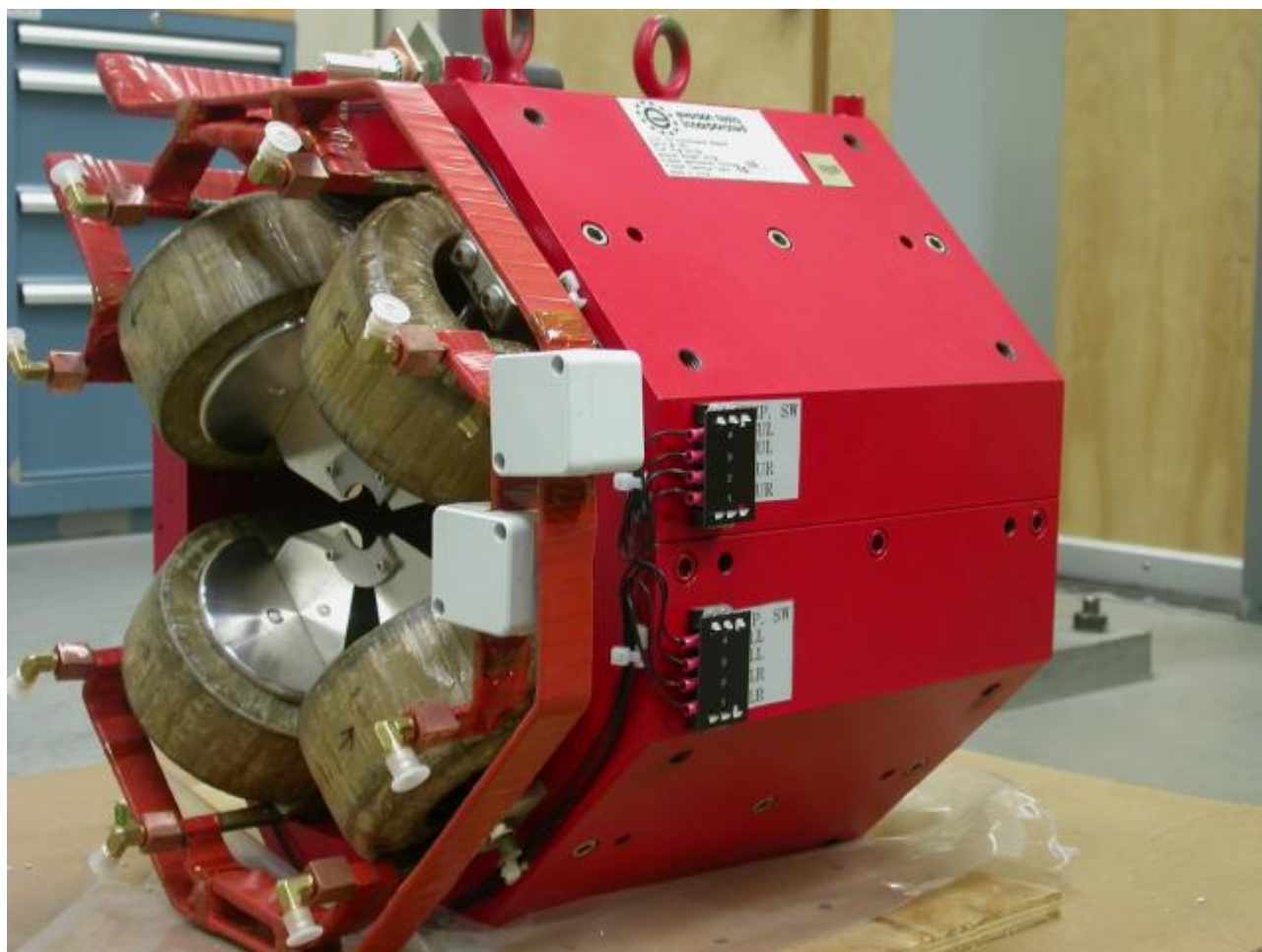


LCLS 'Q150kG' LTU QUADRUPOLE MAGNET FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Carl Rago
Date:	Monday, October 15, 2007
Work Order/Charge No.:	9242609
Serial Number:	SLAC – 002006 / SN 006
URL of Fiducial Report:	\\Web002\\www-group\\met\\Quality\\FIDUCIAL REPORTS\\LCLS LTU Q150kG QUADS\\002006.pdf

Part Set-up – Coordinate System Set-up

Spatial Alignment

- Geometric axis of the poles of the magnet.

Planar Alignment

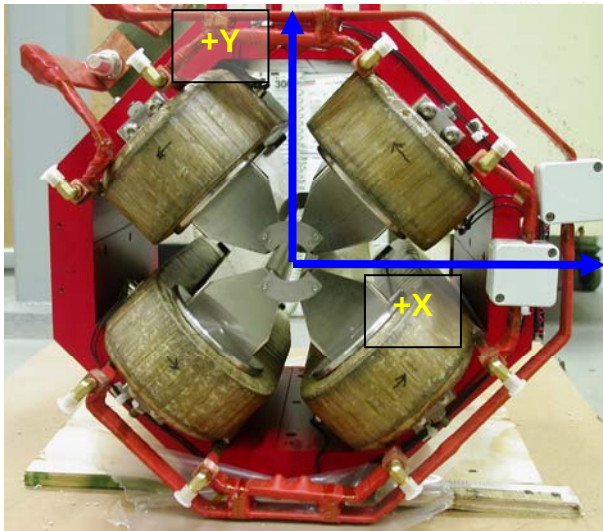
- Plane on top of magnet where tooling ball sockets are welded to.

“Z” Zero

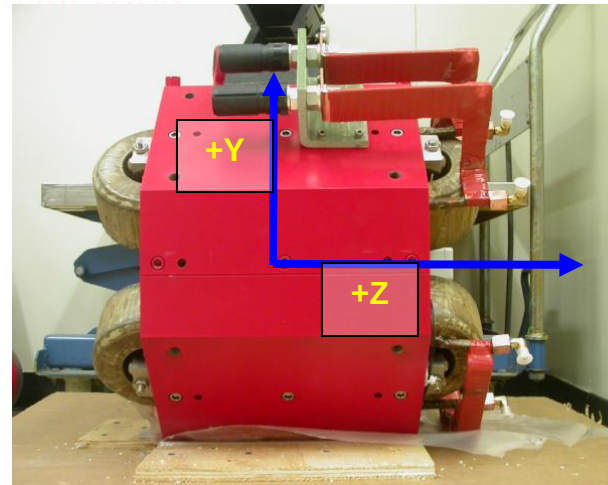
- Mid-plane of the magnet (middle of upstream and downstream ends).

“X” & “Y” Zero

- Geometric axis of the poles of the magnet.

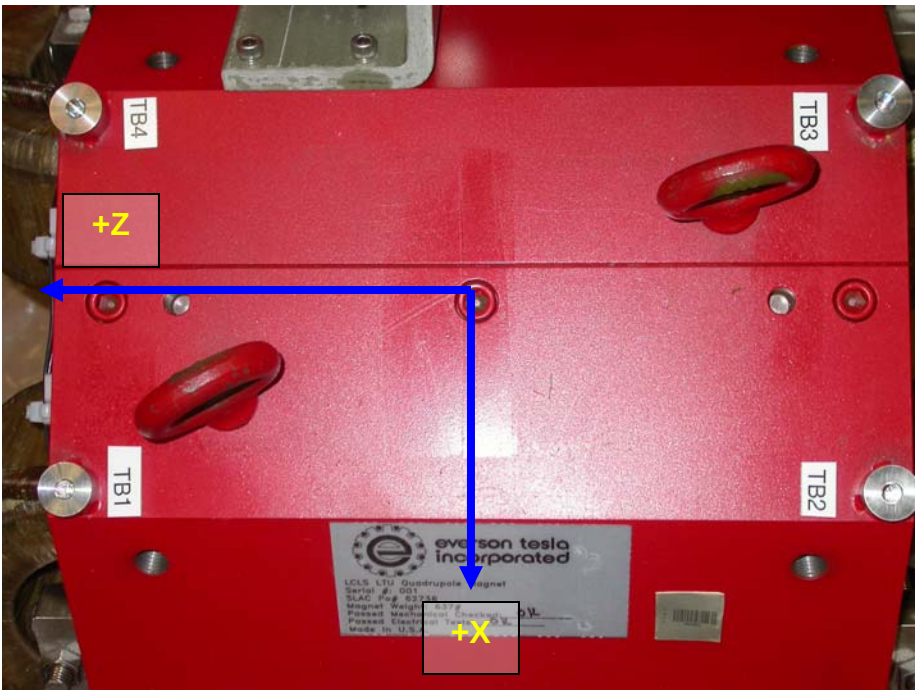


Front View



Side View

Tooling Ball Measurements/Locations



Tooling Balls Measured with 1/2" Tooling Ball Socket

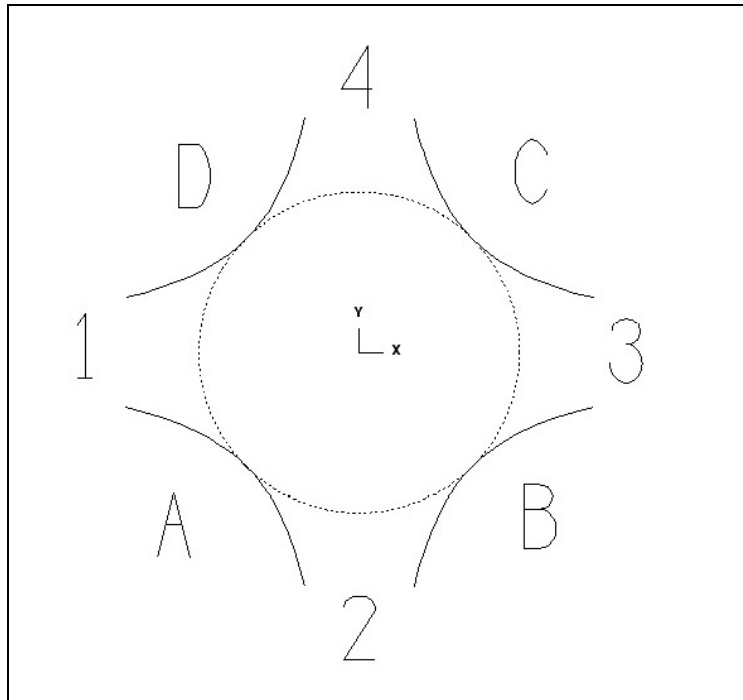
Tooling Ball	FORM	Sph. Dia.	X	Y	Z
TB 1	0.00035	0.49848	2.64860	10.21129	5.60735
TB 2	0.00024	0.49764	2.64866	10.20951	-5.60629
TB 3	0.00048	0.49723	-2.66251	10.20707	-5.60773
TB 4	0.00018	0.49889	-2.66370	10.20878	5.60556

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

Tooling Ball	Cyl. Dia.	X	Y	Z
Proj. TB 1	0.25009	2.64715	10.21005	5.60806
Proj. TB 2	0.25029	2.64716	10.20808	-5.60657
Proj. TB 3	0.25030	-2.66365	10.20504	-5.60874
Proj. TB 4	0.25008	-2.66496	10.20746	5.65047

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	1.25805	1.25875	0.43509	0.43570	0.42863	0.43277
Upstream End (-Z)	1.25867	1.25876	1.25870	0.43549	0.43258	0.43003	0.43618