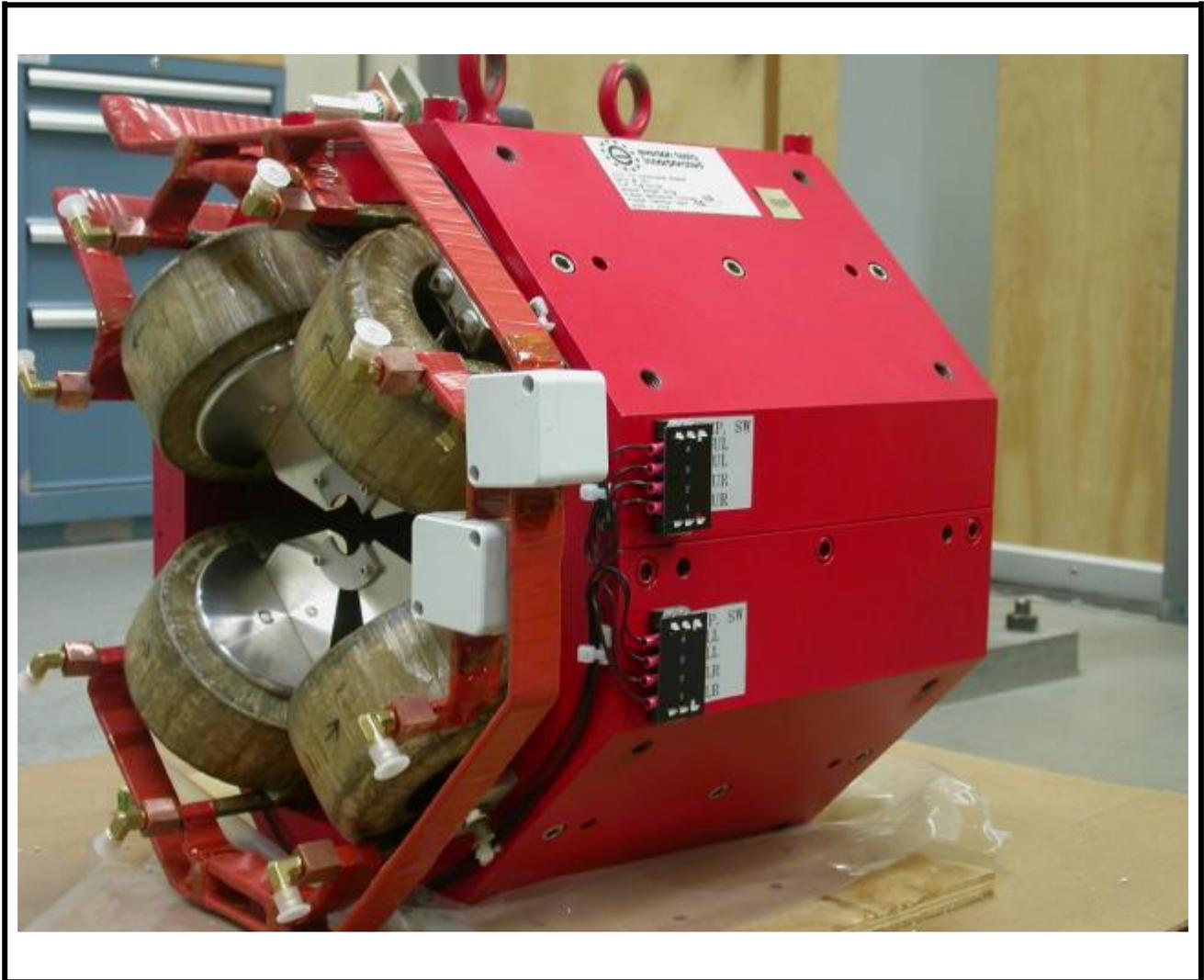


LCLS 'Q150kG' LTU QUADRUPOLE MAGNET FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Carl Rago
Date:	Friday, September 28, 2007
Work Order/Charge No.:	9242609
Serial Number:	SLAC – 002882 / SN 002
URL of Fiducial Report:	\\Web002\www-group\met\Quality\FIDUCIAL REPORTS\LCLS LTU Q150kG QUADS\002882.pdf

Part Set-up – Coordinate System Set-up

Spatial Alignment

- Geometric axis of the poles of the magnet.

Planar Alignment

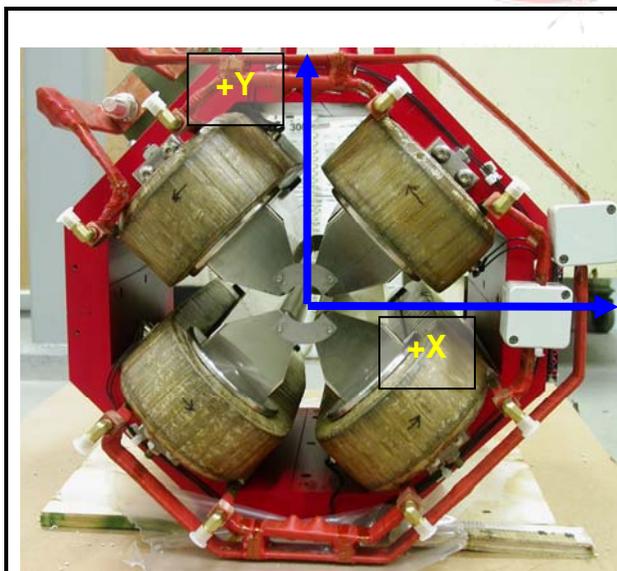
- Plane on top of magnet where tooling ball sockets are welded to.

“Z” Zero

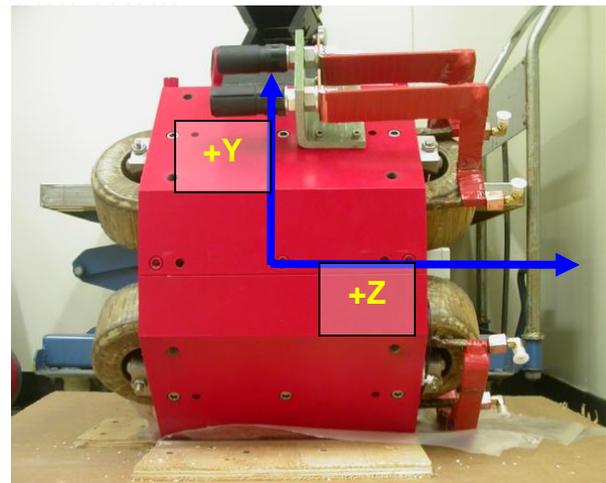
- Mid-plane of the magnet (middle of upstream and downstream ends).

“X” & “Y” Zero

- Geometric axis of the poles of the magnet.

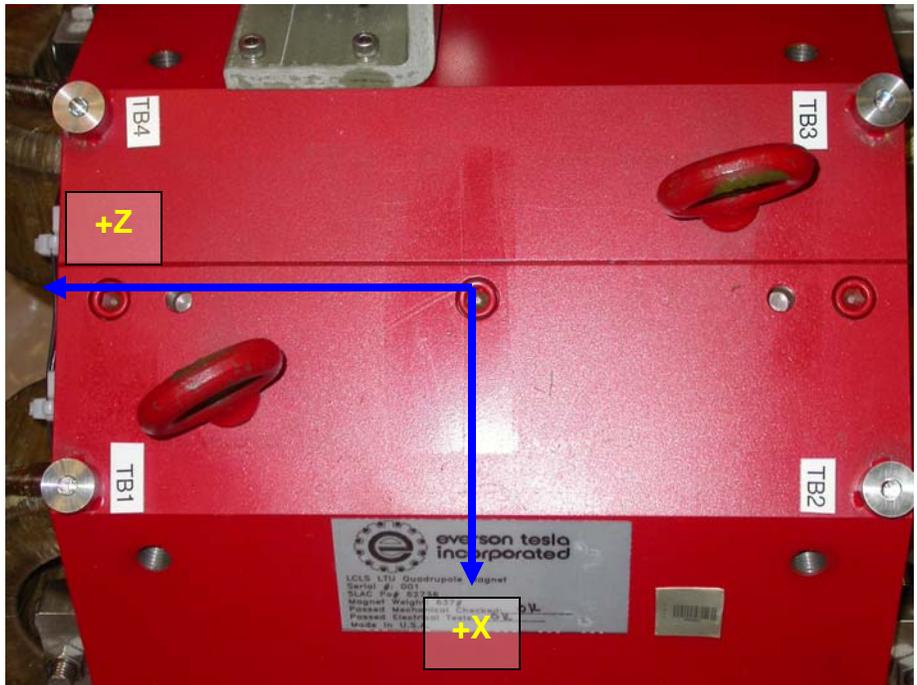


Front View



Side View

Tooling Ball Measurements/Locations



Tooling Balls Measured with 1/2" Tooling Ball Socket

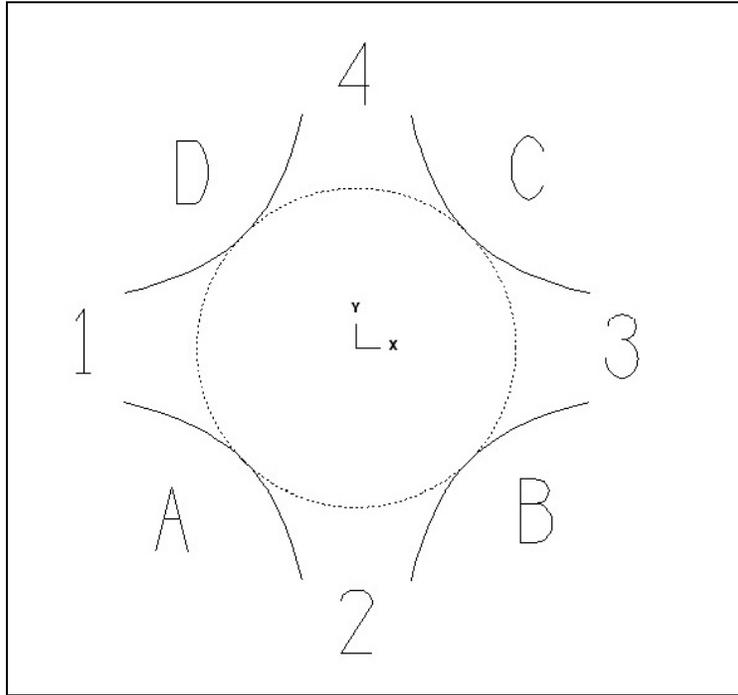
Tooling Ball	FORM	Sph. Dia.	X	Y	Z
TB 1	0.00029	0.49947	2.65778	10.20499	5.60675
TB 2	0.00003	0.50006	2.65946	10.20480	-5.60851
TB 3	0.00031	0.49969	-2.65652	10.20455	-5.60920
TB 4	0.00003	0.50004	-2.65666	10.20376	5.58547

Tooling Ball Adapter Cylinder Projected 1" Offset to the Tooling Ball Adapter Plane

Tooling Ball	Cyl. Dia.	X	Y	Z
Proj. TB 1	0.25010	2.65854	10.20426	5.60779
Proj. TB 2	0.24987	2.65969	10.20452	-5.60885
Proj. TB 3	0.25000	-2.65677	10.20405	-5.60940
Proj. TB 4	0.24997	-2.65577	10.20342	5.58549

Pole Data

*Data looking from Downstream End



Side	Pole Diameter	Pole Dist A-C	Pole Dist B-D	Gap 1	Gap 2	Gap 3	Gap 4
Downstream End (+Z)	1.26101	1.26122	1.26098	0.42982	0.44535	0.42483	0.44283
Upstream End (-Z)	1.25831	1.25827	1.26088	0.42717	0.44479	0.42486	0.44020