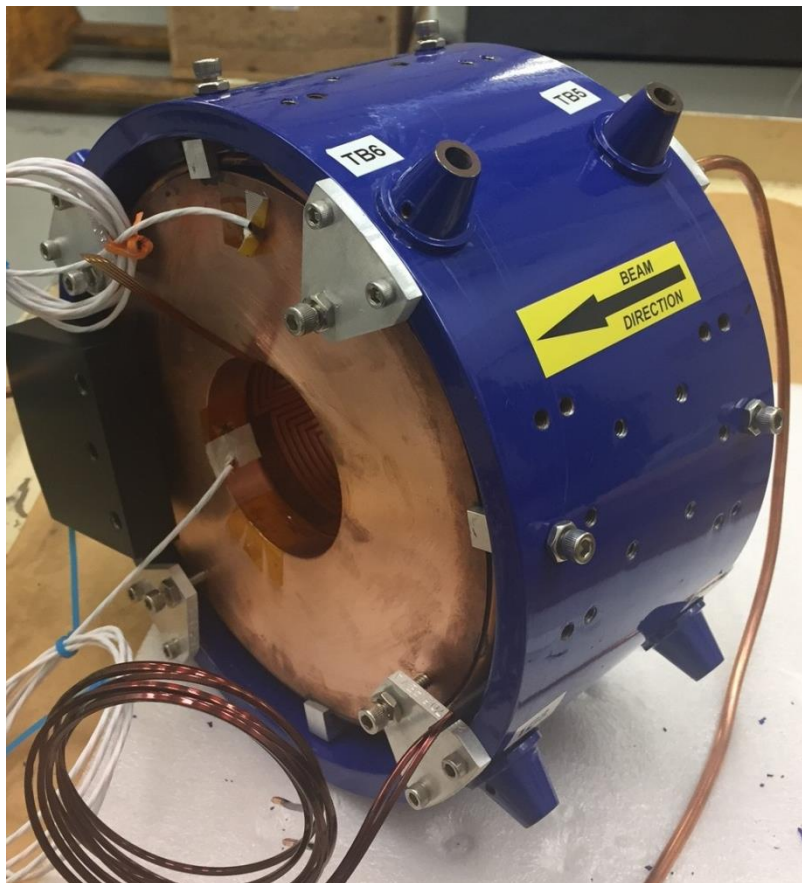


LCLS II LARGE BORE SOLENOID Fiducialization Report



Inspector : K. Caban
Enginner : J. Amann
Drawing No. : 29H767 (LBNL)
Barcode : 4050

Coordinate System Setup

Spatial Alignment

The Spatial Alignment (Pitch/Yaw) of the Solenoid is the Cylindrical Diameter (2.625") on both ends of the Solenoid. This is the Z axis where +Z Points towards where the coil ribbon exits the Solenoid.

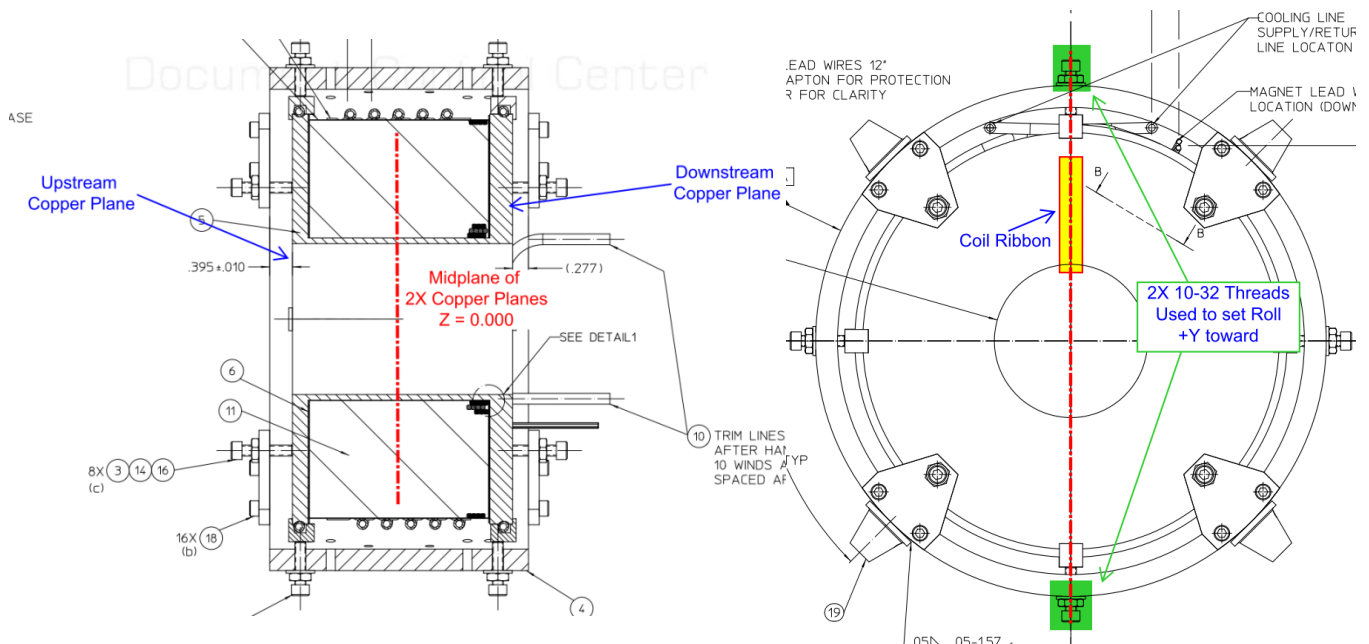
This Cylinder also sets zero in X & Y.

Planar Alignment

The Planar Alignment (Roll) is set by creating a line of 2X 10-32 threads (-Y side and on +Y side), this creates the Y axis. +Y is the direction where the coil ribbon exits, and points up towards +Y.

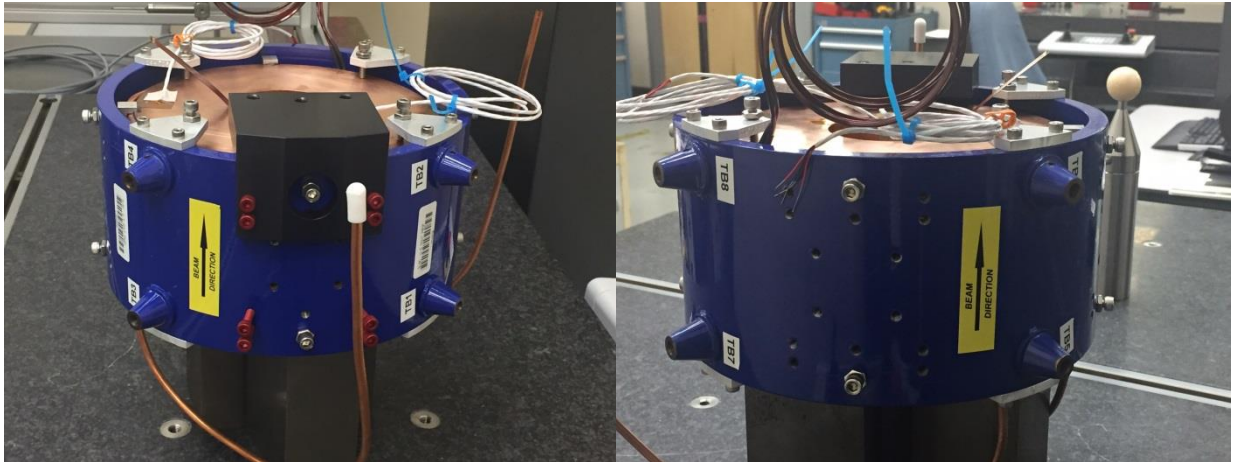
Z Zero

Z Zero is the midplane of the 2 end copper surfaces of the Solenoid.



Barcode # : 4050

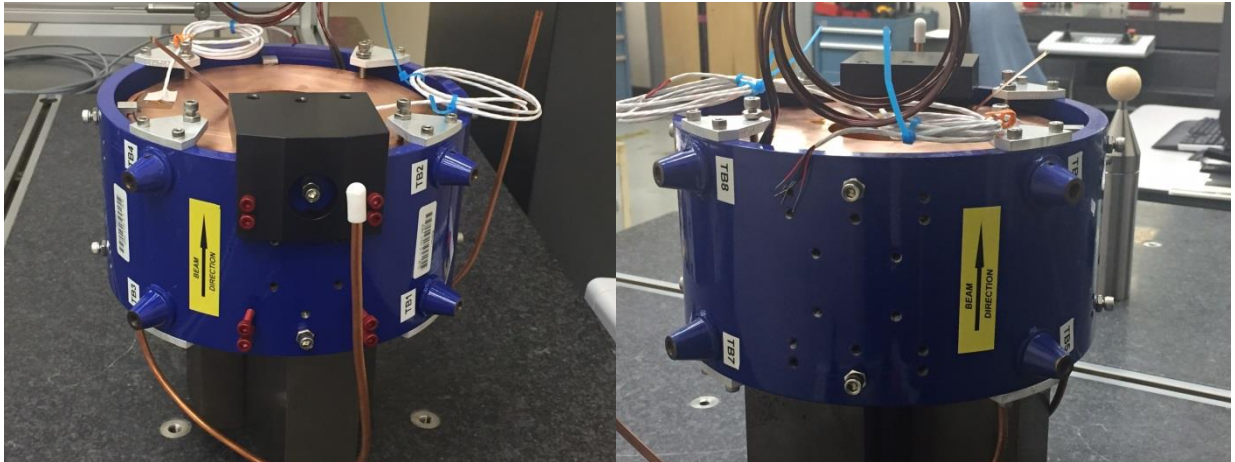
Tooling Ball Locations using 1" offset TB's



TB	X	Y	Z
TB 1	-4.3090	-4.3463	-1.6122
TB 2	-4.3547	-4.3154	1.6122
TB 3	-4.3464	4.3088	-1.6391
TB 4	-4.3742	4.2986	1.6154
TB 5	4.3248	4.3542	-1.6002
TB 6	4.3414	4.3321	1.6435
TB 7	4.3683	-4.3172	-1.6316
TB 8	4.2916	-4.3725	1.6664

Barcode # : 4050

Tooling Ball Locations using 5/16" offset TB's



TB	X	Y	Z
TB 1	-3.8312	-3.8525	-1.6093
TB 2	-3.8623	-3.8353	1.6172
TB 3	-3.8519	3.8313	-1.6347
TB 4	-3.8893	3.8110	1.6230
TB 5	3.8438	3.8626	-1.5988
TB 6	3.8437	3.8572	1.6420
TB 7	3.8749	-3.8381	-1.6280
TB 8	3.8157	-3.8758	1.6677

Barcode # : 4050