.85829
Gap 2-3	0.8602	0.85971	0.85956
Gap 3-4	0.8602	0.8571	0.85733
Gap 1-4	0.8602	0.85924	0.85894

Dimensions in Inch

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Composite Best-fit of Pole Tips, Downstream



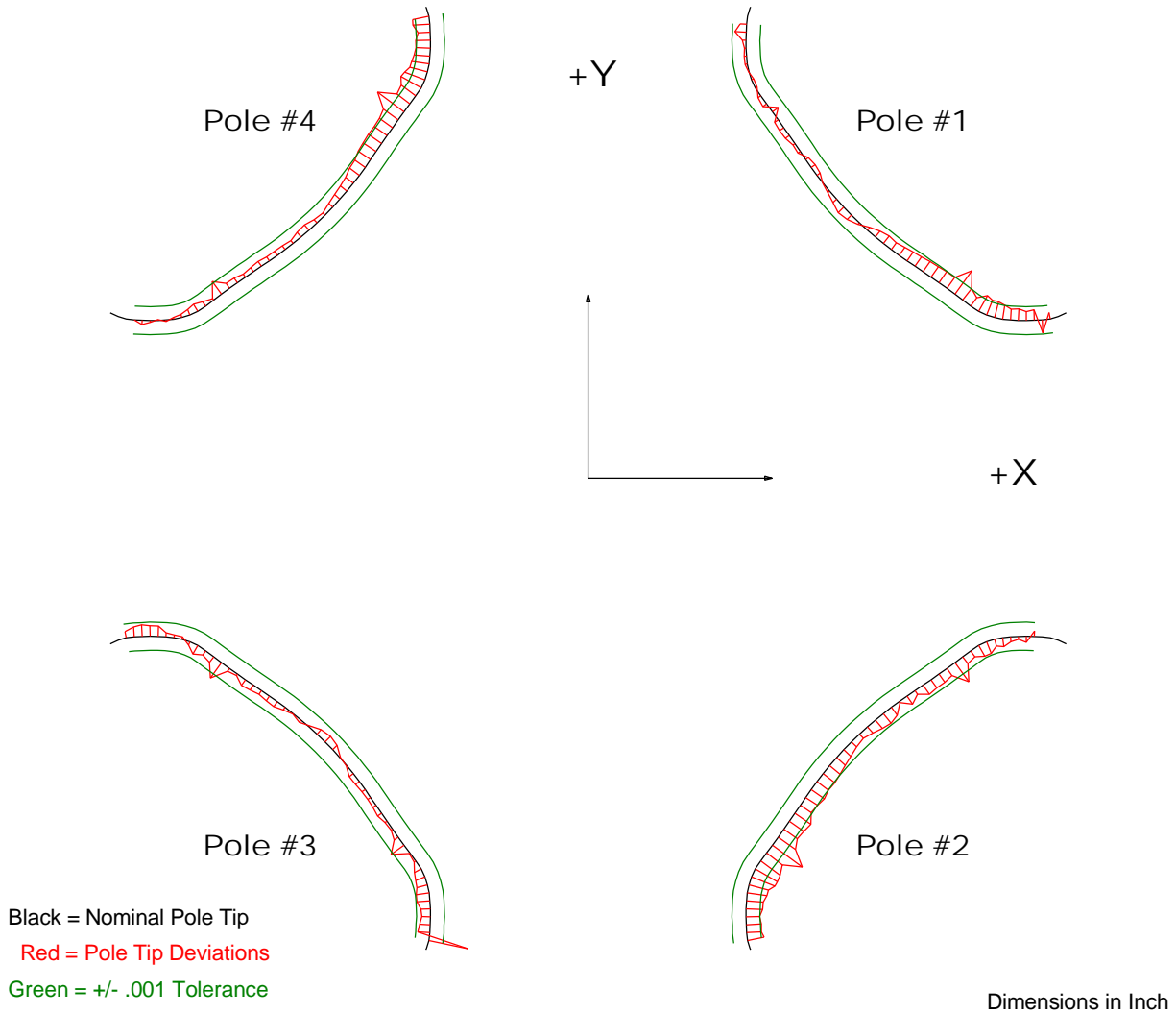
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.00113	-0.00249	-0.00202	-0.00224
Max. Dev.	0.00132	0.00024	0.00199	-0.0003

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Composite Best-fit of Pole Tips, Upstream



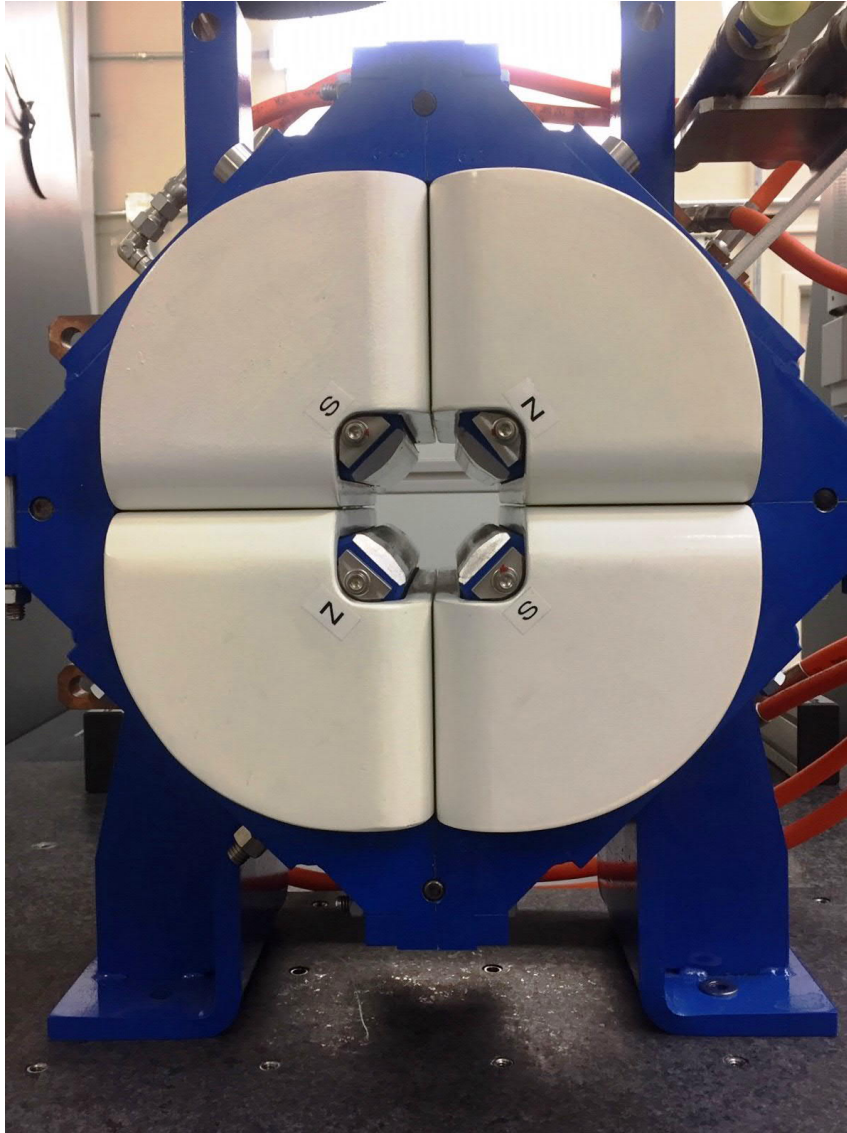
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.00208	-0.00264	-0.00136	-0.00234
Max. Dev.	0.00092	0.0004	0.00287	0.0003

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Angle of the Composite Pole Tip Best-Fit



in Decimal Degrees ° :