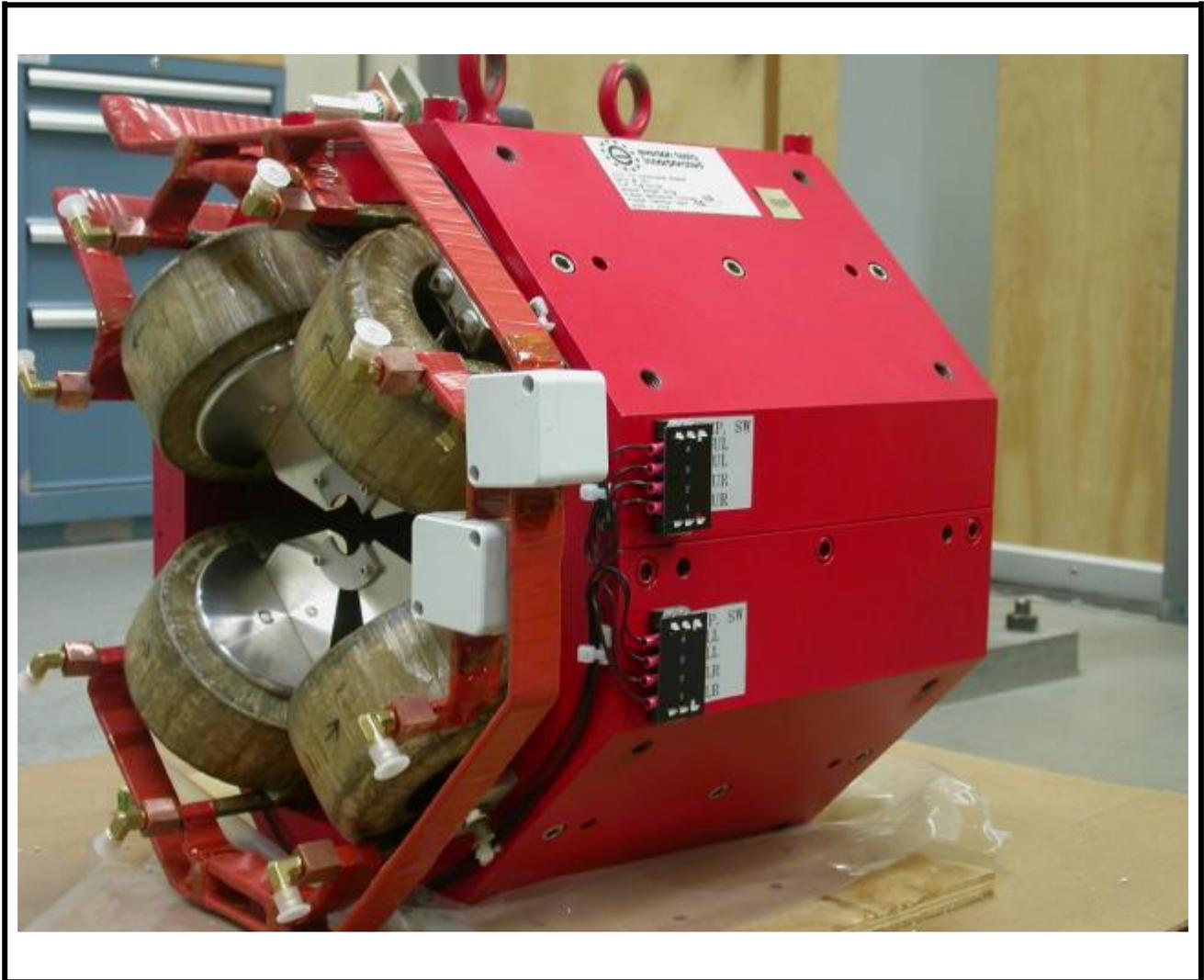


LCLS 'Q150kG' LTU QUADRUPOLE MAGNET FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Carl Rago
Date:	Wednesday, October 17, 2007
Work Order/Charge No.:	9242609
Serial Number:	SLAC – 002003 / SN 004
URL of Fiducial Report:	\\Web002\www-group\met\Quality\FIDUCIAL REPORTS\LCLS LTU Q150kG QUADS\002003.pdf

Part Set-up – Coordinate System Set-up

Spatial Alignment

- Geometric axis of the poles of the magnet.

Planar Alignment

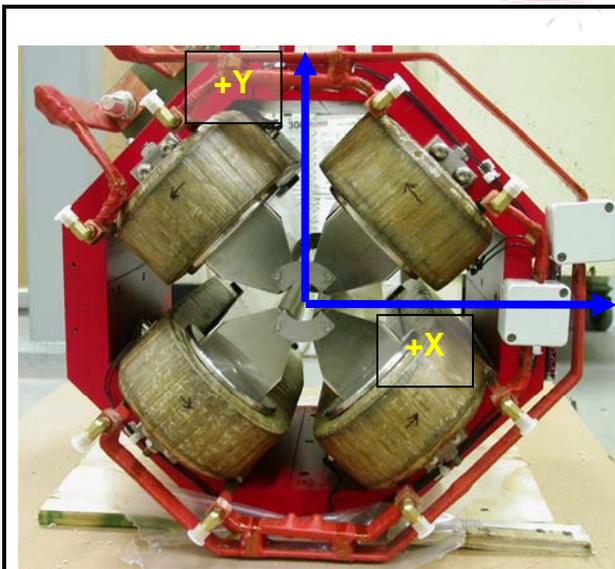
- Plane on top of magnet where tooling ball sockets are welded to.

“Z” Zero

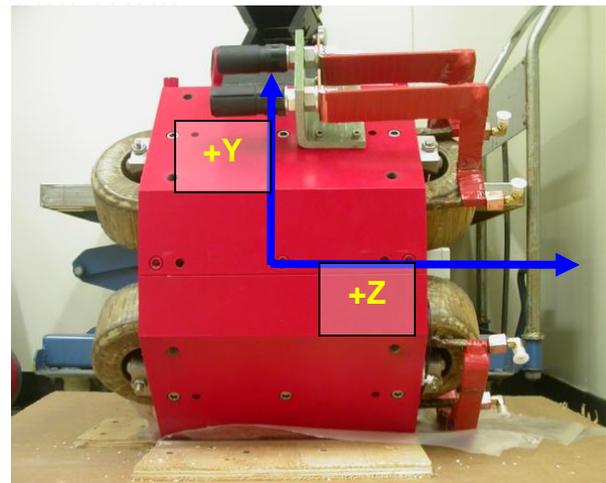
- Mid-plane of the magnet (middle of upstream and downstream ends).

“X” & “Y” Zero

- Geometric axis of the poles of the magnet.

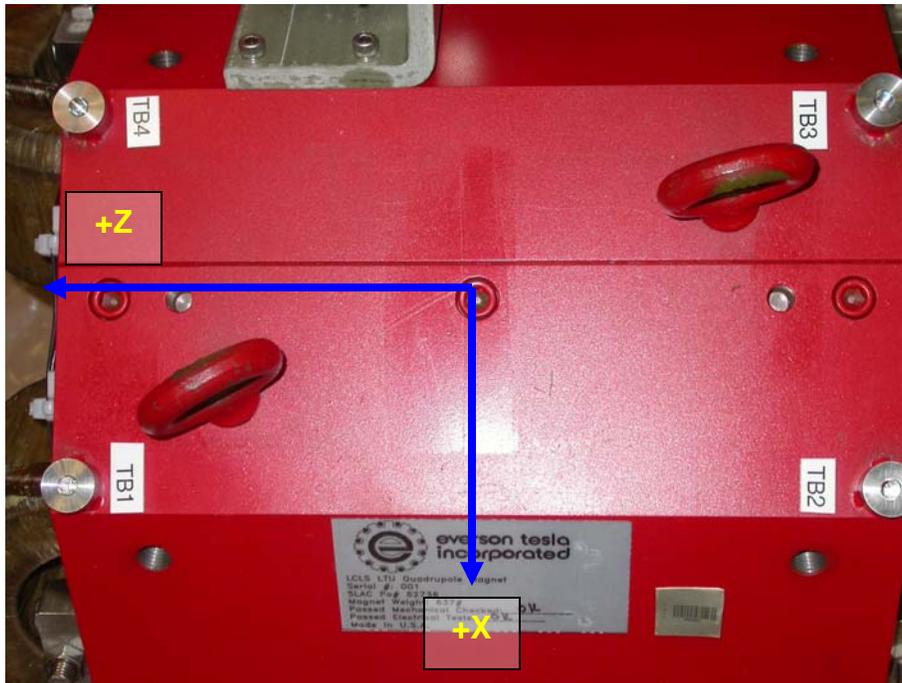


Front View



Side View

Tooling Ball Measurements/Locations



Tooling Balls Measured with 1/2" Tooling Ball Socket

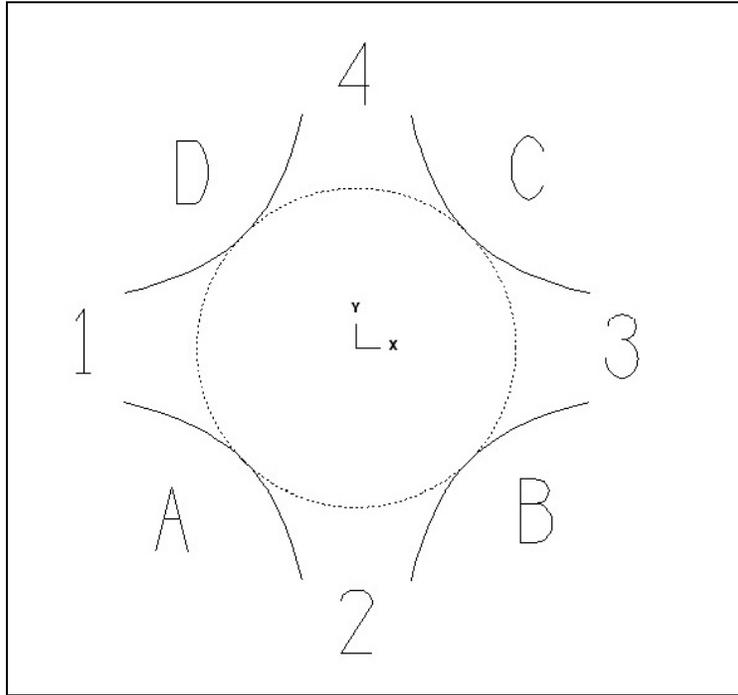
Tooling Ball	FORM	Sph. Dia.	X	Y	Z
TB 1	0.00019	0.49867	2.66325	10.20947	5.60550
TB 2	0.00013	0.49978	2.66286	10.20776	-5.61237
TB 3	0.00007	0.49952	-2.65653	10.20786	-5.61233
TB 4	0.00009	0.49949	-2.65827	10.20943	5.60757

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

Tooling Ball	Cyl. Dia.	X	Y	Z
Proj. TB 1	0.25016	2.66289	10.20839	5.60697
Proj. TB 2	0.25007	2.66200	10.20720	-5.61150
Proj. TB 3	0.25002	-2.65577	10.20714	-5.61114
Proj. TB 4	0.24997	-2.65683	10.20859	5.60770

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)	1.25806	1.25858	1.25827	0.43538	0.43669	0.43459	0.43128
Upstream End (-Z)	1.25867	1.25749	1.25779	0.43550	0.43551	0.43185	0.43074