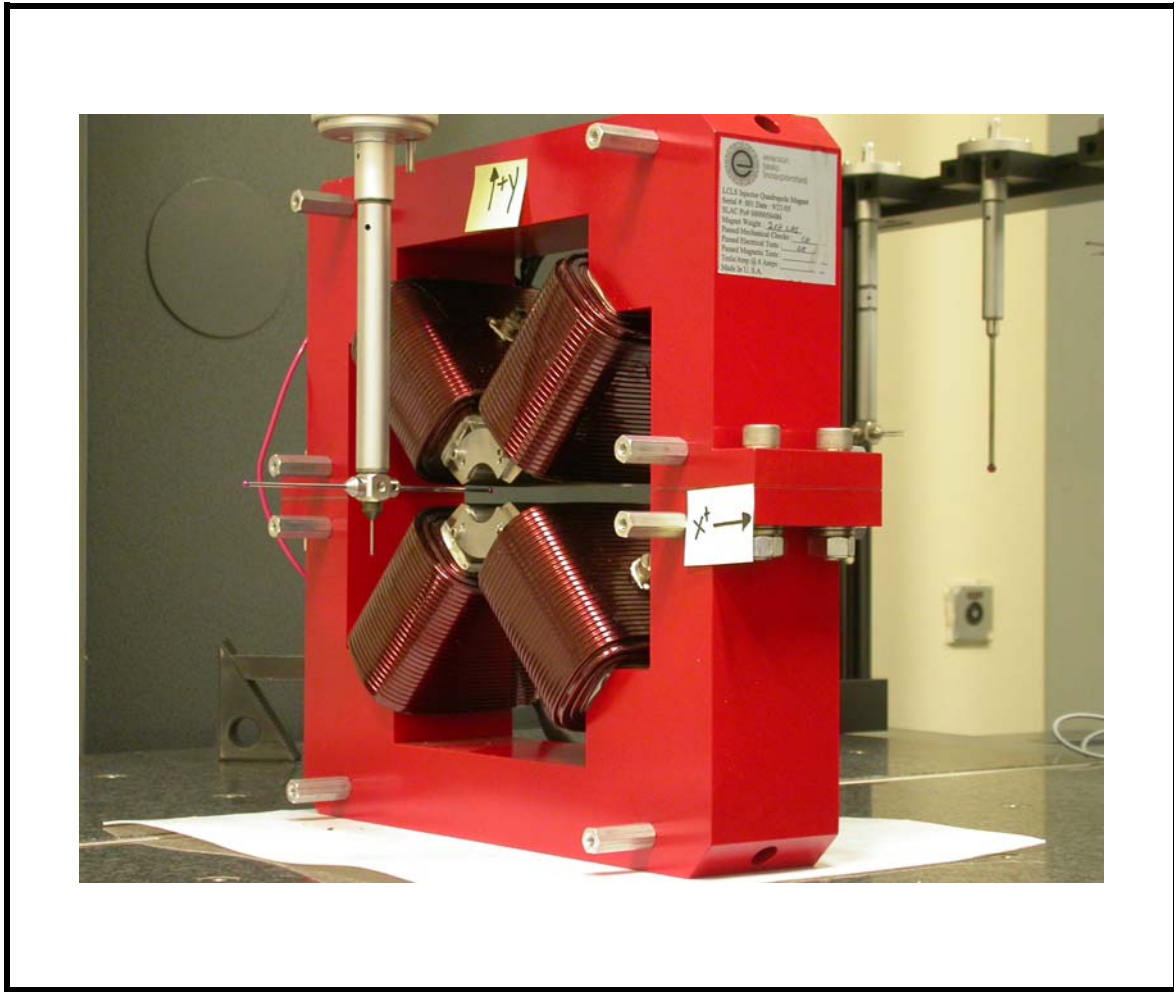


# LCLS Injector Quadrupole Magnet FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Roger Carr
Date:	Thursday, June 01, 2006
Work Order/Charge No.:	92-4215-8
Serial Number	000389

## Part Set-up – Coordinate System Set-up

### Planar Alignment

- Mid-Plane of the magnet

### Spatial Alignment

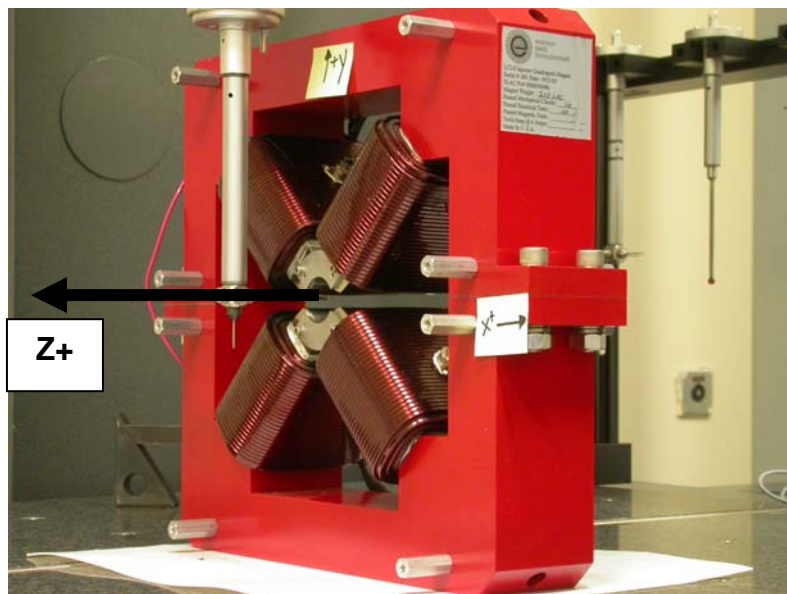
- A line on the top part of the magnet
  - +X goes towards (Magnet Info Label)

### “Z” Zero

- Mid-Plane of the magnet

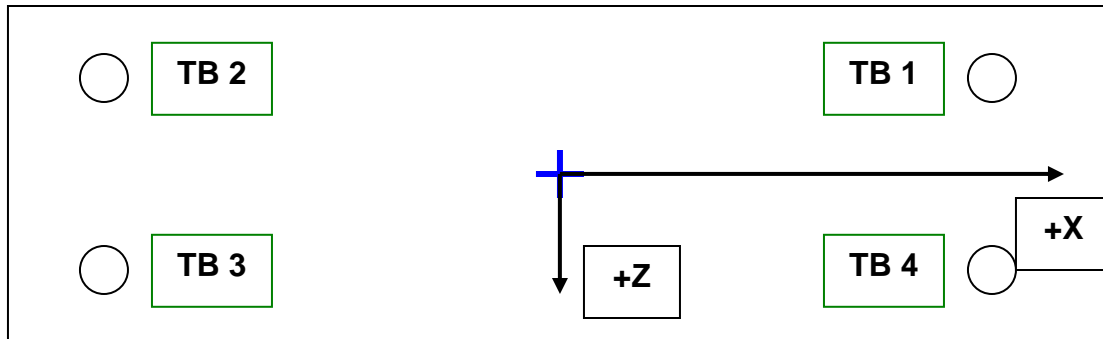
### “X” & “Y” Zero

- On both ends
  - Tangent point of each radii (4 on each end, 8 total).
    - Create a line between diagonal tangent points creates 2 lines.
      - Intersect the lines.
        - Creates a point on each end.
- Create a line of these 2 end points
  - This is the “X” & “Y” Zero, and Beamline or “Z” Axis.



## Tooling Ball Measurements/Locations

Top of magnet; view from "+Y"



Tooling Ball	FORM	DIAMETER	X	Y	Z
TB 1	0.00071	0.49586	6.50373	8.87701	-1.25170
TB 2	0.00081	0.49614	-6.49616	8.87791	-1.25158
TB 3	0.00085	0.49770	-6.49648	8.87772	1.24908
TB 4	0.00070	0.49644	6.50297	8.87706	1.24872

## Additional Requested Measurements

View From +Z

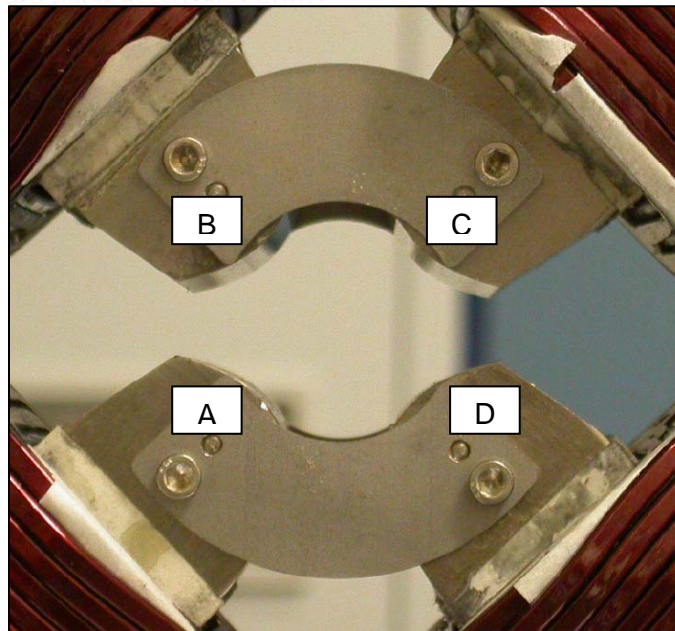
Tangent Point Straightness

- A. 0.00026
- B. 0.00016
- C. 0.00021
- D. 0.00025

Parallelism to Beamline

- A. 0.00029
- B. 0.00016
- C. 0.00032
- D. 0.00039

Distance of opposite Tangent Axis



**A-C = 1.25902 (0.62953, 0.62949)**

**B-D = 1.25932 (0.62969, 0.62963)**