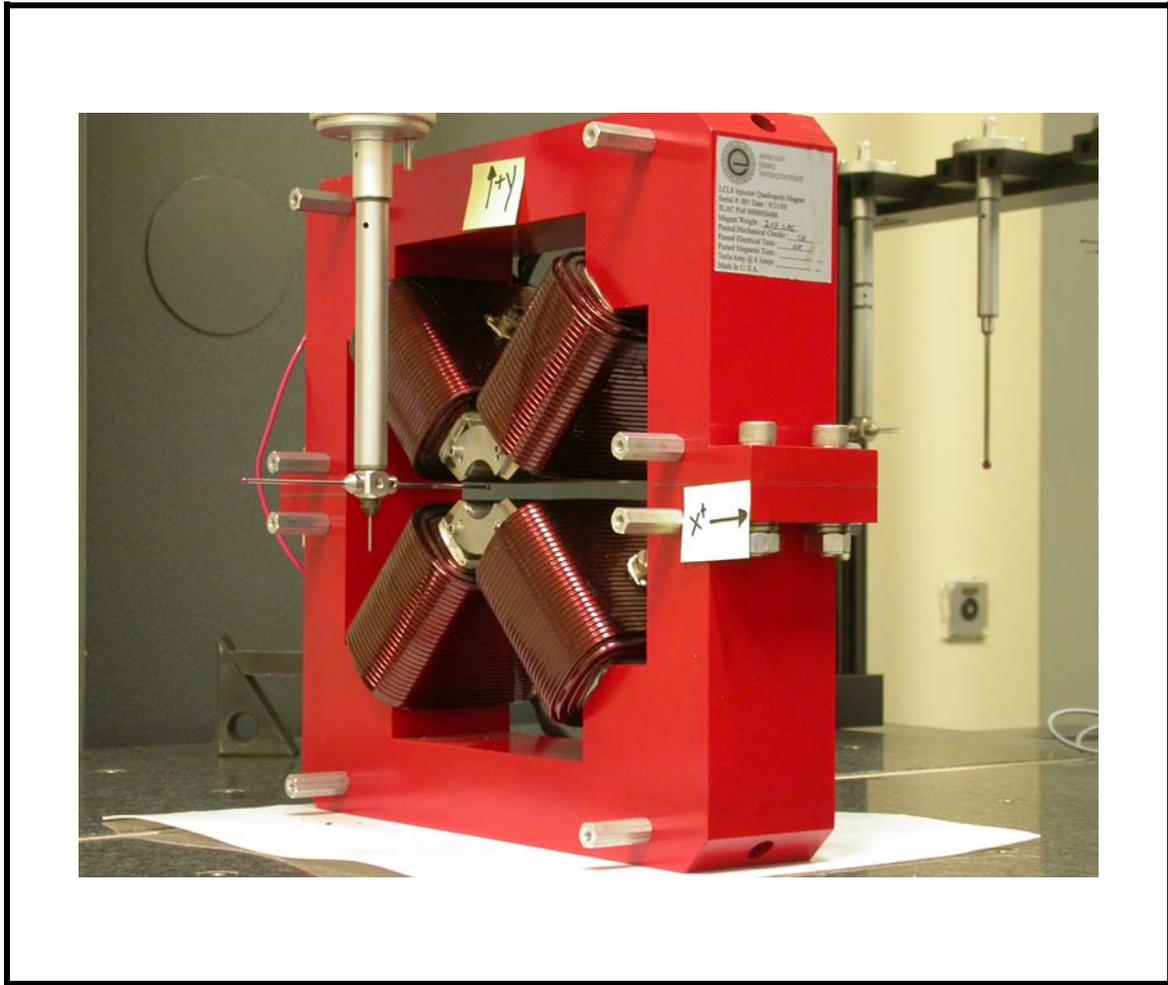


LCLS Injector Quadrupole Magnet FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Roger Carr
Date:	Friday, April 28, 2006
Work Order/Charge No.:	N/A
Serial Number	000381

Part Set-up – Coordinate System Set-up

Planar Alignment

- Mid-Plane of the magnet

Spatial Alignment

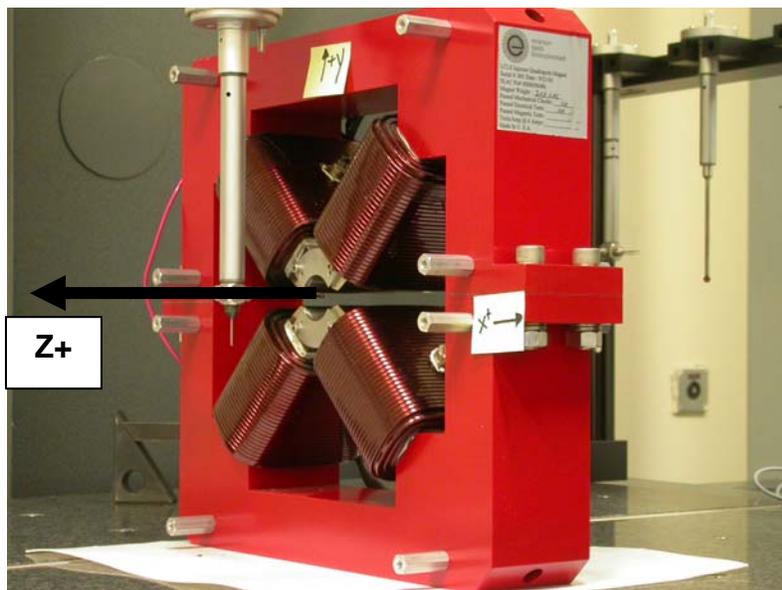
- A line on the top part of the magnet
 - +X goes towards (Magnet Info Label)

“Z” Zero

- Mid-Plane of the magnet

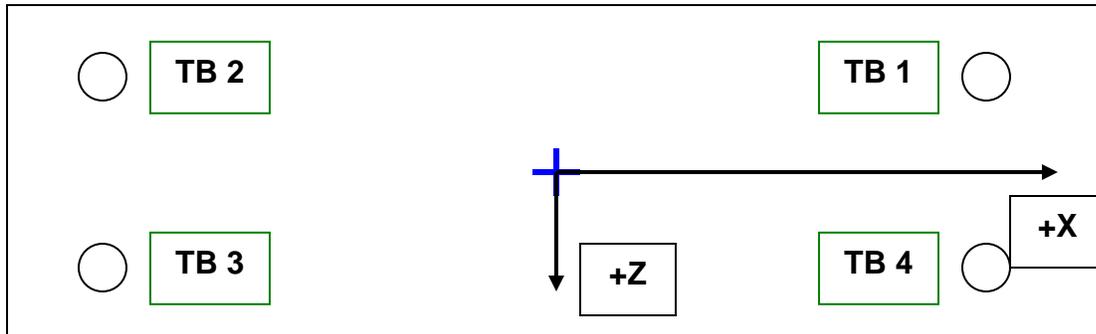
“X” & “Y” Zero

- 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	0.00087	0.49507	6.49838	9.37867	-1.25062
TB 2	0.00052	0.49718	-6.49606	9.37673	-1.25002
TB 3	0.00063	0.49606	-6.49845	9.37954	1.24732
TB 4	0.00065	0.49661	6.5000	9.37660	1.24801

Additional Requested Measurements

View From +Z

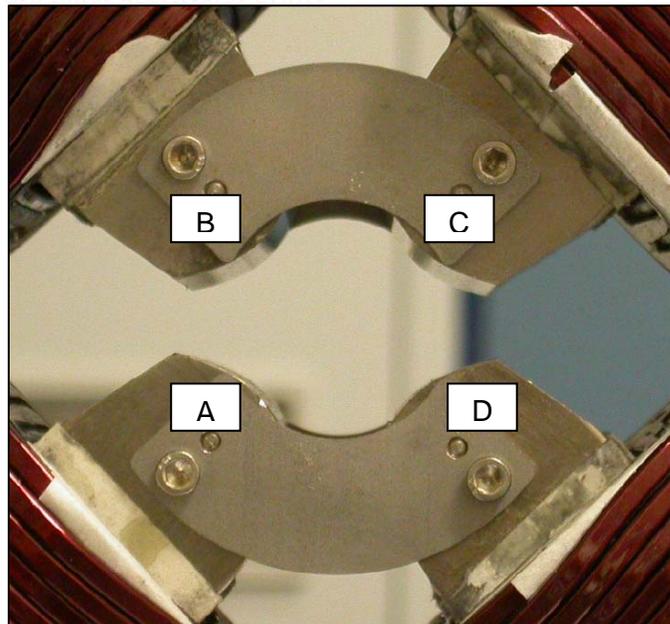
Tangent Point Straightness

- A. 0.00021
- B. 0.00026
- C. 0.00020
- D. 0.00024

Parallelism to Beamline

- A. 0.00030
- B. 0.00017
- C. 0.00022
- D. 0.00046

Distance of opposite Tangent Axis



A-C = 1.25874 (0.62936, 0.62995)

B-D = 1.25986 (0.62991, 0.62938)