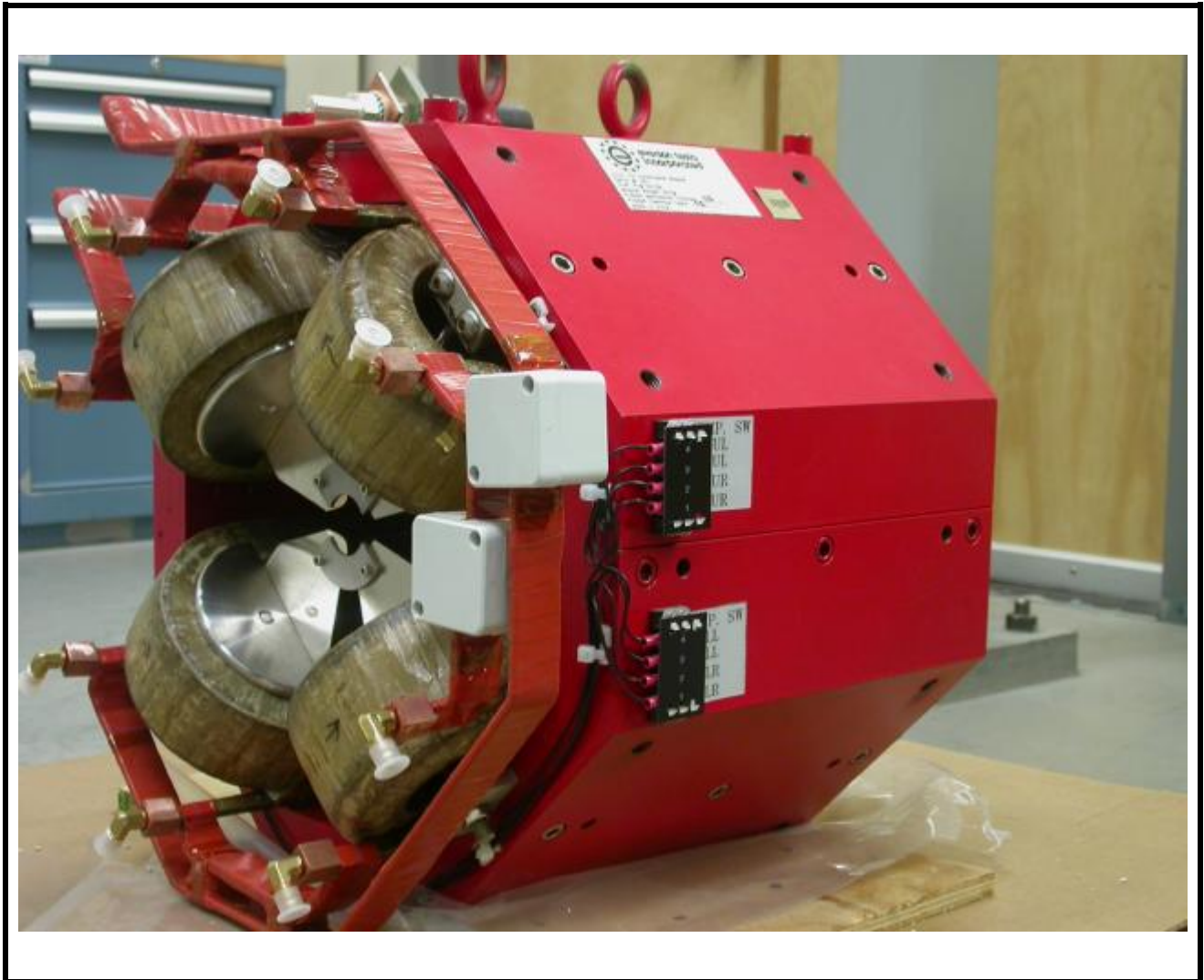


LCLS 'Q150kG' LTU QUADRUPOLE MAGNET FIDUCIALIZATION REPORT



Inspector: Keith Caban
Responsible Engineer: Carl Rago
Date: Tuesday, October 16, 2007
Work Order/Charge No.: 9242609
Serial Number: SLAC – 002004 / SN 005
URL of Fiducial Report: <\\Web002\www-group\met\Quality\FIDUCIAL REPORTS\LCLS LTU Q150kG QUADS\002004.pdf>

Part Set-up – Coordinate System Set-up

Spatial Alignment

- Geometric axis of the poles of the magnet.

Planar Alignment

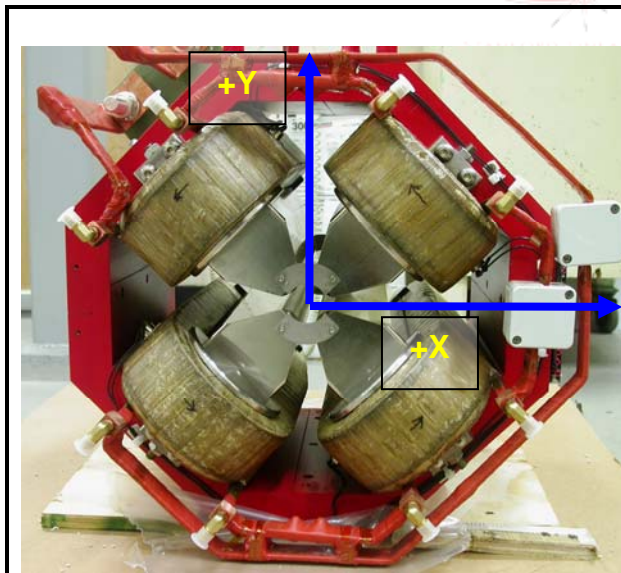
- Plane on top of magnet where tooling ball sockets are welded to.

“Z” Zero

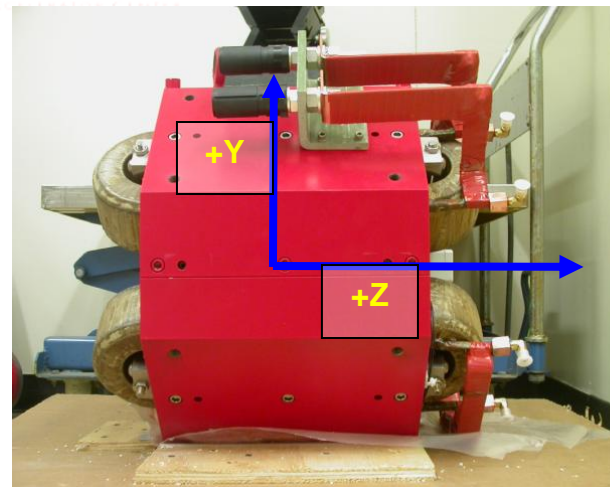
- Mid-plane of the magnet (middle of upstream and downstream ends).

“X” & “Y” Zero

- Geometric axis of the poles of the magnet.

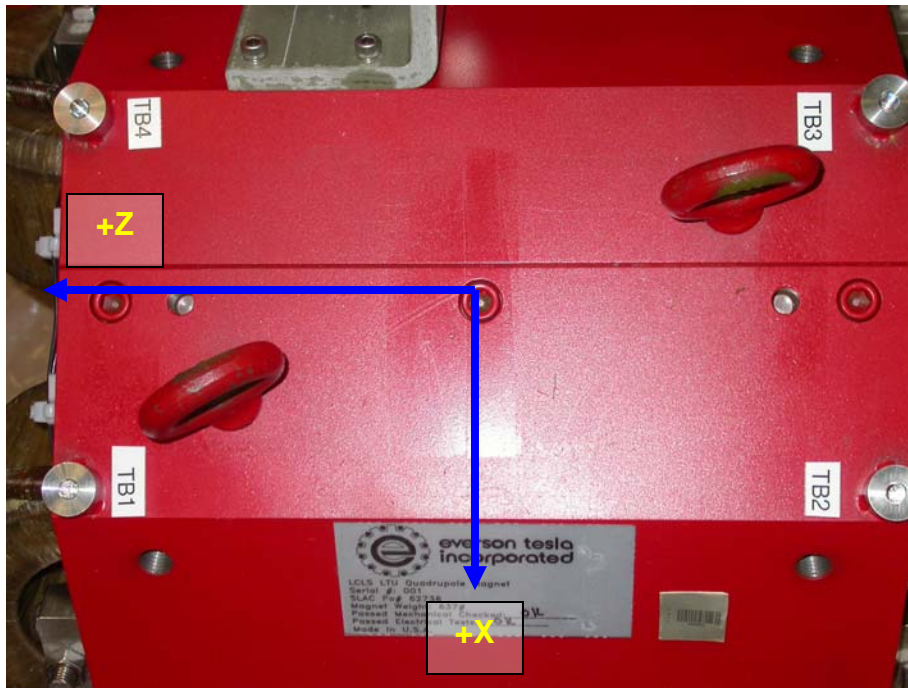


Front View



Side View

Tooling Ball Measurements/Locations



Tooling Balls Measured with 1/2" Tooling Ball Socket

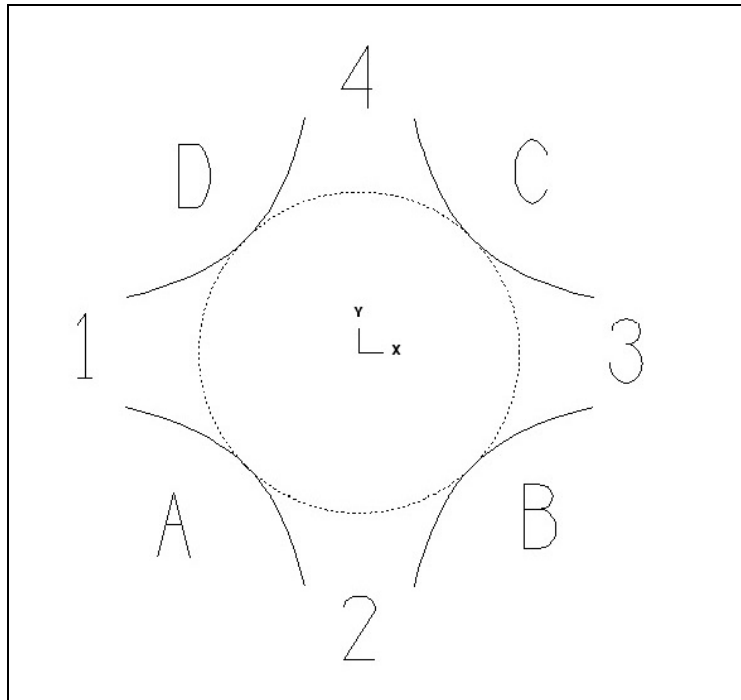
Tooling Ball	FORM	Sph. Dia.	X	Y	Z
TB 1	0.00015	0.49801	2.66559	10.21700	5.60574
TB 2	0.00012	0.49861	2.66495	10.21098	-5.60685
TB 3	0.00039	0.49785	-2.64941	10.21236	-5.61032
TB 4	0.00021	0.49834	-2.64799	10.21721	5.60386

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

Tooling Ball	Cyl. Dia.	X	Y	Z
Proj. TB 1	0.25017	2.66676	10.21576	5.60585
Proj. TB 2	0.25012	2.66584	10.20993	-5.60752
Proj. TB 3	0.25029	-2.64878	10.21115	-5.61140
Proj. TB 4	0.25023	-2.64711	10.21619	5.60440

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