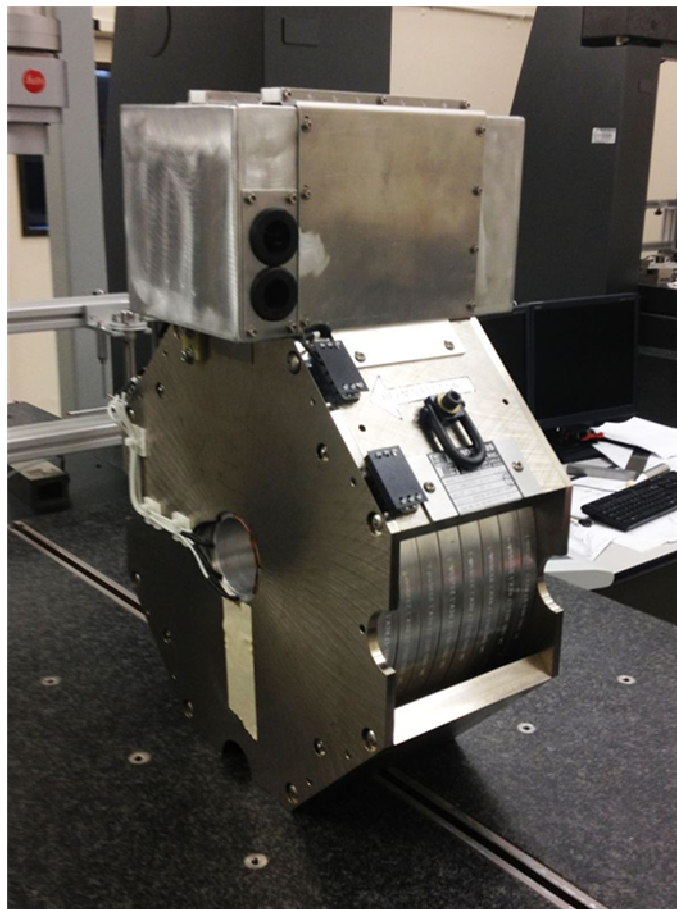


## LCLS II GUN SOLENOID FIDUCIALIZATION REPORT



**Barcode # : 002748**  
**Beamline Name: SOL1B**

## Coordinate System Setup

### Spatial Alignment

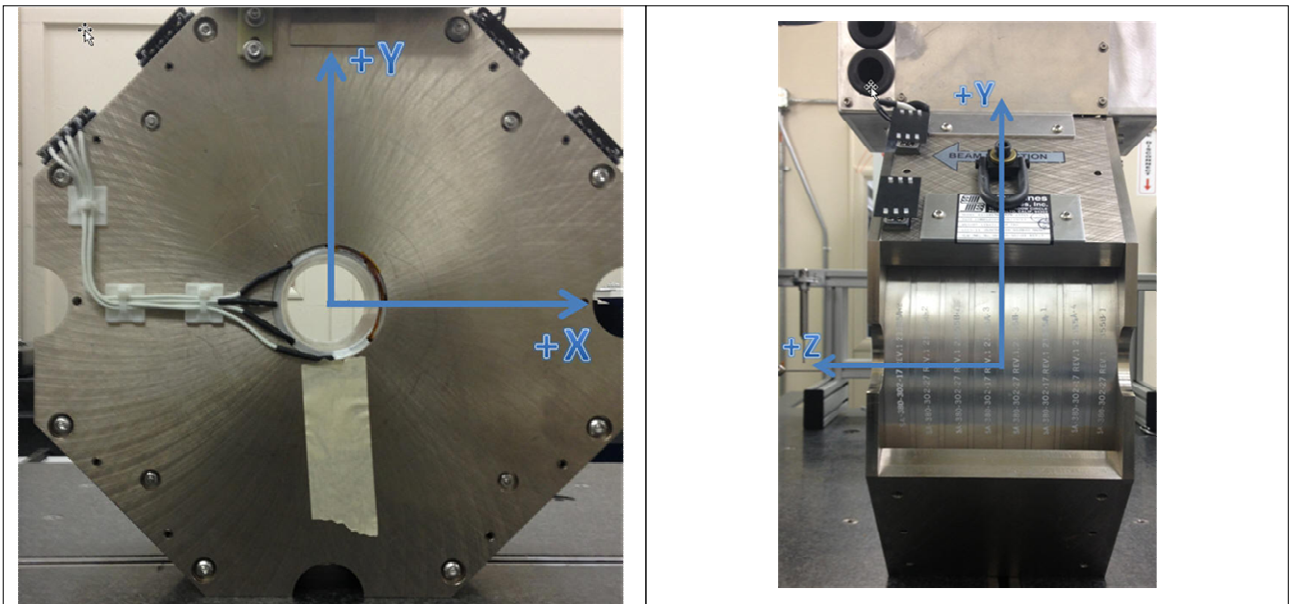
An axis created by the center of the Upstream & Downstream Endplate bores.  
Sets +Z direction moving from Tooling Ball (US) Endplate to Wire (DS) Endplate.  
This axis sets Pitch & Yaw.

### Planar Alignment

Planar Alignment is set by creating an axis between the center of Tooling Ball #1 hole & Tooling Ball #2 hole. This sets the +X direction where the Label side is +X. This axis also sets Roll.

### Coordinate Origins

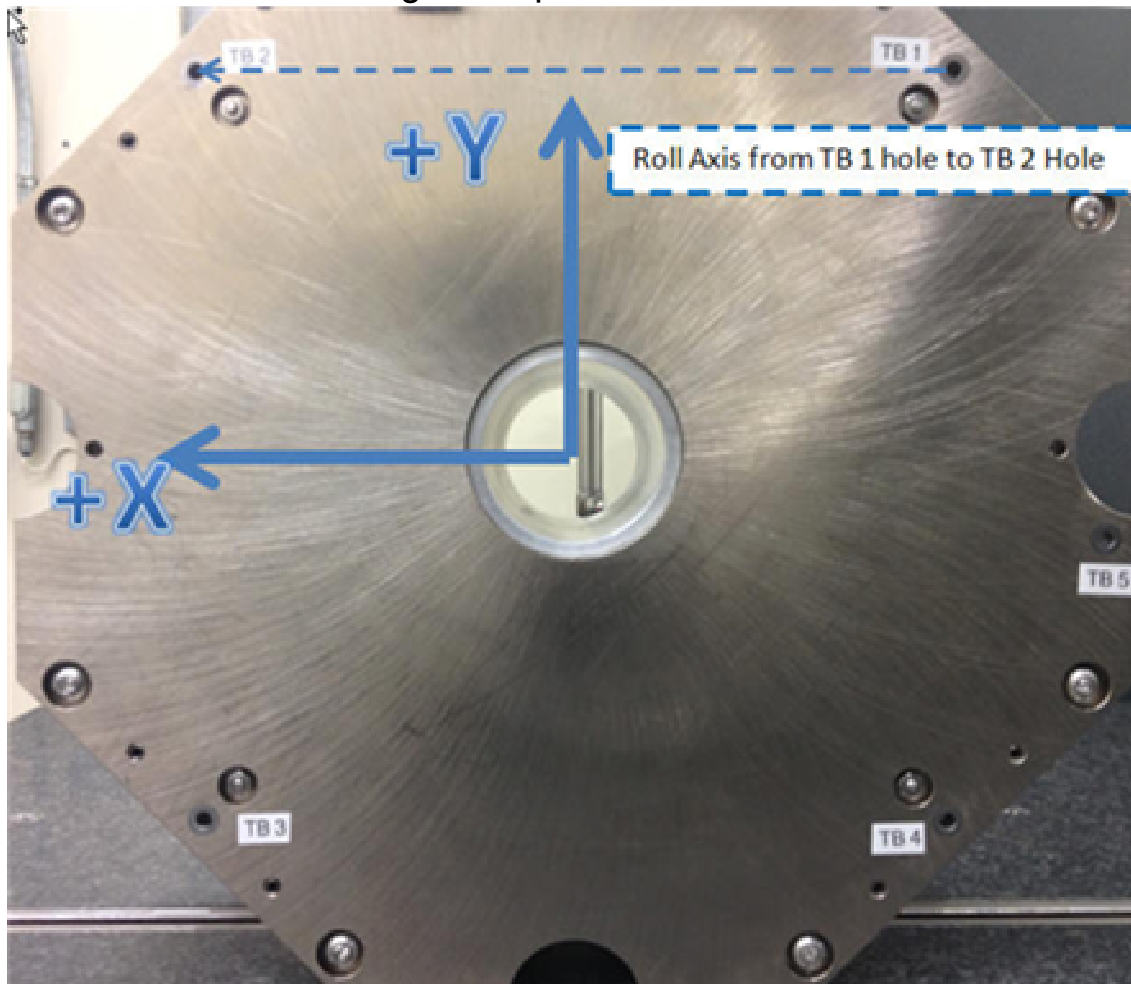
Z zero is the midplane between both Endplates.  
X & Y zero is the Axis created in the Planar Alignment.



**Barcode # : 002748**  
**Beamline Name: SOL1B**

## Tooling Ball Locations

Using 1/2" Sphere with 1" Offset



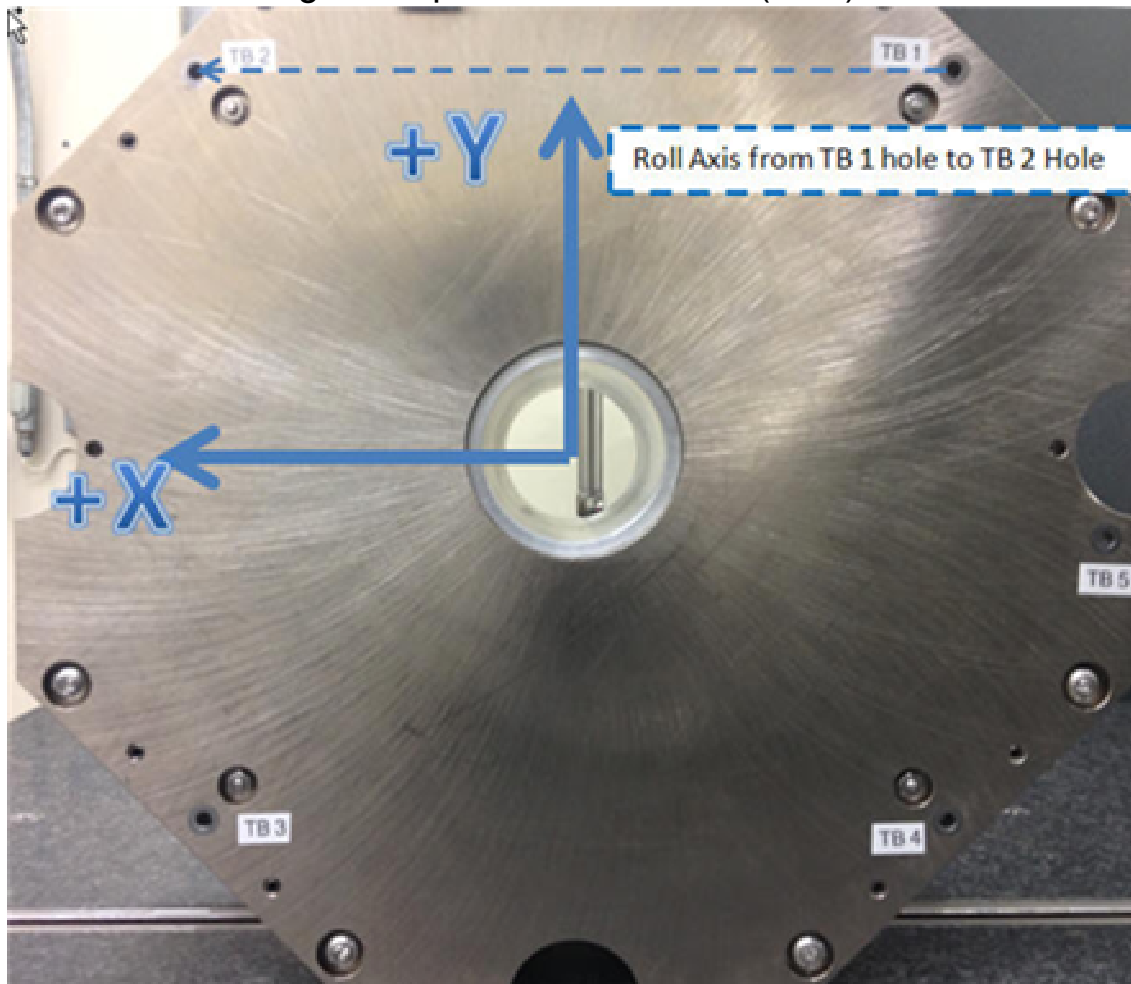
TB #	Form	Diameter	X Coord.	Y Coord.	Z Coord.
TB 1	0.00035	0.49809	-5.80263	5.80135	-5.10800
TB 2	0.00034	0.49784	5.79779	5.80167	-5.11270
TB 3	0.00039	0.49817	5.80138	-5.80005	-5.10917
TB 4	0.00046	0.49852	-5.80271	-5.80051	-5.10412
TB 5	0.00129	0.49763	-8.20256	-1.40528	-5.10544

Dimensions in Inch

**Barcode # : 002748**  
**Beamline Name: SOL1B**

## Tooling Ball Locations

Using 1/2" Sphere with 0.3125" (5/16) Offset



TB #	Form	Diameter	X Coord.	Y Coord.	Z Coord.
TB 1	0.00021	0.49943	-5.80188	5.80122	-4.41999
TB 2	0.00019	0.49936	5.79817	5.80138	-4.42460
TB 3	0.00018	0.49919	5.80014	-5.79930	-4.42134
TB 4	0.00004	0.50007	-5.80092	-5.80019	-4.41573
TB 5	0.00094	0.49851	-8.20208	-1.40151	-4.41778

Dimensions in Inch

**Barcode # : 002748**  
**Beamline Name: SOL1B**

## Tooling Ball Artifacts



1/2" Tooling Ball  
with 1.00" Offset

1/2" Tooling Ball  
with 0.3125" Offset

### Additional Measurements

<b>Endplate Distance &amp; Parallelism</b>	
Endplate Distance	8.22655
Endplate Parallelism	0.00497

<b>Endplate Perpendicularity to Axis</b>	
Upstream Endplate	0.00366
Downstream Endplate	0.00346

Dimensions in Inch

**Barcode # : 002748**  
**Beamline Name: SOL1B**