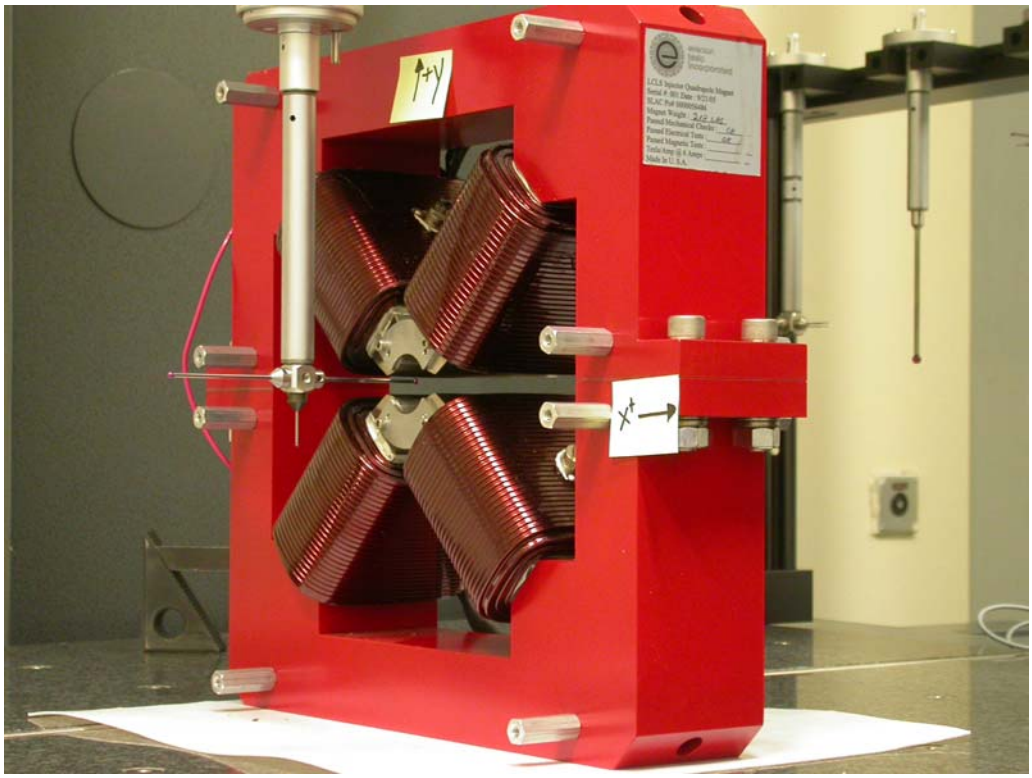
Linac Coherent Light Source

Stanford Linear Accelerator Center

Stanford Synchrotron Radiation Laboratory

LCLS Injector Quadrupole Magnet
FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Roger Carr
Date:	Tuesday, July 11, 2006
Work Order/Charge No.:	92-4215-8
Serial Number	000423

Part Set-up – Coordinate System Set-up

Planar Alignment

- Mid-Plane of the magnet

Spatial Alignment

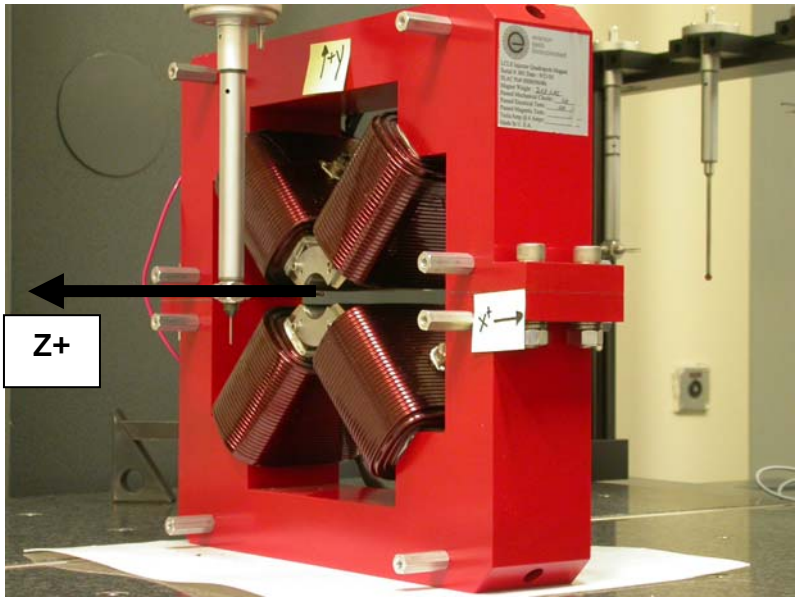
- A line on the top part of the magnet
    - +X goes towards (Magnet Info Label)

“Z” Zero

- Mid-Plane of the magnet

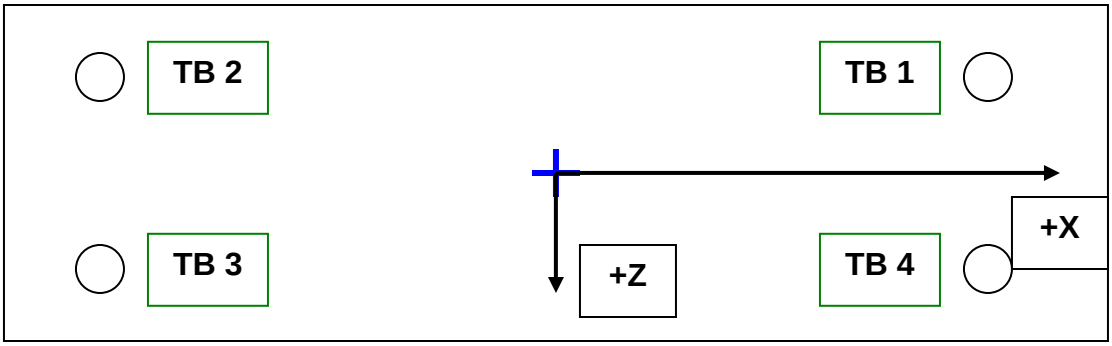
“X” & “Y” Zero

- 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

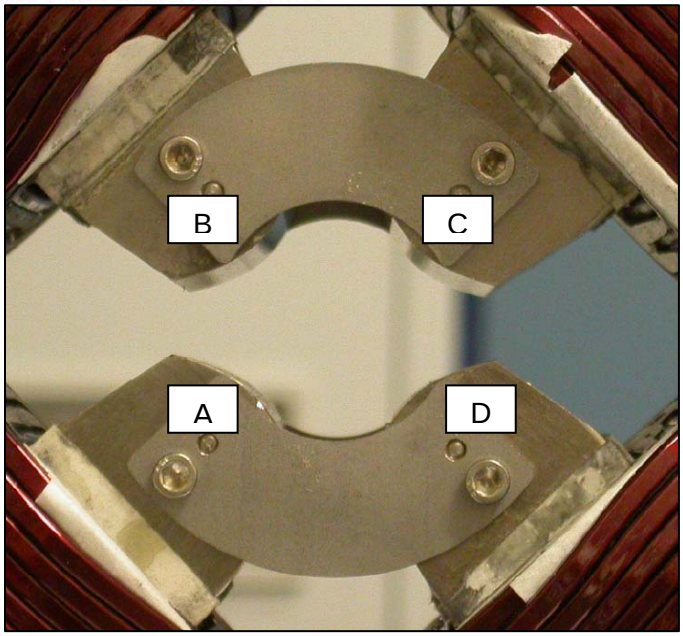
Top of magnet; view from "+Y"



Tooling Ball	FORM	DIAMETER	X	Y	Z
TB 1	0.00011	0.49998	6.49934	8.87895	-1.25028
TB 2	0.00073	0.49567	-6.49914	8.87919	-1.24979
TB 3	0.00076	0.49551	-6.49865	8.87971	1.25015
TB 4	0.00053	0.49705	6.50020	8.87967	1.25019

Additional Requested Measurements

View From +Z



Tangent Point Straightness
- A. 0.00038
- B. 0.00027
- C. 0.00022
- D. 0.00032

Parallelism to Beamline
- A. 0.00018
- B. 0.00043
- C. 0.00017
- D. 0.00039

Distance of opposite Tangent Axis

A-C = 1.25917 (0.62956, 0.62960)
B-D = 1.25941 (0.62975, 0.62965)