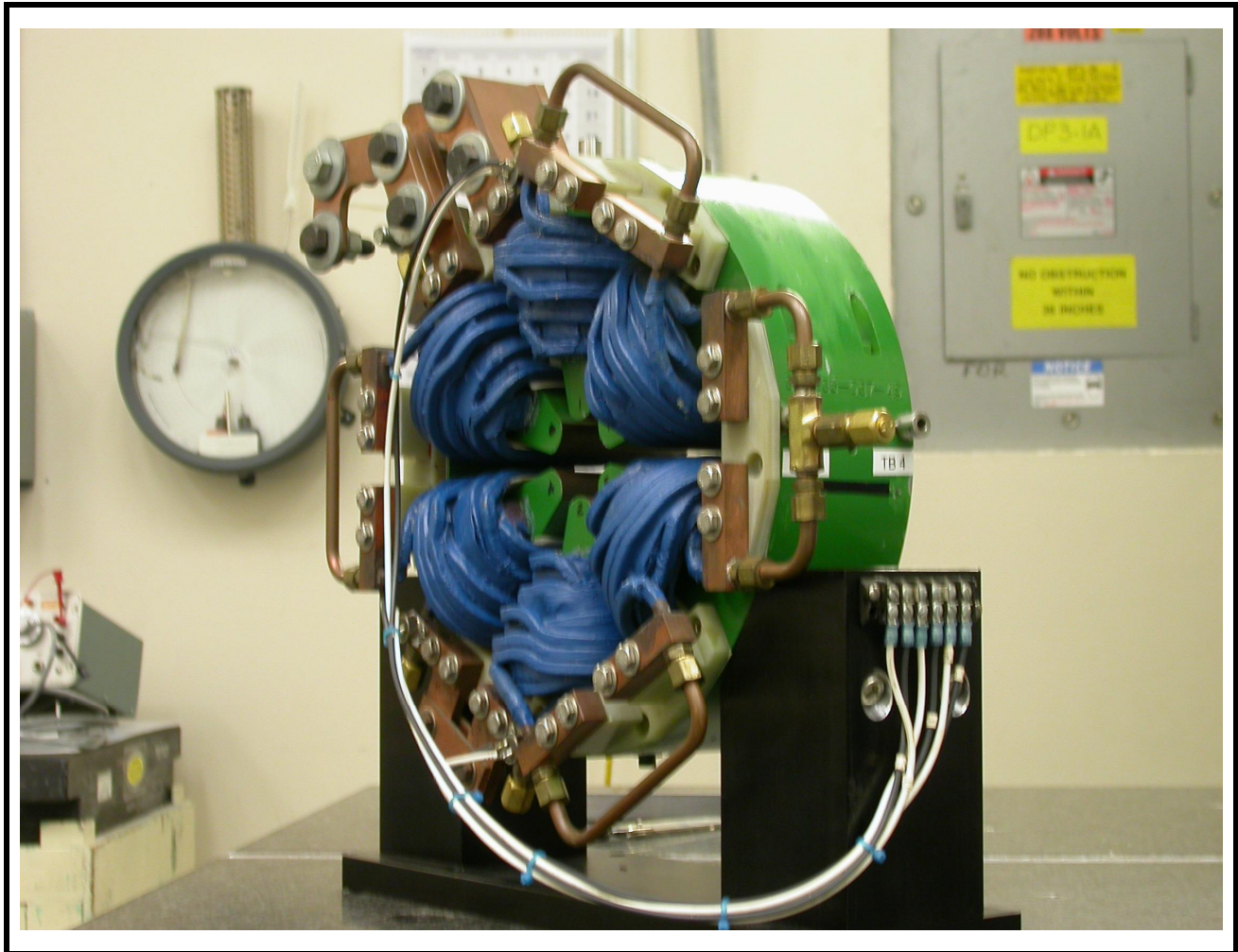




## AFT2 REFURBISHED SEXTUPOLE MAGNET FIDUCIALIZATION REPORT



Inspector:	Keith Caban
Responsible Engineer:	Cherrill Spencer
Date:	Thursday, July 10, 2008
Work Order/Charge No.:	1111143
Serial Number:	01
URL of Fiducial Report:	<a href="http://www-group.slac.stanford.edu/met/Quality/FIDUCIAL/REPORTS/CHERRILL_SPENCER/AFT2-SEXTUPOLE-01.PDF">http://www-group.slac.stanford.edu/met/Quality/FIDUCIAL/REPORTS/CHERRILL_SPENCER/AFT2-SEXTUPOLE-01.PDF</a>

## Part Set-up – Coordinate System Set-up

### Spatial Alignment

- Geometric axis of the poles of the magnet using 6 scans of each sextupole pole tip on each side (Terminal and Non Terminal sides) creating 2 circles on the pole tips. One on each side where Positive Z is on the Terminal Side of the Magnet.

### Planar Alignment

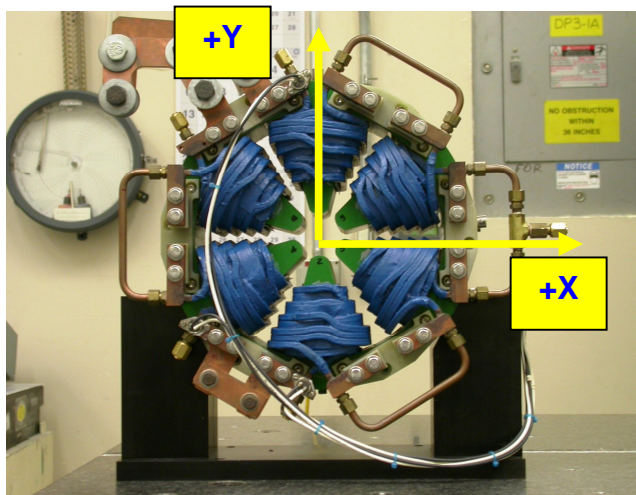
- Radial Pole tip #1's center and the geometric center of all poles to create an axis on the Terminal Side of the Magnet.

### “Z” Zero

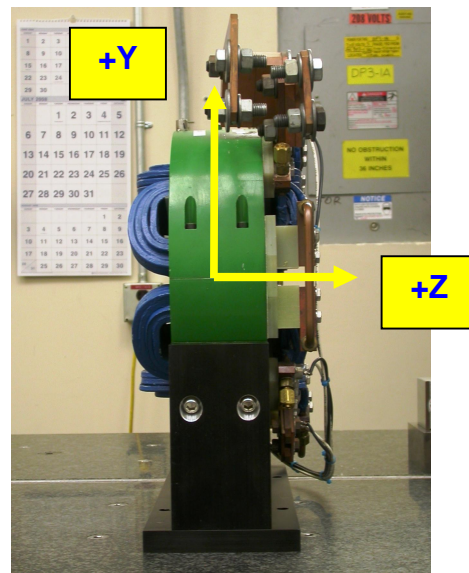
- Mid-plane of the magnet (middle of Terminal and Non Terminal ends).

### “X” & “Y” Zero

- Geometric axis of the poles of the magnet.



**Back View**  
(Looking from upstream side -Z)



**Side View**  
(looking from -X side)

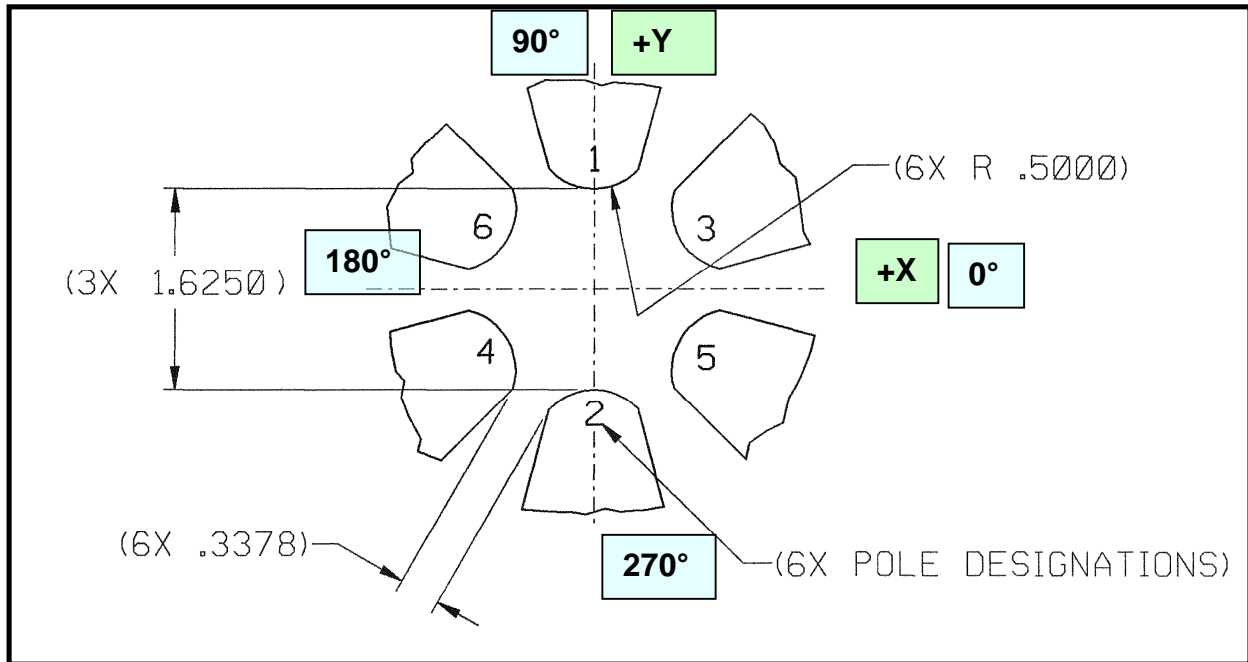
## Tooling Ball Locations for SN 01

*Used Standard ½" Tooling Balls w/ 1" extension*

TB	FORM	DIA	X	Y	Z
1	0.00038	0.49828	-0.03306	7.70119	-1.50600
2	0.00055	0.49668	-0.00945	7.70276	1.50404
3	0.00033	0.49660	7.68513	0.53022	1.50775
4	0.00022	0.49715	7.68516	0.52165	-1.50311



## Pole Tip Additional Data



Terminal Side	Radial Distance (0.8125)	Actual Angle of Pole w.r.t CSY	Deviation Angle to Pole (act-nom)	Radians	Micro Radians	Pole Tip Distance (1.625)
Pole Tip 1	0.81259	89.99818	-0.00182	-0.00003	32	1.62578
Pole Tip 2	0.81319	270.00990	0.00990	0.00017	173	
Pole Tip 3	0.81307	30.00924	0.00924	0.00016	161	1.62520
Pole Tip 4	0.81214	210.03683	0.03683	0.00064	643	
Pole Tip 5	0.81205	329.99841	-0.00159	-0.00003	28	1.62409
Pole Tip 6	0.81204	150.00534	0.00534	0.00009	93	

Non Terminal Side	Radial Distance (0.8125)	Actual Angle of Pole w.r.t CSY	Deviation Angle to Pole (act-nom)	Radians	Micro Radians	Pole Tip Distance (1.625)
Pole Tip 1	0.81225	90.02671	0.02671	0.00047	466	1.62635
Pole Tip 2	0.81314	269.99037	-0.00963	-0.00017	168	
Pole Tip 3	0.81249	30.00029	0.00029	0.00001	5	1.62468
Pole Tip 4	0.81220	210.07422	0.07422	0.00130	1295	
Pole Tip 5	0.81211	329.98648	-0.01352	-0.00024	236	1.62525
Pole Tip 6	0.81314	150.04443	0.04443	0.00078	775	

<i>Gap Nominal (0.3378)</i>	<i>Terminal Side</i>	<i>Non Terminal Side</i>
3-5	0.33852	0.33956
4-6	0.33929	0.33936

