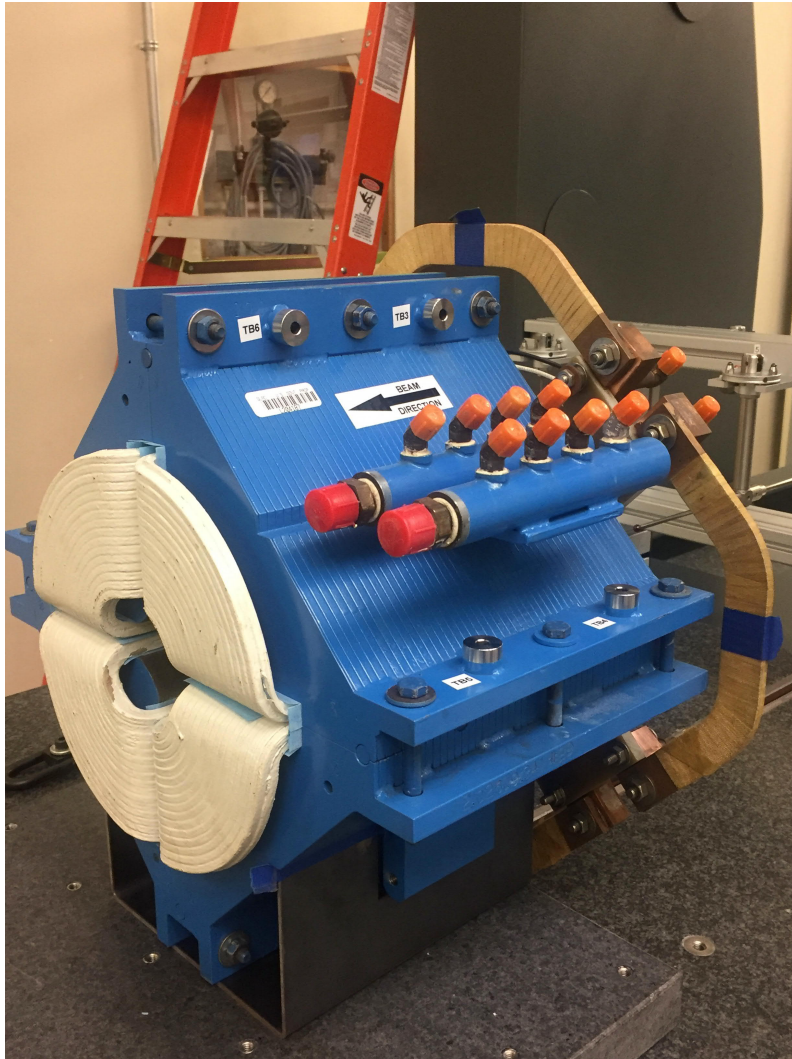


## LCLS II 2Q10 Fiducialization Report



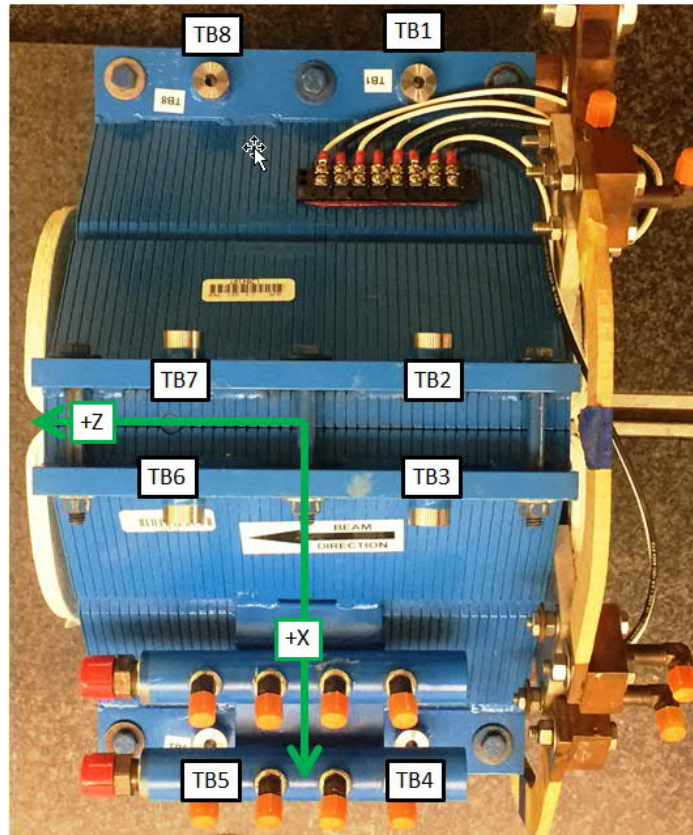
Inspector : K. Caban  
Engineer : J. Amann  
Drawing No. : SA-344-113-21  
Barcode # : 4201  
Mfg. S/N : #06-Re-measure

## 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



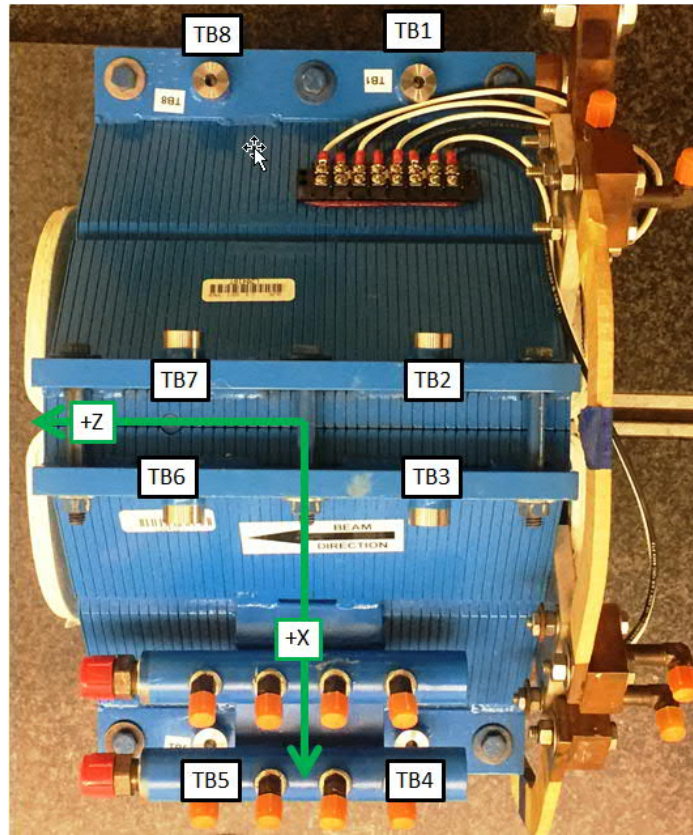
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	-7.0597	2.6743	-2.1686
TB 2	-2.6736	7.0621	-2.1699
TB 3	2.6725	7.0591	-2.1693
TB 4	7.0568	2.6704	-2.1699
TB 5	7.0333	2.6778	2.1570
TB 6	2.6745	7.0628	2.1692
TB 7	-2.6765	7.0519	2.1545
TB 8	-7.0579	2.6752	2.1626

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

Barcode # : 4201

Mfg. S/N : #06-Re-measure

## Tooling Ball Locations



Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	-7.0583	1.9861	-2.1701
TB 2	-1.9860	7.0589	-2.1700
TB 3	1.9851	7.0603	-2.1685
TB 4	7.0539	1.9828	-2.1683
TB 5	7.0318	1.9900	2.1603
TB 6	1.9862	7.0629	2.1695
TB 7	-1.9888	7.0518	2.1568
TB 8	-7.0583	1.9872	2.1641

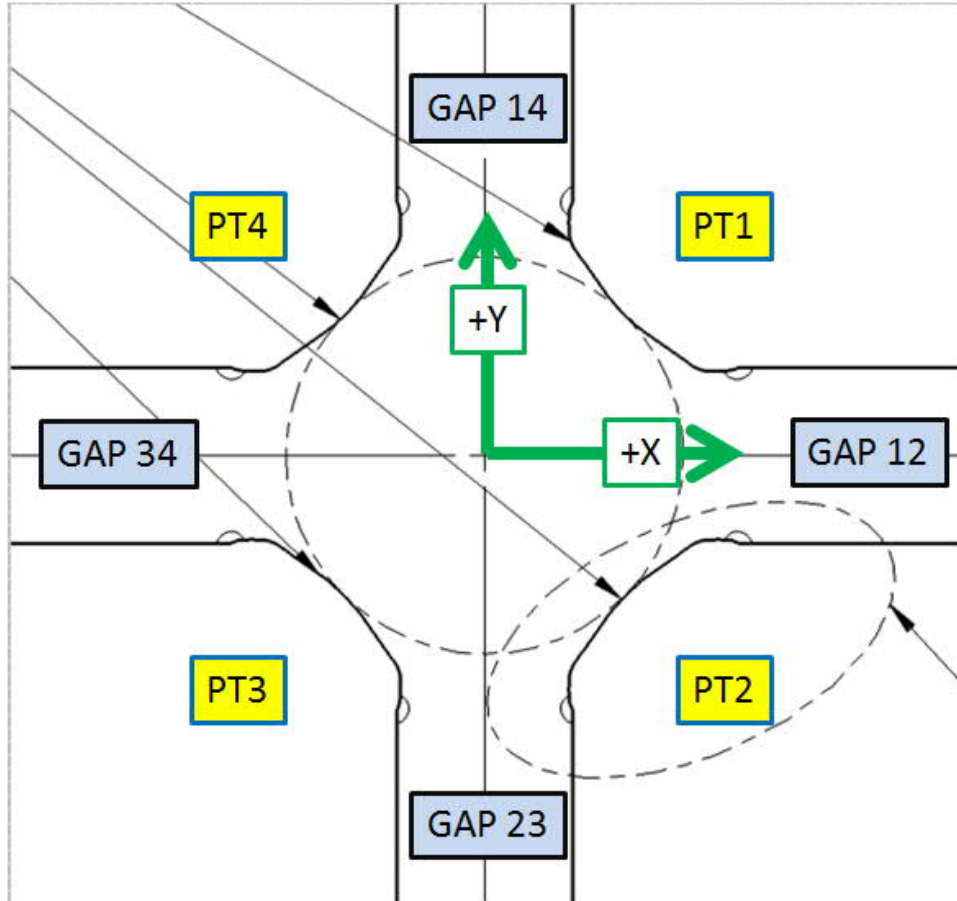
Tooling Ball Locations are 5/16 inch above Tooling Ball Adapter Plane  
Dimensions in Inch

Barcode # : 4201

Mfg. S/N : #06-Re-measure



## Pole Tip Gap Measurements



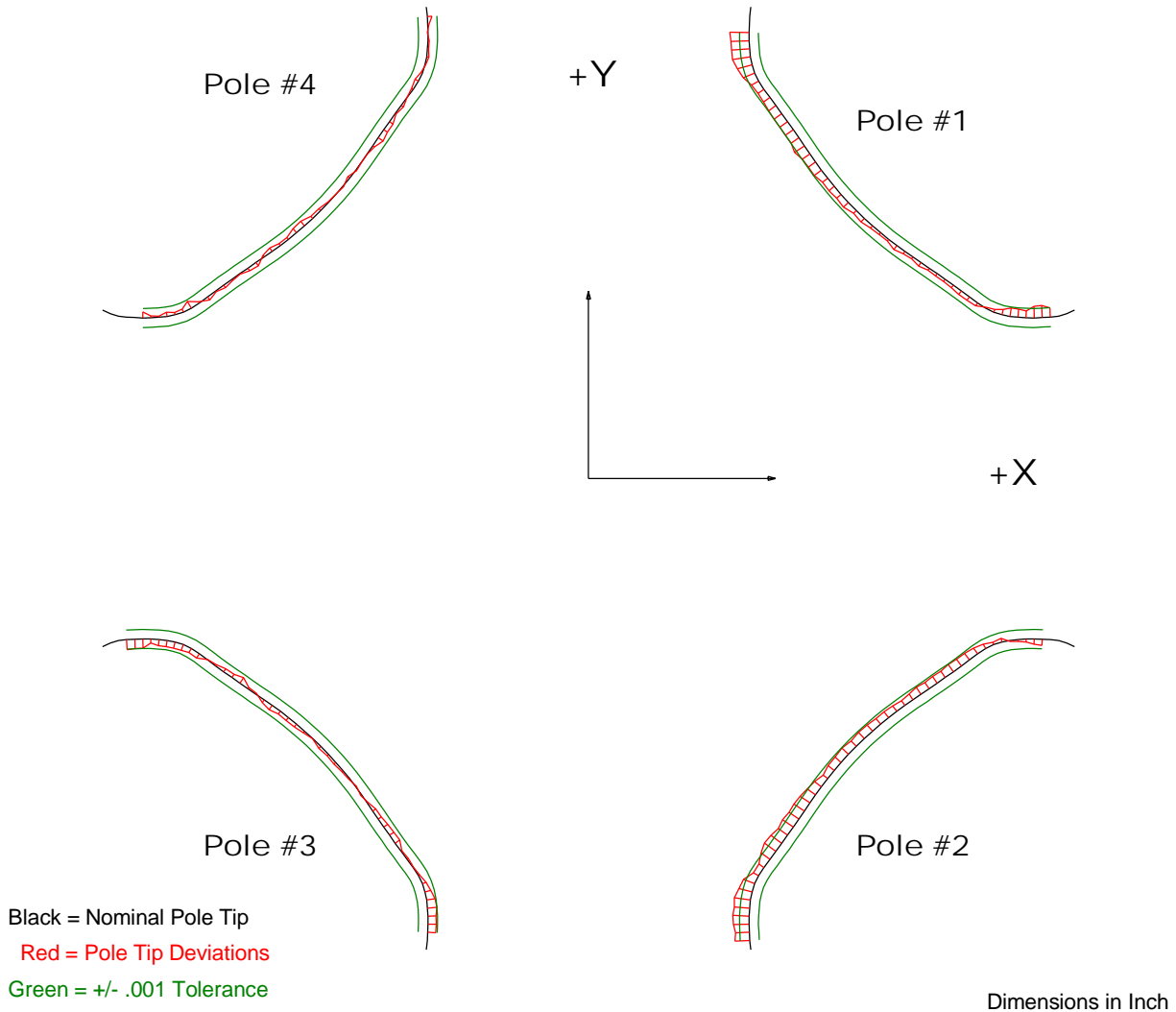
	Nominal Distance	Downstream Pole End	Upstream Pole End
PT Distance 1-3	2.026	2.0259	2.02631
PT Distance 2-4	2.026	2.02548	2.02636
Gap 1-2	0.8602	0.85882	0.85881
Gap 2-3	0.8602	0.85513	0.85744
Gap 3-4	0.8602	0.8591	0.85921
Gap 1-4	0.8602	0.85582	0.84371

Dimensions in Inch

Barcode # : 4201

Mfg. S/N : #06-Re-measure

## Composite Best-fit of Pole Tips, Downstream



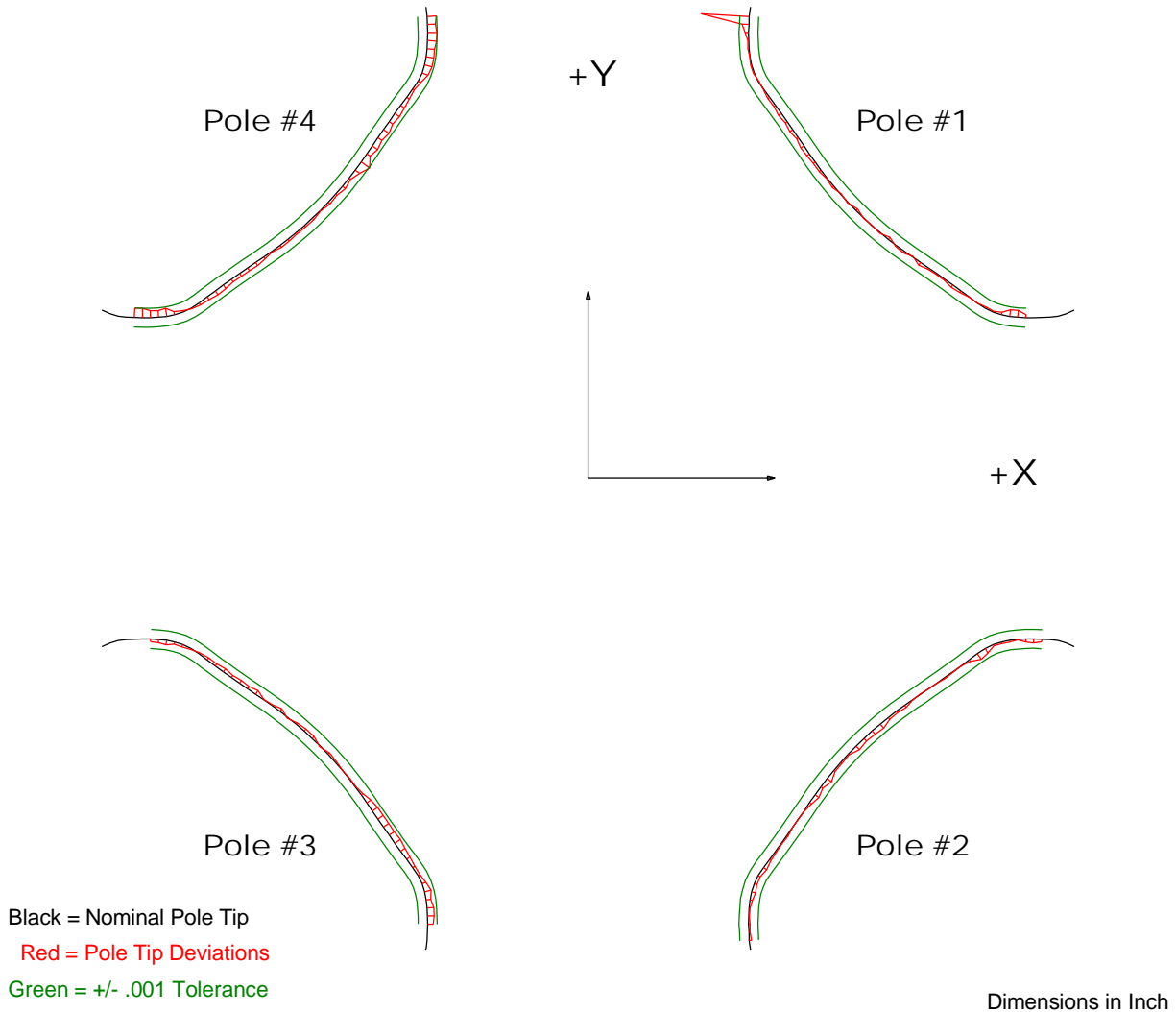
### Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.00126	-0.00066	-0.00105	-0.00085
Max. Dev.	0.00204	0.00172	0.00098	0.00061

Barcode # : 4201

Mfg. S/N : #06-Re-measure

## Composite Best-fit of Pole Tips, Upstream



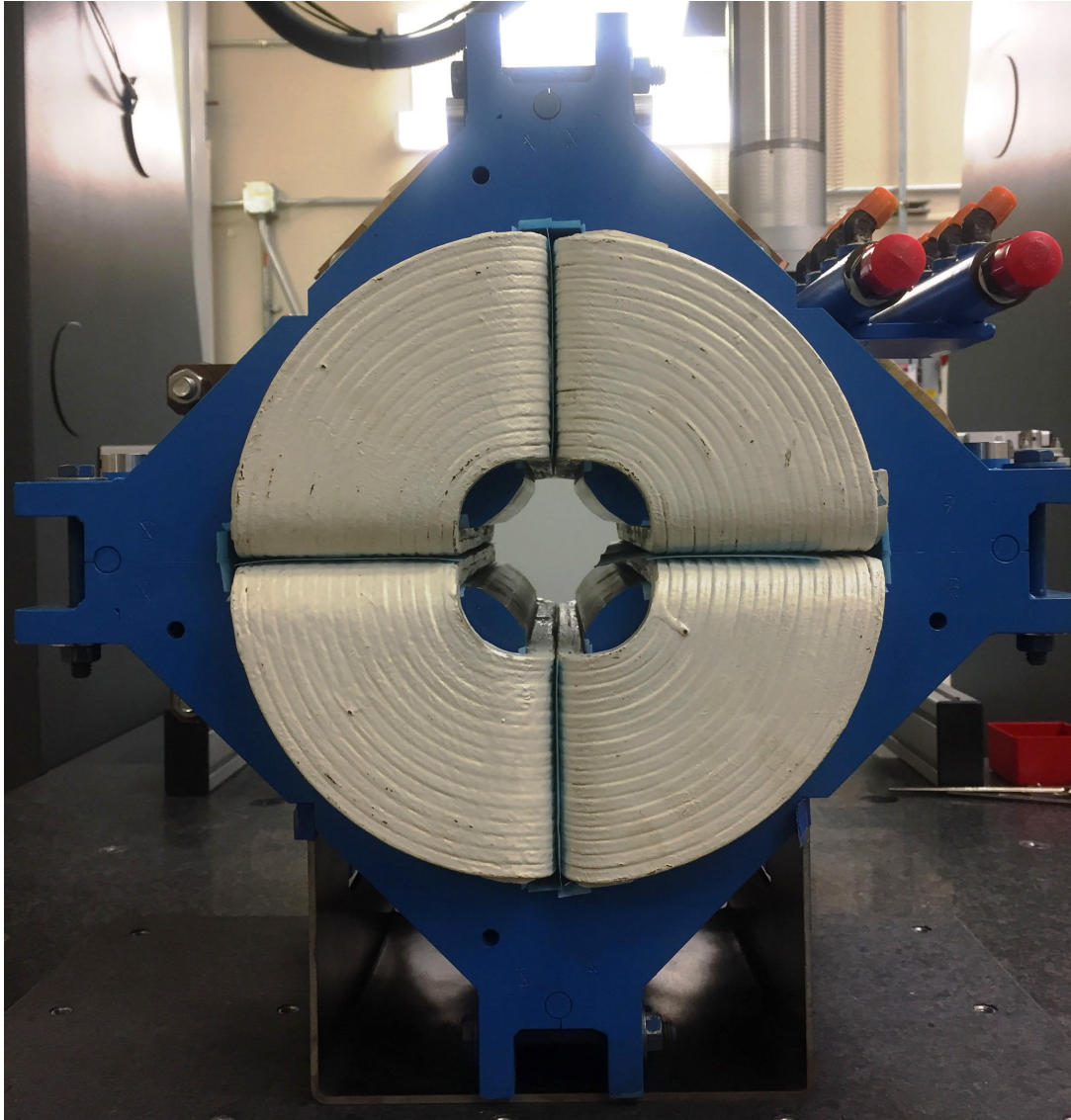
### Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.00073	-0.00072	-0.00049	-0.00101
Max. Dev.	0.00507	0.00005	0.00073	0.00108

Barcode # : 4201

Mfg. S/N : #06-Re-measure

## Angle of the Composite Pole Tip Best-Fit



in Decimal Degrees ° :