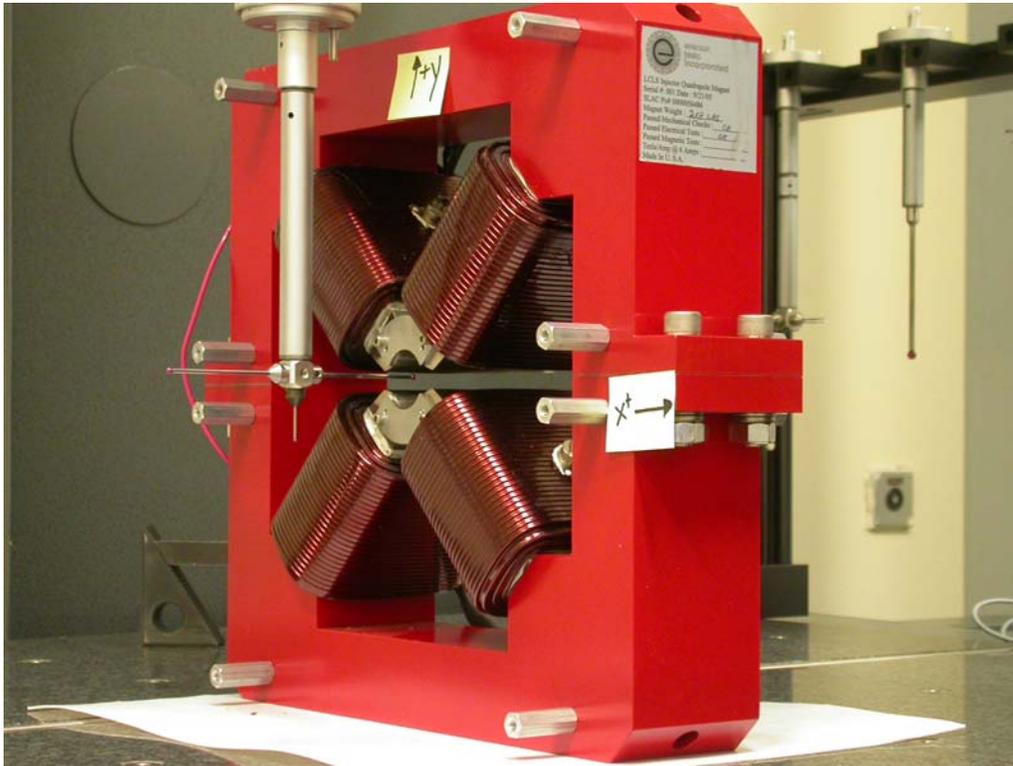


# LCLS Injector Quadrupole Magnet FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Roger Carr
Date:	Monday, May 08, 2006
Work Order/Charge No.:	92-4215-8
Serial Number	000382

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

### Planar Alignment

- Mid-Plane of the magnet

### Spatial Alignment

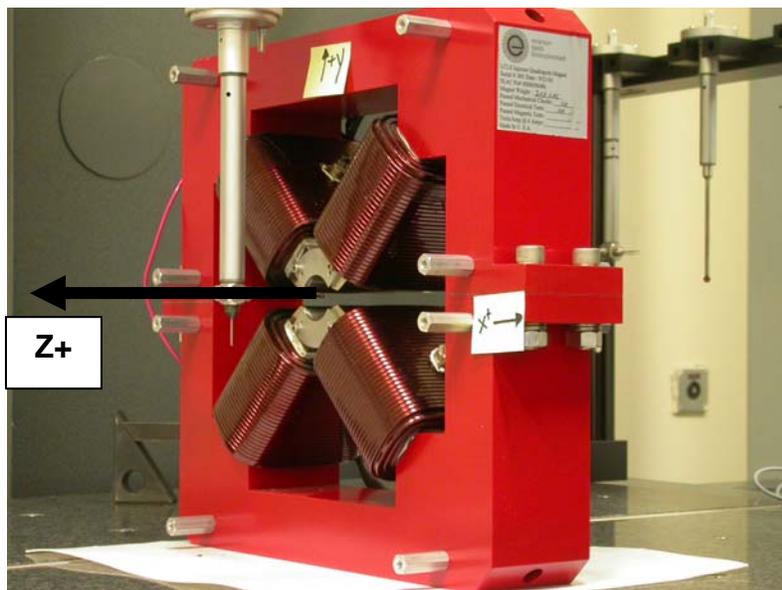
- A line on the top part of the magnet
  - +X goes towards (Magnet Info Label)

### “Z” Zero

- Mid-Plane of the magnet

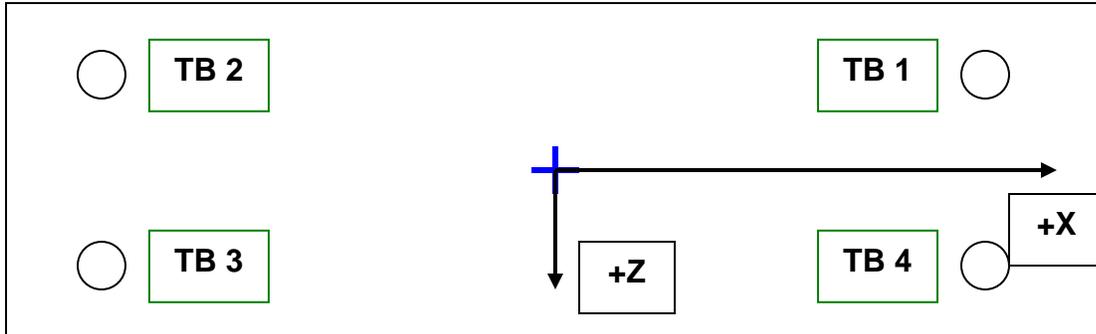
### “X” & “Y” Zero

- 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	0.00057	0.49701	6.49939	8.87599	-1.25175
TB 2	0.00043	0.49861	-6.50246	8.87549	-1.25056
TB 3	0.00092	0.49727	-6.50109	8.87699	1.24704
TB 4	0.00026	0.49876	6.49842	8.87601	1.25016

## Additional Requested Measurements

View From +Z

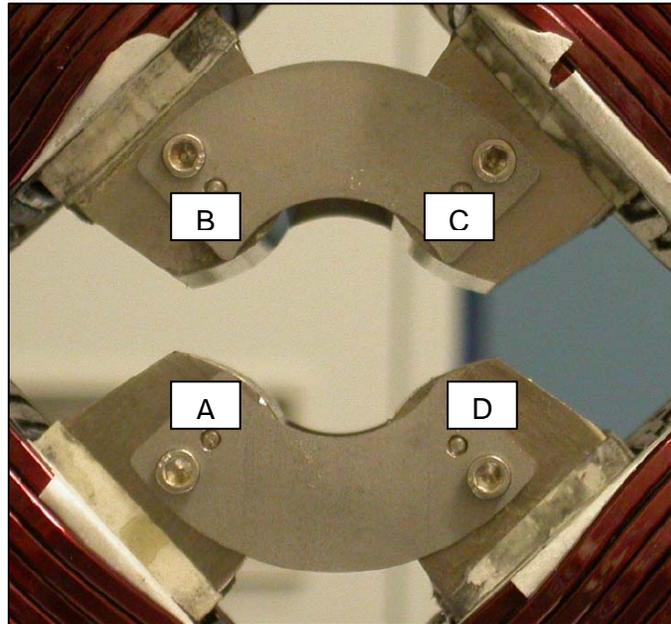
Tangent Point Straightness

- A. 0.00032
- B. 0.00033
- C. 0.00037
- D. 0.00033

Parallelism to Beamline

- A. 0.00025
- B. 0.00036
- C. 0.00035
- D. 0.00027

Distance of opposite Tangent Axis



**A-C = 1.25958 (0.62979, 0.62979)**

**B-D = 1.25918 (0.62981, 0.62937)**