LCLS Injector Quadrupole Magnet
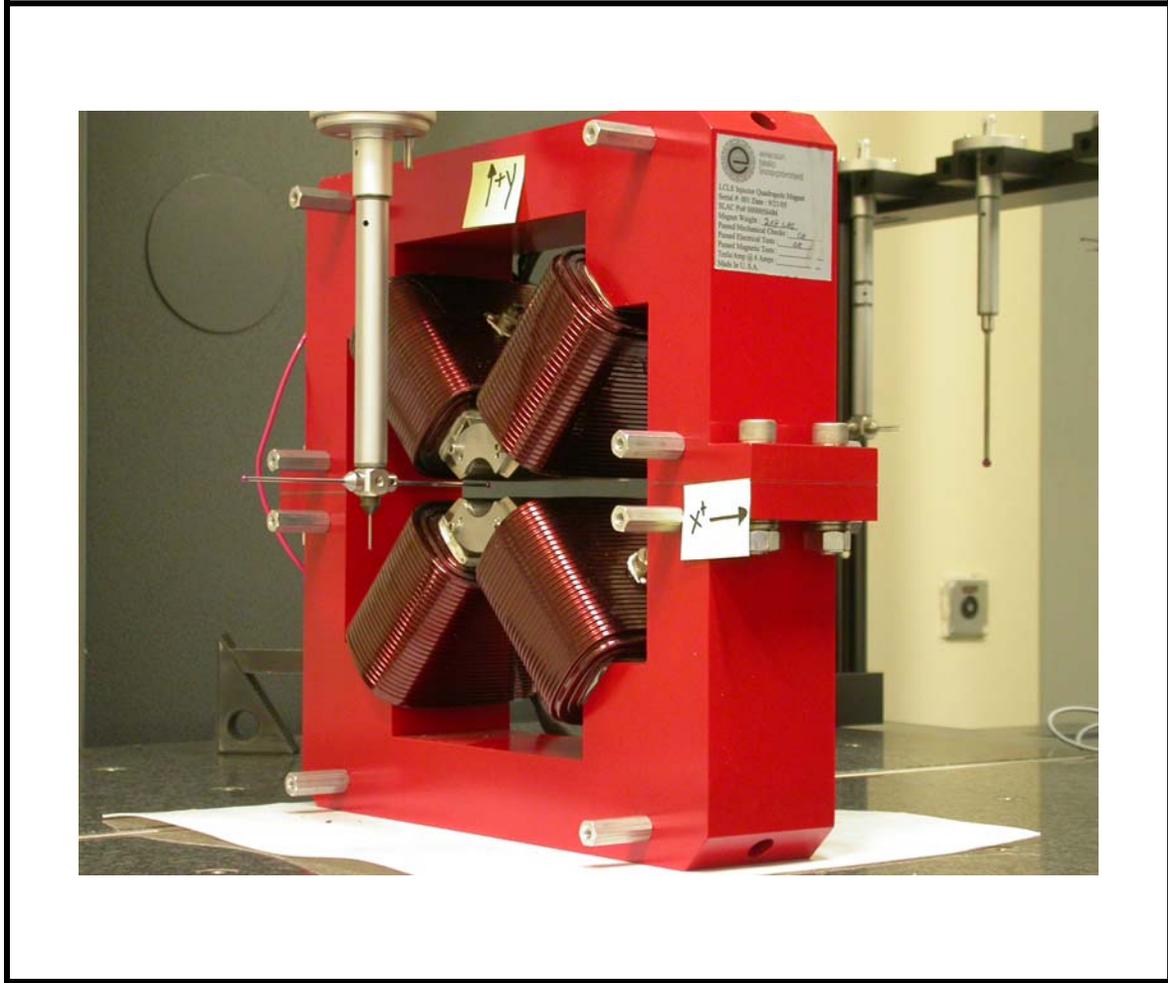# FIDUCIALIZATION REPORT

Inspector: Keith Caban
Responsible Engineer: Roger Carr
Date: Tuesday, July 11, 2006
Work Order/Charge No.:   92-4215-8
Serial Number   000422

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)
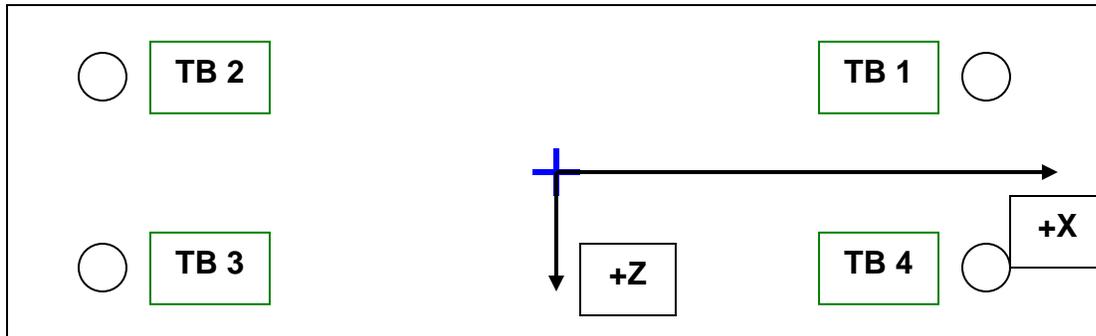
"Z" Zero

- 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.
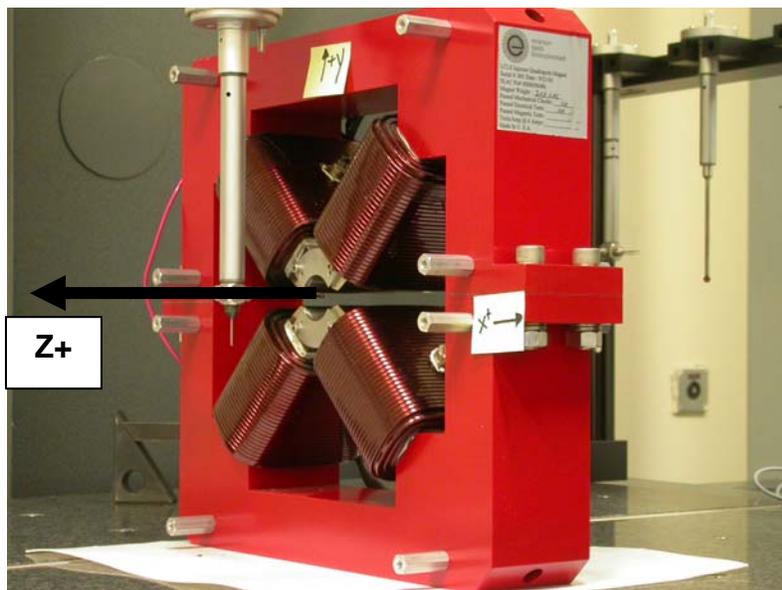
Tooling Ball Measurements/Locations

Top of magnet; view from "+Y"

Tooling Ball	FORM	DIAMETER	X	Y	Z
TB 1	0.00026	0.49871	6.50069	8.87927	-1.25115
TB 2	0.00036	0.49809	-6.50012	8.87832	-1.25135
TB 3	0.00083	0.49798	-6.50014	8.87901	1.24852
TB 4	0.00054	0.49793	6.49766	8.88012	1.25031

Additional Requested Measurements

View From +Z

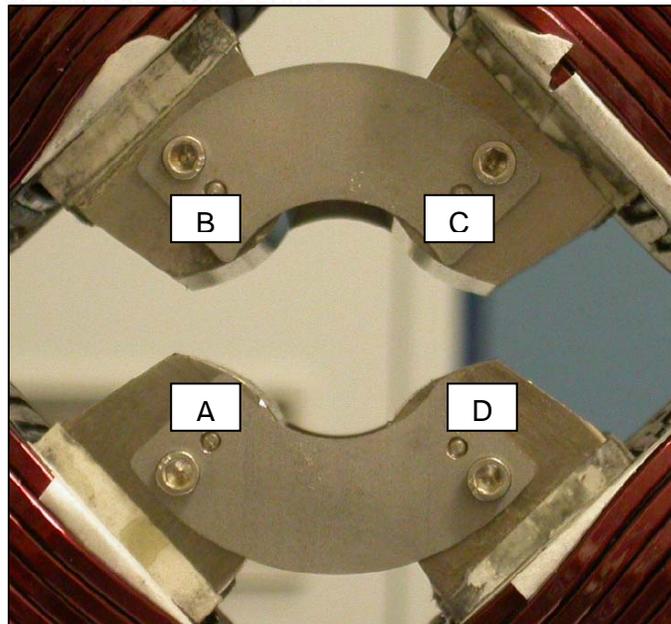Tangent Point Straightness
   A. 0.00024
   B. 0.00026
   C. 0.00045
   D. 0.00010

Parallelism to Beamline
   A. 0.00017
   B. 0.00048
   C. 0.00062
   D. 0.00032

Distance of opposite Tangent Axis

A-C = 1.26003 (0.63003, 0.63000)
B-D = 1.25975 (0.63003, 0.62972)